City of Flint, Michigan

Third Floor, City Hall
1101 S. Saginaw Street
Flint, Michigan 48502
www.cityofflint.com

Meeting Agenda - Final

Wednesday, May 19, 2021

5:00 PM

ELECTRONIC PUBLIC MEETING

GOVERNMENTAL OPERATIONS COMMITTEE

Eva L. Worthing, Chairperson, Ward 9
Maurice D. Davis, Vice Chairperson, Ward 2

Eric Mays, Ward 1
Kate Fields, Ward 4
Herbert J. Winfrey, Ward 6
Santino J. Guerra, Ward 3
Jerri Winfrey-Carter, Ward 5
Monica Galloway, Ward 7
Allan Griggs, Ward 8

Inez M. Brown, City Clerk
Davina Donahue, Deputy City Clerk

SPECIAL PUBLIC NOTICE -- ELECTRONIC PUBLIC MEETING

PUBLIC NOTICE
FLINT CITY COUNCIL ELECTRONIC PUBLIC MEETING

On Friday, October 5, 2020, the Michigan Supreme Court (MSC) issued an order declaring that the Emergency Powers of Governor (EPG) Act as an unconstitutional delegation of legislative authority, which was the primary authority relied on by Governor Whitmer for her COVID-19 related executive orders. Subsequently, Governor Whitmer requested that the MSC clarify that their order does not go into effect until October 30, 2020. On Monday October 12, 2020, the Michigan Supreme Court rejected Governor Whitmer's request to delay the effect of its decision to strike down the EPG. On, Tuesday, October 13, 2020, Senate Bill 1108 passed, amending the Open Meetings Act to allow municipalities to hold electronic meetings. On Friday, October 16, 2020, Governor Whitmer signed into law Senate Bill 1108 amending the Open Meetings Act. Subsequently, on December 22, 2020 Public Act 267 of 1976 was amended through Senate Bill 1246 extending the electronic meetings with no reason through March 31, 2021. The act also allows that after March 31, 2021 electronic meetings may be held if a local state of emergency was declared. On March 23, 2020, the Flint City Council extended Mayor Neeley's declaration of emergency indefinitely due to the COVID-19 pandemic. Therefore, this meeting will be held electronically.

Pursuant to Act 267 of the Public Acts of 1976 Open Meetings Act as amended and Flint City Charter Section 3-202, notice is hereby given that the Flint City Council hereby calls for a Regular Meeting of the Flint City Council scheduled to be held as follows:

Flint City Council Committee Meetings
(Finance, Governmental Operations, Legislative & Grants)
Wednesday, May 19, 2021, at 5 p.m.

The public and media may listen to the meeting online by live stream at <https://www.youtube.com/channel/UCp2cWTuocUM3awU4xXWzwaw> or through Start Meeting by dialing (617) 944-8177.

1. In order to speak during the PUBLIC SPEAKING PERIOD of each meeting by telephone, participants will also call (617) 944-8177:

a. All callers will be queued and muted until the Public Speaking portion of each agenda;

b. Public speakers will be unmuted in order and asked if they wish to address the City Council ON ANY SUBJECT;

c. Public speakers should state and spell their name for the record and will be allowed two (2) minutes for public speaking during each meeting;

d. The speaker will be returned to mute after the 2 minutes have expired;

e. After the telephonic public speakers for the last committee meeting are completed, emailed public comments will be read by the City Clerk. All emailed public comments will be timed for 2 minutes;

f. Per Rules Governing Meetings of the Council (Rule 7.1 VII), there will only be one speaking opportunity per speaker per meeting. Consequently, public participants who call in and speak during the public speaking period of the meetings WILL NOT have written comments as submitted read by the City Clerk.

2. The public may send public comments by email to CouncilPublicComment@cityofflint.com <mailto:CouncilPublicComment@cityofflint.com> no later than 10 minutes prior to the meeting start time of 5 p.m.

3. Persons with disabilities may participate in the meeting by the above-mentioned means or by emailing a request for an accommodation to CouncilPublicComment@cityofflint.com, with the subject line Request for Accommodation, or by contacting the City Clerk at (810) 766-7418 to request accommodation - including but not limited to interpreters.

If there are any questions concerning this notice, please direct them to City Council office at (810) 766-7418.

ROLL CALL

MEMBER REMOTE ANNOUNCEMENT

Pursuant to the newly revised Open Meetings Act, each Council member shall state that they are attending the meeting remotely and shall state where he or she is physically located (county or city and state).

MEMBER CONTACT INFORMATION

Eric Mays - (810) 922-4860; Maurice Davis - mdavis@cityofflint.com; Santino Guerra - sguerra@cityofflint.com; Kate Fields - kfields@cityofflint.com; Jerri Winfrey-Carter - jwinfrey-carter@cityofflint.com; Herbert Winfrey - (810) 691-7463; Monica Galloway - mgalloway@cityofflint.com; Allan Griggs - agriggs@cityofflint.com; Eva Worthing - eworthing@cityofflint.com.

PROCEDURES ON CONDUCTING ELECTRONIC MEETINGS

All boards and commissions must adhere to all laws established under the Michigan Compiled Laws and in accordance with the revisions to the Open Meetings Act adopted in Senate Bill 1108, as passed on October 13, 2020, and signed into law on October 16, 2020.

READING OF DISORDERLY PERSONS CITY CODE SUBSECTION

Section 31-10, Disorderly Conduct, Assault and Battery, and Disorderly Persons, and will be subject to arrest for a misdemeanor. Any person who prevents the peaceful and orderly conduct of any meeting will be given one warning. If they persist in disrupting the meeting, that individual will be subject to arrest. Violators shall be removed from meetings.

PUBLIC SPEAKING

COUNCIL RESPONSE

SPECIAL ORDERS

210211 Special Order/City Ordinances/Written Report

A Special Order as requested by Council President Fields to receive a written report from the City Clerk updating the timelines and processes/tasks needed to get all of the City Ordinances current on the city web site. The report should also include the identification of the funds needed (budgeted and/or unbudgeted) to accomplish this task.

210213 Special Order/Illegal Auto Repairs

A Special Order as requested by Council President Fields to discuss the proliferation of illegal auto repairs in residential areas and the lack of a plan to address these violations.

RESOLUTIONS

210202 CO#1/Contract/Extend Contract/Rowe Professional Services Co./Comprehensive Zoning Services

Resolution resolving that city officials, upon City Council's approval, are authorized to do all things necessary to extend the contract [change order #1] with Rowe Professional Services Co. until October 31, 2021, and add $60,000.00 to continue their provision of comprehensive zoning services with funds in the amount of $60,000.00, to be made available from Planning & Development Medical Marijuana Compliance Professional Services Acct. No. 101-371.220-801.000.

210203 Sale of City-Owned Land/3420 St. John Street/Evergrow, LLC

Resolution resolving that the appropriate city officials are authorized to do all things necessary to enter into and complete the sale of the property commonly known as 3420 St. John Street, Flint, MI, 48505, Parcel ID 47-31-487-015, and legally described as LOTS 425 THRU 443 AS ORIGINALLY PLATTED; LOT 444 EXC ELY 10 FT OF NLY 75 FT; LOT 445 EXC NLY 75 FT, GENERAL MOTORS PARK; ALSO A CONTIG UNPLATTED PARCEL OF LAND DESC AS FOLLS: THAT PART OF N8 RDS OF 1/2 OF NE 1/4 OF SEC 6, T7N, R7E LYING WLY OF WLY R.O.W. LINE OF JAMES P. COLE BLVD AS DESCRIBED IN DEED LIBER 2183, PAGES 869-873, GENESEE COUNTY RECORDS. EXC THAT PART OF VACATED ST JOHN ST. for a total cost of $500,000.00 and transfer the property to Evergrow, LLC, in an AS IS condition, according to the terms agreed upon in the Purchase Agreement by means of conveyance of a Warranty Deed. Revenue realized from the sale of this real property will be placed in Revenue Acct. No. 101-371.209-673.100, AND, resolving that the City Clerk shall, within thirty (30) days of this action, record a certified copy of this resolution with the Register of Deeds for Genesee County and forward a certified copy of said resolution to the State Treasurer.

APPOINTMENTS

210155 Appointment/Water System Advisory Council/James Gaskin

Resolution resolving that Mayor Neeley hereby appoints James Gaskin (41225 Lori Lane, Fenton, MI 48430) to serve on the Water System Advisory Council. [NOTE: Pursuant to the State of Michigan's administrative rules, water suppliers serving a population of 50,000 or more, shall create a Water System Advisory Council. The purpose of the Council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.]

210157 Appointment/Water System Advisory Council/Nancy Love

Resolution resolving that Mayor Neeley hereby appoints Nancy Love (1351 Beal Avenue, Ann Arbor, MI 48109) to serve on the Water System Advisory Council. [NOTE: Pursuant to the State of Michigan's administrative rules, water

suppliers serving a population of 50,000 or more, shall create a Water System Advisory Council. The purpose of the Council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.]

210228 Appointment/Water System Advisory Council/Lawrence Reynolds

Resolution resolving that Mayor Neeley hereby appoints Lawrence Reynolds (2621 Indian Bow Trail, Flint, MI 48507) to serve on the Water System Advisory Council. [NOTE: Pursuant to the State of Michigan's administrative rules, water suppliers serving a population of 50,000 or more, shall create a Water System Advisory Council. The purpose of the Council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.]

210229 Appointment/Water System Advisory Council/Shawn P. McElmurry

Resolution resolving that Mayor Neeley hereby appoints Shawn P. McElmurry (2153 Engineering Building, 5050 Anthony Wayne Drive, Detroit, MI 48202) to serve on the Water System Advisory Council. [NOTE: Pursuant to the State of Michigan's administrative rules, water suppliers serving a population of 50,000 or more, shall create a Water System Advisory Council. The purpose of the Council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.]

210230 Appointment/Water System Advisory Council/Benjamin Pauli

Resolution resolving that Mayor Neeley hereby appoints Benjamin Pauli (1213 Beard Street, Flint, MI 48503) to serve on the Water System Advisory Council. [NOTE: Pursuant to the State of Michigan's administrative rules, water suppliers serving a population of 50,000 or more, shall create a Water System Advisory Council. The purpose of the Council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.]

DISCUSSION ITEMS

OUTSTANDING DISCUSSION ITEMS

210205 Discussion Item/Names of Those Driving City-Owned Vehicles

Referral by Councilperson Mays to ADMIN/FLEET, re: He would like the names of employees/appointees driving city-owned vehicles. [Referral Action Date: 4/14/2021 @ City Council Electronic Public Meeting.]

210208 Referral/Conversion to LED Lights

Referral as requested by Councilperson Fields to ADMINISTRATION: re, She

asks that the administration look into large-scale conversion to LED lights. [Referral Action Date: 4/22/2021 @ City Council Governmental Operations Committee Electronic Public Meeting.]

210210 Referral/Monthly Reports/Drinking Water Quality

Referral by Councilperson Griggs to PUBLIC HEALTH ADVISOR, re: He would like for the city's Public Health Advisor to provide monthly drinking water quality reports. [Referral Action Date: 4/22/2021 @ City Council Grants Committee Electronic Public Meeting.]

210099 Discussion Item/Community Updates/City of Flint Web Site

A discussion item as requested by Councilperson Mays to discuss what constitutes a community update on the City of Flint's Web site. [Referral Action Date: 2/22/2021 @ City Council Electronic Public Meeting.]

210100 Discussion Item/Multi-Member Bodies

A discussion item as requested by Councilperson Mays to discuss multi-member bodies. [Referral Action Date: 2/22/2021 @ City Council Electronic Public Meeting.]

210114 Discussion Item/Eighteen (18) Properties in the City of Flint Pilot Program

A Discussion Item as requested by Councilperson Mays to review the 18 properties City Council retained from the Genesee County Land Bank, including a history of the finances for Jefferson School. [Referral Action Date: 2/17/2020 @ Electronic Governmental Operations Committee Meeting.]

210116 Discussion Item/Job Requirements/Salaries

A Discussion Item as requested by Councilperson Galloway to talk about job requirements and salaries for appointees. [Referral Action Date: 2/22/2020 @ Electronic City Council Meeting.]

210118 Discussion Item/Snow Plowing Strategy

A Discussion Item as requested by Councilperson Winfrey-Carter to talk about the city's snow plowing strategy with Transportation Director John Daly. [Referral Action Date: 2/22/2020 @ Electronic City Council Meeting.]

ADJOURNMENT

CITY OF FLINT

RESOLUTION NO.: 210202

PRESENTED: APR 26 2021

ADOPTED: _____

Resolution Authorizing Change Order #1 to the Contract with Rowe, Inc. for Comprehensive Zoning Services to Extend the Contract until October 31, 2021 and add an additional $60,000

BY THE CITY ADMINISTRATOR:

he City of Flint, through its Department of Planning and Development, Planning & Zoning Division, released and RFP in March 2020 inviting proposals from qualified firms to provide planning/zoning services to the City, including oversight and administration of the medical and recreational marijuana business licensing process. Applicants were required to demonstrate knowledge and experience with respect to all aspects of planning/zoning services required by a municipal entity.

The City selected ROWE Inc as the most responsive applicant and entered into a contract with ROWE in the amount of $60,000 for comprehensive zoning services. That contract expires April 30, 2021 and has been exhausted.

The City desires to extend this contract for an additional 6 months and add $60,000 to continue the services.

IT IS RESOLVED, that City Officials are authorized to do all things necessary to extend the contract with Rowe Inc until October 31, 2021 and add $60,000 to continue their provision of comprehensive zoning services with funds in the amount of $60,000 to be made available from account #

APPROVED AS TO FORM:

Angela Wheeler

Angela Wheeler, Chief Legal Officer

APPROVED AS TO FINANCE

Shelbi Frayer (Apr 23, 2021 15:38 EDT)

Shelbi Frayer, Chief Financial Officer

ADMINISTRATION:

Clyde Edwards, City Administrator

CITY COUNCIL:

Kate Fields, Council President

CITY OF FLINT

REQUISITION STAFF REVIEW FORM

TODAY'S DATE: *4/21/21*

BID/PROPOSAL# 20000569

AGENDA ITEM TITLE: Requisition to enter into a Change Order #1 contract with ROWE, Inc for comprehensive zoning services in the amount of $60,000 for approximately 6 months.

PREPARED BY Suzanne Wilcox, Director, Department of Planning and Development

VENDOR NAME: Rowe, Inc.

BACKGROUND/SUMMARY OF PROPOSED ACTION:

The City of Flint, through its Department of Planning and Development, Planning & Zoning Division, released and RFP in March 2020 inviting proposals from qualified firms to provide planning/zoning services to the City, including oversight and administration of the medical and recreational marijuana business licensing process. Applicants were required to demonstrate knowledge and experience with respect to all aspects of planning/zoning services required by a municipal entity.

The City received 2 responses, one from ROWE, Inc, and one from Fusco, Shaffer, and Pappas. Staff reviewed and evaluated both proposals. Rowe's proposal was the lowest bid and also scored highest per the evaluation criteria and the City entered into a contract with ROWE in the amount of $60,000 for comprehensive zoning services. That contract expires April 30, 2021 and has been exhausted. Services are needed to continue for an additional 6 months. This resolution extends the contract until October 31, 2021 and adds an additional $60,000.

FINANCIAL IMPLICATIONS: Funding is available in the City's FY21 budget for these services.

BUDGETED EXPENDITURE? YES ☒ NO ☐ IF NO, PLEASE EXPLAIN:

Dept.	Name of Account	Account Number	Grant Gode	Amount
P & D Medical Marijuanna Compliance	Professional Services	101-371.220-801.000	N/A	$60,000.00
		FY19/20 GRAND TOTAL		$60,000.00

PRE-ENCUMBERED? YES ☒ NO ☐ REQUISITION NO:

ACCOUNTING APPROVAL: Mary Jarvis **Date:** 04/23/2021

CITY OF FLINT

WILL YOUR DEPARTMENT NEED A CONTRACT? YES ☒ NO ☐
(If yes, please indicate how many years for the contract) YEARS

WHEN APPLICABLE, IF MORE THAN ONE (1) YEAR, PLEASE ESTIMATE TOTAL AMOUNT FOR EACH BUDGET YEAR: (*This will depend on the term of the bid proposal) n/a*

BUDGET YEAR 1

BUDGET YEAR 2

BUDGET YEAR 3

OTHER IMPLICATIONS (*i.e., collective bargaining*): This is a short-term contract. Services are needed while the City recruits for a full-time Zoning Coordinator

STAFF RECOMMENDATION: *(PLEASE SELECT):* ☒ **APPROVED** ☐ **NOT APPROVED**

DEPARTMENT HEAD SIGNATURE: Director, DPD
(PLEASE TYPE NAME, TITLE)

Approved as to budget Jennifer Ryan
Jennifer Ryan (Apr 23, 2021 15:37 EDT)

RESOLUTION REVIEW FORM

DATE
NO.

FROM: **P&D - Zoning Division**
Department/Author

RESOLUTION NAME: **Resolution to enter into Change Order #1 to the contract w zoning services in the amount of $60,000 for approximatel**

Date in:

1. RESOLUTION REVIEW - PLANNING AND DEVELOPMENT DIRE

By: Suzanne Wilcox
Planning and Development Director

DATE: 4/21/21
(Date)

Date in:

2. RESOLUTION REVIEW - LEGAL

The attached RESOLUTION is submitted to the Legal Department for Approval as to FORM **ONLY:**
The Legal Department has reviewed the RESOLUTION as to Form on
this form approves as to FORM ONLY.

(Date)

By: Angela Wheeler
Chief Legal Officer

DATE:

April 21, 2021

Law Office Login #

/ith Rowe Inc for comprehensive
y 6 months

ECTOR

, and by signing

CITY OF FLINT

RESOLUTION NO.: 210203

PRESENTED: APR 2 6 2021

ADOPTED: _____

RESOLUTION AUTHORIZING THE SALE OF CITY OWNED LAND 3420 ST JOHN ST TO EVERGROW, LLC

BY THE CITY ADMINISTRATOR:

The City of Flint has acquired title to certain real estate commonly known as 3420 St. John St., Parcel ID #47-31-487-015. The property contains a structure, formerly the Flint Police Training Academy. It is located in Ward 3, and is situated between James P. Cole and Industrial Avenue.

Evergrow, LLC has offered $500,000 to purchase the property commonly known as 3420 St. John St., Flint, MI 48505, Parcel ID #47-31-487-015 and legally described as LOTS 425 THRU 443 AS ORIGINALLY PLATTED; LOT 444 EXC ELY 10 FT OF NLY 75 FT; LOT 445 EXC NLY 75 FT, GENERAL MOTORS PARK; ALSO A CONTIG UNPLATTED PARCEL OF LAND DESC AS FOLLS: THAT PART OF N 8 RDS OF E 1/2 OF NE 1/4 OF SEC 6, T7N, R7E LYING WLY OF WLY R.O.W. LINE OF JAMES P. COLE BLVD AS DESCRIBED IN DEED LIBER 2183, PAGES 869-873, GENESEE COUNTY RECORDS. EXC THAT PART OF VACATED ST JOHN ST.

The city's interest in the aforementioned property will be conveyed by a Warranty Deed and sold in AS IS condition. Revenue realized from the sale of this real property will be placed in Revenue Account #101-371.209-673.100. Evergrow, LLC shall pay the recording fees to register the conveyance documents at the Genesee County Register of Deeds.

IT IS RESOLVED, that the appropriate City Officials are authorized to do all things necessary to enter into and complete the sale of the property commonly known as 3420 St. John St, Flint Michigan, 48505, Parcel ID # 47-31-487-015 and legally described as LOTS 425 THRU 443 AS ORIGINALLY PLATTED; LOT 444 EXC ELY 10 FT OF NLY 75 FT; LOT 445 EXC NLY 75 FT, GENERAL MOTORS PARK; ALSO A CONTIG UNPLATTED PARCEL OF LAND DESC AS FOLLS: THAT PART OF N 8 RDS OF E 1/2 OF NE 1/4 OF SEC 6, T7N, R7E LYING WLY OF WLY R.O.W. LINE OF JAMES P. COLE BLVD AS DESCRIBED IN DEED LIBER 2183, PAGES 869-873, GENESEE COUNTY RECORDS. EXC THAT PART OF VACATED ST JOHN ST. for a total cost of $500,000.00 and transfer the property to Evergrow, LLC, in an AS IS condition according to the terms agreed upon in the Purchase Agreement by means of conveyance of a Warranty Deed. Revenue realized from the sale of this real property will be placed in Revenue Account #101-371.209-673.100.

FURTHER RESOLVED, that the City Clerk shall, within thirty (30) days of this action, record a certified copy of this resolution with the Register of Deeds for Genesee County and forward a certified

copy of said resolution to the State Treasurer.

APPROVED AS TO FORM:

Angela Wheeler, Chief Legal Officer

APPROVED AS TO FINANCE

Shelbi Frayer
Shelbi Frayer (Apr 26, 2021 10:49 EDT)

Shelbi Frayer, Chief Financial Officer

ADMINISTRATION:

Clyde Edwards, City Administrator

ADMINSTRATION:

Kate Fields, City Council President

Signature: Jennifer Ryan
Jennifer Ryan (Apr 26, 2021 09:25 EDT)

Email: jryan@cityofflint.com

CITY OF FLINT

RESOLUTION STAFF REVIEW FORM

TODAY'S DATE: *4/23/21*

BID/PROPOSAL# n/a

AGENDA ITEM TITLE: Resolution recommending disposition of real property owned by the City of Flint.

PREPARED BY Suzanne Wilcox, Director of Planning and Development

VENDOR NAME: n/a

BACKGROUND/SUMMARY OF PROPOSED ACTION:

The City of Flint has acquired title to certain real estate commonly known as 3420 St. John St., Parcel ID #47-31-487-015. The property contains a structure, formerly the Flint Police Training Academy.

Franko Sallaku, aka Evergrow, LLC, address 23450 Telegraph Rd., Southfield, MI requested to purchase 3420 St. John St., offered $500,000, and provided a $50,000 earnest money deposit. The property was listed on the City's website. The City received one other offer, significantly less, and desires to sell this property to Mr. Sallaku. Mr. Sallaku intends to renovate the building and operate a Marijuana establishment for the purpose of commercially growing marijuana as permitted under Section 10 of the Michigan Regulation and Taxation of Marihuana Act. That use is allowed at this location. The City of Flint desires to reduce the number of properties that are not on the tax rolls, and/or not in productive use. The City has executed a purchase agreement with Mr. Sallaku, and per the City's Purchasing Ordinance, City Council approval is required to sell the property.

Evergrow, LLC has agreed to purchase the properties commonly known as 3420 St. John St., Parcel ID #47-31-487-015, and legally described as:

LOTS 425 THRU 443 AS ORIGINALLY PLATTED; LOT 444 EXC ELY 10 FT OF NLY 75 FT; LOT 445 EXC NLY 75 FT, GENERAL MOTORS PARK; ALSO A CONTIG UNPLATTED PARCEL OF LAND DESC AS FOLLS: THAT PART OF N 8 RDS OF E 1/2 OF NE 1/4 OF SEC 6, T7N, R7E LYING WLY OF WLY R.O.W. LINE OF JAMES P. COLE BLVD AS DESCRIBED IN DEED LIBER 2183, PAGES 869-873, GENESEE COUNTY RECORDS. EXC THAT PART OF VACATED ST JOHN ST

The city's interest in the aforementioned property will be conveyed by a Warranty Deed and sold in AS IS condition. Revenue realized from the sale of this real property will be placed in Revenue Account #101-371.209-673.100. Evergrow, LLC shall pay the recording fees to register the conveyance documents at the Genesee County Register of Deeds.

CITY OF FLINT

FINANCIAL IMPLICATIONS: The property will be removed from the City of Flint owned property list and returned to the tax rolls and/or productive use. Property will be sold for $500,000.

BUDGETED EXPENDITURE? YES ☒ NO ☐ IF NO, PLEASE EXPLAIN:

Dept.	Name of Account	Account Number	Grant Gode	Amount
Planning and Development	Sale of City Land	101-371.209-673.100	n/a	$500,000
		FY19/20 GRAND TOTAL		**$500,000**

PRE-ENCUMBERED? YES ☐ NO ☒ REQUISITION NO:

ACCOUNTING APPROVAL: _____ **Date:** _____

WILL YOUR DEPARTMENT NEED A CONTRACT? YES ☐ NO ☒
(If yes, please indicate how many years for the contract) YEARS

WHEN APPLICABLE, IF MORE THAN ONE (1) YEAR, PLEASE ESTIMATE TOTAL AMOUNT FOR EACH BUDGET YEAR: (*This will depend on the term of the bid proposal)*

BUDGET YEAR 1

BUDGET YEAR 2

BUDGET YEAR 3

OTHER IMPLICATIONS (*i.e., collective bargaining*): none

STAFF RECOMMENDATION: *(PLEASE SELECT):* ☒ **APPROVED** ☐ **NOT APPROVED**

DEPARTMENT HEAD SIGNATURE: Director, Dept of Planning and Development
(PLEASE TYPE NAME, TITLE)

RESOLUTION REVIEW FORM

FROM: P&D, Planning Division
Division

DATE: April 16, 2021
NO.
Law Office Login #

RESOLUTION NAME: **Resolution authorizing the sale of city owned land 3420 St. John St. to Evergrow, LLC**

Date in: 4/21/2021

1. RESOLUTION REVIEW - P&D / Zoning Division

The attached RESOLUTION is approved by the P&D Director. By signing, the Director approves this resolution to be processed for signatures.

By: Suzanne Wilcox
Director, Planning and Development

DATE: 26-Apr
(Date)

Date in:

2. RESOLUTION REVIEW - LAW DEPARTMENT

The attached RESOLUTION is submitted to the Legal Department for Approval as to FORM **ONLY:**
The Legal Department has reviewed the RESOLUTION as to Form on _____, and by signing this form approves as to f s
(Date)

By: Angela Wheeler
Chief Legal Officer

DATE:

Date in:

3. RESOLUTION REVIEW - FINANCE

The attached RESOLUTION is submitted to the FINANCE Department for approval as to **FINANCE COMPLIANCE:**

The Finance Department reviewed this RESOLUTION, on JMR 04/26/2021 and by signing this form approves as to FINANCE COMPLIANCE.
JMR (Date)

By: Shelbi Frayer
Shelbi Frayer (Apr 26, 2021 10:49 EDT)

DATE: 04/26/2021

Chief Financial Officer

RESOLUTION NO.: 210155

PRESENTED: APR - 7 2021

ADOPTED: _____

RESOLUTION FOR THE APPOINTMENT OF JAMES GASKIN TO THE WATER SYSTEM ADVISORY COUNCIL

BY THE MAYOR:

WHEREAS, pursuant to the State of Michigan's administrative rules section 325.10410(7), water supplies serving a population of 50,000 or more, and consecutive systems serving a population of 50,000 or more, shall create a water system advisory council;

WHEREAS, the council shall consist of at least five members, appointed by the community supply;

WHEREAS, the purpose of this council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.

WHEREAS, to be eligible for appointment to the council, an individual shall have a demonstrated interest in or knowledge about lead in drinking water and its effects.;

WHEREAS, the council will develop plans for continuing public awareness about lead in drinking water, even when the action level is not exceeded,; review public awareness campaign materials provided by the statewide drinking water advisory council to ensure the needs and interest of the community, considering the economic and cultural diversity of its residents, are addressed; advise and consult with the water supply on the development of appropriate plans for remediation and public education to be implemented if a lead action level is exceeded; advise and consult with the water supply on efforts to replace private lead service lines at locations where the owner declined service line replacement; assist in promoting transparency of all data and documents related to lead in drinking water within the water supply service area

WHEREAS, Mayor Neeley desires to appoint Jamie Gaskin to the Water System Advisory Council (See Attached Resume).

NOW THEREFORE BE IT RESOLVED, that Mayor Neeley hereby appoints Jamie Gaskin address 1225 Lori Lane Fenton, MI 48430 to serve on the Water System Advisory Council.

APPROVED AS TO FORM:

Angela Wheeler

Angela Wheeler, City Attorney

FOR THE CITY OF FLINT:

Sheldon A. Neeley, Mayor

APPROVED BY CITY COUNCIL:

Kate Fields, City Council President

S:\AWO\Water System Advisory Council\Revised Documents\J.Gaskin (Clean Copy0 Resolution to Appoint to the Water System Advisory Council (1).doc

CITY OF FLINT

RESOLUTION STAFF REVIEW FORM

TODAY'S DATE: *02/12/2021*

BID/PROPOSAL#

AGENDA ITEM TITLE: RESOLUTION TO PLACE APPOINTEES TO AND ESTABLISH A WATER SYSTEM ADVISORY COUNCIL ON THE CITY COUNCIL AGENDA FOR APPROVAL.

PREPARED BY: Billie Mitchell- Manger of Public Health
(Please type name and Department)

VENDOR NAME: N/A

BACKGROUND/SUMMARY OF PROPOSED ACTION:

In July 2018, the State of Michigan's Department of Environment, Great Lakes and Energy (EGLE) established the Lead and Copper Rule (LCR) under the Michigan Safe Water Drinking Act 399. The purpose of the LCR is to minimize lead and copper in drinking water and indicates that a Water System Advisory Council (WSAC) is to be established on behalf of cities with 50,000 or more people served by its municipal water system. The WSAC is responsible for assisting with public awareness to create transparency and consumer confidence through statewide efforts of public education and action steps to ensure water quality through: water sampling, water treatment and lead service line replacement. ~~A Council shall consist of at least five members appointed by the community supply.~~ A Council shall consist of a least five members appointed by the community supply. To be eligible for appointment to Council, an individual must have a demonstrated interest in or knowledge about lead in drinking water and its effects. At laast one member must be a local resident who does not formally represent the interest of any incorporated organization.

In June 2019, the City of Flint began to establish a board for the WSAC by sending letters of interest to various community partners and members. The process of establishing the board did not see completion and was then put on hold due to a change in City administration. The open public meeting was also delayed due to the COVID-19 pandemic.

In February 2021, the Office of Public Health (OPH) sent notices of participation to public health community partners and community members and requested resumes of those individuals in order to submit an approval to Flint City Council to officially establish the Water System Advisory Council. The WSAC will be hosted by the City's OPH, who will organize and oversee the annual meeting, according to the Open Meetings Act 267. This annual meeting will inform and include the public on the City's lead and copper status, progress and next steps.

CITY OF FLINT

The names, titles and organizations of the individuals who are Mayoral appointed with consultation from the City's Chief Health Advisor (Dr. Lawrence Reynolds) to the Water System Advisory Council are: James Gaskin-CEO- United Way of Genesee County; Lydia Starrs-Health Systems Navigator- Community Foundation of Greater Flint; Sheryl Thompson- Community Member; Earnestine Yvonne Lewis- Director of Outreach- Genesee Health Plan; Dr. Nancy Love- Department of Civil and Environmental Engineering- University of Michigan. The designated Appointees have either lived or worked within the Flint community during the Flint Water Crisis and have expressed interest and knowledge concerning lead in drinking water. Appointees resumes are attached.

It is the desires of the City to submit the approval of appointing a board of and establishing a Water System Advisory Council, to Flint City Council at the March 22, 2021 council meeting. So that if approved, the City of Flint will, be in compliance with the Lead and Copper Rule required by the State of Michigan; create transparency with Flint residents; avoid any monetary penalties associated with the non-compliance of establishing the Water System Advisory Council.

FINANCIAL IMPLICATIONS: There is no budget required to establish or sustain the Water System Advisory Council.

BUDGETED EXPENDITURE? YES ☐ NO X☐ IF NO, PLEASE EXPLAIN:

Dept.	Name of Account	Account Number	Grant Code	Amount
Public Health	Water System Advisory Council	N/A	N/A	$0
		FY20/21 GRAND TOTAL		$0

PRE-ENCUMBERED? YES ☐ NO ☐ REQUISITION NO:

ACCOUNTING APPROVAL: _____ **Date:** _____

CITY OF FLINT

WILL YOUR DEPARTMENT NEED A CONTRACT? YES ☐ NO x ☐

(If yes, please indicate how many years for the contract) YEARS

WHEN APPLICABLE, IF MORE THAN ONE (1) YEAR, PLEASE ESTIMATE TOTAL AMOUNT FOR EACH BUDGET YEAR: (*This will depend on the term of the bid proposal)*

BUDGET YEAR 1 $0

BUDGET YEAR 2 $0

BUDGET YEAR 3 $0

OTHER IMPLICATIONS (*i.e., collective bargaining*):

STAFF RECOMMENDATION: *(PLEASE SELECT):* X☐ **APPROVED** ☐ **NOT APPROVED**

DEPARTMENT HEAD SIGNATURE: Billie Mitchell, Manager of Public Health

(PLEASE TYPE NAME, TITLE)

1225 Lori Lane Fenton, MI 48430
PHONE (810) 240-0297 - E-MAIL jdogflint@outlook.com

James William Gaskin

EDUCATION

Central Michigan University
Bachelors of Science Degree, Cum Laude
Major: Sociology with concentration in Social Work
Minor: Family Life and Human Sexuality
G.P.A. – 3.64

EXPERIENCE

United Way of Genesee County 2013 – current

CEO

Responsible for leading a turn-a-round process that included developing a strategic plan, diversifying the Board of Directors, and overseeing all daily operations. This includes growing annual revenue to as much as 9 million dollars from a low of 4 million, moving the organization to a new location, hiring a new management team, negotiating a new three year labor contract, expanding the staff from 10FTE's to 16FTE's, and moving the annual campaign to a new regional based format.

Boys & Girls Club of Greater Flint 2003-2013

Executive Director

Responsible for reopening a once closed organization and growing the budget to 1.3 million annually, negotiated the purchase of a $1.8 million facility from pubic schools, overseeing resource development, grant writing, managing a staff of 9 FTE and up to 80 PTE employees including all Human Resource issues, supervising all program development.

Family Independence Agency State of Michigan 2002-2003

Foster Care Specialist

Foster Care Specialist responsible for all aspects of case management including development of treatment plans, monitoring of treatment plans, preparation of court petitions, extensive documentation through initial and updated reports, and coordination and collaboration with local service providers. Resigned in good standing after 1 year for executive position.

Boys & Girls Club Fox Valley 1998-2002

Director of After School Services 2001-2002

This position was created as a promotion with the addition of two 21st Century Learning Centers. Responsibilities include supervision of implementation of contract with the Appleton Area School District to provide daily after school activities at one middle school and one elementary school. This includes recruitment of full and part-time staff, supervision of branch directors at each site and oversight of administrative duties in conjunction with the AASD Director Club's

accountant and Executive Director. Oversight of more than 30 staff members employed by the Club.

Unit Director 1998-2001

Responsibilities include the development of programming in the five core program areas, recruitment, and supervision of all After School program staff, and supervision of all guidance and discipline of members. Duties include annual staff evaluations, annual Commitment to Quality process, consultation on grant development, management of membership of over 1,200 youth, and general facilities management and administration. Coordination and development of relationships with community partners and implementation of special services in the areas of transportation, food service and special services.

Boys & Girls Club of Lansing 1995-1998

Extension Unit Director 1997-1998

Responsibilities included program development and implementation, staff recruitment and development, daily supervision of program, implementation of Commitment to Quality process, and development and maintenance of relationships with teachers, administration, and other collaborative community partners

Youth Development Professional 1995-1997

Responsibilities included coordination of Smart Moves program, Fresh Start community service program, supervision of programs and services in the Club's Teen Center, Games Room, Learning Center, Arts & Crafts Center, Group Clubs and Junior Staff program.

PROFESSIONAL TRAINING

United Way National Conference 2015,2017
Michigan Association of United Way Annual Conference 2014,2015,2017
United Way New Executive Orientation 2014
BGCA Midwest Admin Leadership Conference 2004-2011
BGCA National Conference 2006,2008,2011
Executive Management Training 2003
State of Michigan Foster Care Training 2002
Ethics & Boundaries Workshop 2001
Career Assistance Network Training 2001
21st Century Learning Center Training 2001
Wally World Program Training 2001
Targeted Outreach Training 2000, 2001
Midwest Program Institute 2000, 1999, 1998
Leadership Development Training 1998
Outcomes Workshop 1997
Practice of Boys & Girls Club Work 1995

ORGANIZATIONAL AFFILIATIONS

State of Michigan Governor's Talent Investment Board (First Term)
Rotary Club of Flint 2004-2018
BGCA Professional Association 1997-2011
BGCA Professional Association Great Lakes Chapter

Academy of Boys & Girls Club Professionals Executive Professional

RELATED EXPERIENCE

Volunteer In Service to America 1994-1995

Coordinated four after school programming sites with focus on tutoring in low-income housing developments in Lansing Michigan.

Facilitate Learn, Earn and Play summer computer camp for low-income youth in collaboration with the Boys & Girls Club of Lansing, Fox Valley Literacy Coalition, and the Lomas Brown Jr. Foundation.

Goodrow House Shelter Coordinator 1993

Coordination of emergency shelter service including client consultation, referrals, and volunteer supervision. Lived on site.

Central Michigan University 1991-1993

Worked as live-in Resident Assistant and Residential Recreational Counselor for summer camp focused on youth with communication disorders.

PROFESSIONAL RECOGNITION

Peacemaker Award Genesee County 2015
Syble Atwood Award Nominee 2013
2015 Service to Youth Award – Boys & Girls Club Fox Valley 2001
Health & Life Skills National Merit Award, Staff wide 2000
Professional of the Year – Great Lakes Association of Boys & Girls Club Professionals 1997
Resident Assistant Program of the Year Awards 1991,1992,1993

References available upon request

RESOLUTION NO.: 210157

PRESENTED: APR - 7 2021

ADOPTED: _____

RESOLUTION FOR THE APPOINTMENT OF DR. NANCY LOVE TO THE WATER SYSTEM ADVISORY COUNCIL

BY THE MAYOR:

WHEREAS, pursuant to the State of Michigan's administrative rules section 325.10410(7), water supplies serving a population of 50,000 or more, and consecutive systems serving a population of 50,000 or more, shall create a water system advisory council;

WHEREAS, the council shall consist of at least five members, appointed by the community supply;

WHEREAS, the purpose of this council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.

WHEREAS, to be eligible for appointment to the council, an individual shall have a demonstrated interest in or knowledge about lead in drinking water and its effects.;

WHEREAS, the council will develop plans for continuing public awareness about lead in drinking water, even when the action level is not exceeded,; review public awareness campaign materials provided by the statewide drinking water advisory council to ensure the needs and interest of the community, considering the economic and cultural diversity of its residents, are addressed; advise and consult with the water supply on the development of appropriate plans for remediation and public education to be implemented if a lead action level is exceeded; advise and consult with the water supply on efforts to replace private lead service lines at locations where the owner declined service line replacement; assist in promoting transparency of all data and documents related to lead in drinking water within the water supply service area

WHEREAS, Mayor Neeley desires to appoint Dr. Nancy Love to the Water System Advisory Council (See Attached Resume).

NOW THEREFORE BE IT RESOLVED, that Mayor Neeley hereby appoints Dr. Nancy Love address 1351 Beal Avenue, Ann Arbor, MI 48109 to serve on the Water System Advisory Council.

APPROVED AS TO FORM:

Angela Y. Wheeler

Angela Wheeler, City Attorney

FOR THE CITY OF FLINT:

Sheldon A. Neeley, Mayor

APPROVED BY CITY COUNCIL:

_____

Kate Fields, City Council President

S:\AWO\Water System Advisory Council\Revised Documents\J.Gaskin (Clean Copy0 Resolution to Appoint to the Water System Advisory Council (1).doc

NANCY G. LOVE, Ph.D., P.E., BCEE

Borchardt and Glysson Collegiate Professor
3BUniversity of Michigan, 4B183 EWRE, 1351 Beal Avenue, Ann Arbor, MI 48109-2125
0BVoice: (734) 763-9664; 2BE-mail: nglove@umich.edu; N-E-Wcycles.org *(under construction)*

RESEARCH OVERVIEW

In collaboration with my students, I work at the interface of water, infrastructure, and public health in both domestic and global settings. My group advances public and environmental health using chemical, biological, and computational approaches applied to water systems, and co-design methods in partnership with communities. Specific project areas include: evaluating the fate of chemicals, pathogens and contaminants of emerging concern in water with relevance to public health and the environment; using technologies to sense and remove these constituents; advancing technologies that recover useful resources from water, and developing approaches that enable local decision-making around water quality, resource efficiency, and equity.

EDUCATION

Doctor of Philosophy Environmental Systems Engineering, Clemson University Advisor: C. P. Leslie Grady Jr.	1994
Masters of Science Civil Engineering, University of Illinois at Urbana-Champaign Advisor: John T. Pfeffer	1986
Bachelors of Science Civil Engineering, University of Illinois at Urbana-Champaign	1984

PROFESSIONAL EXPERIENCE AND LICENSURE

Professor Department of Civil & Environmental Engineering, University of Michigan (U-M) Co-Founder and Co-PI, Environmental Biotechnology Lab, U-M	2008-present
U-M Faculty Affiliate Graham Sustainability Institute (http://graham.umich.edu/); Energy Institute (https://energy.umich.edu/); Poverty Solutions Institute (https://poverty.umich.edu/); African Studies Center (https://ii.umich.edu/asc)	Present
Licensed Professional Engineer Environmental Engineering, State of Michigan, License No. 6201057483.	2010 - present
Adjunct Professor Institute of Biotechnology, Addis Ababa University, Ethiopia	2016 - 2019
Staff UNESCO-IHE (United Nations Water Education Institute), sabbatical	Feb – July 2014
Associate Dean for Academic Programs and Initiatives Horace H. Rackham School for Graduate Studies	2011 - 2012
Board Certified Environmental Engineer (BCEE) Certified by Eminence, American Academy of Environmental Engineers	2011-present
Department Chair Department of Civil and Environmental Engineering, University of Michigan	2008 – 2011
Professor Department of Civil and Environmental Engineering, Virginia Tech	2005 – 2007
Adjunct Professor Department of Biological Sciences, Virginia Tech	2002 – 2007

Associate Professor Department of Civil and Environmental Engineering, Virginia Tech	2000 – 2005
Assistant Professor Department of Civil and Environmental Engineering, Virginia Tech	1994 – 2000
Co-Founder and Co-Principal Investigator at Virginia Tech	
Environmental BioNanoTechnology Laboratory, Virginia Tech	2005 – 2007
Fralin Environmental Biotechnology Laboratory, Virginia Tech	1995 – 1999
Project Engineer CH2M Hill, Inc. (now Jacobs Engineering Group), Dallas, Texas	1986 – 1989

ADMINISTRATIVE ACCOMPLISHMENTS

• Became Diversity, Equity, and Inclusion (DEI) chair in the summer of 2020 to re-envision leadership around DEI and lead a collaborative team to develop an actionable roadmap for change. The committee was transformed to include voting members from across the department (students, staff, post-docs and faculty), all member categories were given equally visible leading positions in the committee, and structured the committee operating practices toward transparency and inclusion to serve as a model. A roadmap to drive systemic change was drafted, vetted, modified and is being finalized for publication. The roadmap includes efforts and goals across six pillars (recruiting a diverse community; building and valuing DEI skills; fostering a strong, connected, and successful community; developing a healthy and safe environment for mentoring, sponsorship, and advocacy; enabling an honest and transparent dialogue; and transforming our curriculum). In anticipation of an upcoming sabbatical and to ensure leadership continuity, I stepped down as lead once the roadmap was entering final production. This allows a new leader to be established in time for the public launch.	July 2020 - current
• As a member of the board of the Association of Environmental Engineering and Science Professors (a position elected by the organization's membership), I was elected onto the Vice-President, President-Elect, and President path by the board. As president, I engaged international members by hosting the first AEESP-International Water Association (IWA) joint reception at the IWA World Congress in Quebec City, and appointed international members to key committee leadership positions. I also initiated the movement of the organization from being self-run to using a management company that continues to oversee the board's functions. This has allowed the board to act more as a visionary and less as a managing body. All these changes remain today.	2007-2011
• As department chair of Civil and Environmental Engineering at the University of Michigan, I lead or oversaw: a significant transition in administrative staff; centralization of departmental operating management to enhance efficiencies; the development of procedures to achieve a balanced budget; the development of standard operating procedures and a governing document for the first time; the development of new strategic directions for the department; an increase in external funding of 40%; the doubling of student enrollments within a 5 year period; addition of $8.5 million to the department's endowment; and hiring five faculty.	Jan 2008– Aug 2011
• As a co-PI of the $3.5 million Virginia Tech NSF Advance Institutional Transformation Grant focused on women's leadership in academia, I lead activities associated with graduate student and post-doctoral engagement toward the professoriate.	July 2003– June 2008

MAJOR HONORS AND NOTABLE RECOGNITIONS

• American Society of Civil Engineers Wesley W. Horner Award for Daigger et al., Progress and Promise Transitioning to the One Water/Resource Recovery Integrated Urban Water Management Systems. *J Env Eng*, 2019.	2021
• American Academy of Environmental Engineers & Scientists Science Award	2020
• University of Illinois Urbana-Champaign Civil & Environmental Engineering Alumni Assoc. Distinguished Alumna Award	2020
• Kappe Lecture, American Academy of Environmental Engineers & Scientists	2019 - 2020
• AEESP/WEF Master Lecture: An Academic Perspective on Rethinking Urban Water Infrastructure Across the Classroom, Lab and Field. WEFTEC 2017, Chicago IL. October 2, 2017.	2017
• Distinguished Faculty Fellow in Sustainability, University of Michigan	2017-present
• Named Borchardt and Glysson Collegiate Professor, University of Michigan	2016
• Elected Fellow, Association of Environmental Engineering & Science Professors.	2015
• *Environmental Science and Technology Letters*, Best of the Best Paper Award for Delgado Vela et al. 2015 (see publications list).	2015
• Selected AEESP Distinguished Lecturer.	2015-2016
• Elected Fellow of the International Water Association.	2014
• Alec Gallimore Faculty Award from the Society of Minority Engineers and Scientists - Graduate (SMES-G) for being an effective advocate, ally and advisor to students of color, April 2012.	2012
• Gordon Maskew Fair Distinguished Engineering Educator, Water Environment Federation.	2011
• Elected Fellow of the Water Environment Federation. Inaugural class.	2011
• Certification by Eminence, Board Certified Environmental Engineer (BCEE). American Academy of Environmental Engineers.	2011
• President and Member of the Board, Association of Environmental Engineering and Science Professors. Position on Board of Directors is elected nationally, and position of president is then elected by the Board of Directors.	2007 - 2011
• Rudolfs Industrial Waste Management Medal for noteworthy accomplishments in industrial waste management research, Water Environment Federation. For Henriques et al. 2007. Activated sludge inhibition by chemical stressors – a comprehensive study. *Water Environment Research* **79**(9):940-951.	2008
• CEE Alumni Teaching Excellence Award, Virginia Tech	2006
• Women's Center Advancing Women Award, Virginia Tech	2005
• Excellence in Research Award, College of Engineering, Virginia Tech	2005
• Faculty Fellow, $15,000 over 3 years, College of Engineering, Virginia Tech	2003 – 2006
• Harrison Prescott Eddy Medal for outstanding contribution to wastewater principles/process research, Water Environment Federation. For Charles B. Bott and Nancy G. Love, for "Investigating a mechanistic cause for activated sludge deflocculation in response to shock loads of toxic electrophilic chemicals." *Water Environment Research*, **74**:306-315 (2002).	2003
• Outstanding Young Alumni, College of Engineering & Science, Clemson Univ.	2002
• Paul L. Busch Award for Innovation in Applied Water Quality Research, Water Environment Research Foundation ($100,000)	2001

- National Science Foundation CAREER Award Recipient — 1995
- American Association of University Women Selected Professions Fellow — 1993
- Chi Epsilon Civil Engineering Honor Society initiate — 1985

PROFESSIONAL MEMBERSHIPS, ACTIVITIES AND APPOINTMENTS

Editorial Boards

- **ACS ES&T Engineering**, Associate Editor (inaugural) — 2020 - present
- **Water Environment Research**
  - Editorial Board — 2019 – present
  - Editor-in-Chief search committee — 2009
  - Associate Editor — 2002 - 2005
- **Environmental Engineering Science**, Editorial Board — 2015 - present

Current Memberships and Activities

- **American Association for the Advancement of Science**
  - Member — 2016 - present
- **American Academy of Environmental Engineers and Scientist (AAEES)**
  - Member — 2011 – present
  - Board Certified Environmental Engineer (by eminence) — 2012 – present
  - Environmental Engineering Science Awards Committee — 2020 - present
  - Environmental Engineering and Science Foundation Board of Directors — 2014-2016
- **American Chemical Society**
  - Member — 2012 - present
- **American Society of Civil Engineers (ASCE)**
  - Member — Discontinuous
  - Active participant: ASCE Department Chair's meetings — 1980's – present
  - EWRE Sustainability subcommittee — 2008-2011
- **American Society for Engineering Education**
  - Member — 2007 - 2009
- **Association of Environmental Engineering and Science Professors**
  - Member and Fellow (2015) — Discontinuous 1994 - present
  - Master's Thesis Awards Subcommittee (Chair, 1999) — 1994 – present
  - Awards Committee (Chair, 2006-2007) — 1997 – 1999
  - Board of Directors (Elected by membership; elected by board as Vice-President 2008-2009; President-Elect 2009-2010; President 2010-2011) — 2004 – 2007, 2007 – 2011
  - Co-Chair, AEESP 2017 Biannual Conference — 2016-2017
  - AEESP Fellows Selection Committee — 2018
- **International Water Association**
  - Member and Fellow (2014) — 1989 – present
  - Environmental Engineering Education specialist's group, chair effective 2014 — 2006 - present
  - Microbial Ecology in Water Engineering (MEWE, formerly Activated Sludge Population Dynamics) Specialty Group member — 1995 – present
  - MEWE program committee — 2005 - 2019
  - Chair, MEWE2013 conference, Ann Arbor, Michigan USA — 2012 - 2013
  - Leading Edge Technology (LET) Program Committee — 2007 – 2009
  - Instrumentation, Control and Automation Group — 2001 – 2007
  - Organizing Committee, Nutrient Management 2007 Workshop — 2005 – 2007

MEGA working group member — 2005 – 2008
Biofilms 2010 Conference Program Committee — 2009 – 2010

- **Water Environment Federation**
  - Member and Fellow (2011) — 1986 – present
  - Awards Committee — 2012 - present
  - Research Symposium Subcommittee — 1999 – 2003
  - Virginia WEA Student Activities Committee — 1997 – 2007
  - Work Force Task Force – WEF Presidential Appointment — 2008 – 2009
  - Nutrient Specialty Conference Program Committee — 2008 - 2009
  - Chair, Academic Committee — 2009 – 2013
- **Water Environment Research Foundation**
  - Leaders Innovation Forum for Technology (LIFT) Steering Committee — 2015 – current
  - Chlorination Control and Monitoring Practices Project Advisory Committee — 2000 - 2002
  - Wastewater Security Project Subcommittee — 2003 – 2004
  - Sensors for Security in WWT Systems Project Advisory Committee — 2005 – 2007
  - Paul L. Busch Award Selection Committee — 2005 – 2011
  - Membrane Aerated Biofilm Reactor Project Advisory Committee, U2R14 — 2016-2018

Current Board Appointments

- **National Water Research Institute** Independent Science Advisory Panel for Metropolitan Water District — 2019-present
- **ReNUWIt Engineering Research Center** Science Advisory Board, Stanford, UC-Berkeley, Colorado School of Mines, New Mexico State University — 2015-2020
- **University of Iowa NSF Sustainable Water Development Graduate Program** Advisory Board Member — 2017-2019

Prior Memberships, Activities and Board Appointments

- **American Society for Microbiology**, Member — 1991–2010
- **Environmental Protection Agency** — 2010 - 2012
  EPA Science Advisory Board, Drinking Water Subcommittee
- Appointed Member, **Michigan Department of Agriculture/Michigan Department of Environmental Quality Food Processors Working Group** — 2009 - 2010
- **Michigan Economic Development Corporation (MEDC) Water Cluster Committee**, establishing water-based technology investment goals for Michigan. — 2008 – 2010
- **National Society of Professional Engineers** — Discontinuous
  Member — 1987 - 2019
- *Member,* **NSF's CLEANER (later, WATERS Network) Initiative** as (a) planning phase participant, (b) Co-PI on environmental impacts to coastal margins planning grant and (c) Member, sensor sub-committee. — 2002 – 2007
- Appointed by Governors Warner and Kaine (Virginia) to the **Scientific and Technical Advisory Committee to the Chesapeake Executive Council** — 2005 – 2007
  Workshop co-chair and author, Establishing a Research Agenda for Assessing the Bioavailability of Wastewater-Derived Organic Nitrogen in Treatment Systems and Receiving Waters, September 27 and 28, 2007, Baltimore, Maryland. Hhttp://www.chesapeake.org/stac/Pubs/eonreport.pdfH
- **Women in Engineering Leadership Institute (WELI) Strategic Planning Committee** — 2004 – 2005

MAJOR COMMUNITY SERVICE AND OUTREACH ACTIVITIES

- **N95DECON.org.** A consortium of volunteer researchers from universities across the United States and world who worked to decipher, evaluate, and disseminate technically accurate information about N95 respirators as well as other kinds of masks and face coverings, in response the coronavirus pandemic. A key member of the Heat Treatment sub-team and participant in other subcommittees, as needed. — April 2020 - present
- **City of Flint Technical Advisory Committee.** Appointed by Mayors Weaver (2017-2019) and Neeley (2019 – current) to provide guidance on behalf of the city's efforts in response to the Flint Water Crisis and other environmental and public health needs. — 2017 – present
- **Train-the-Trainers.** Designed, developed, and delivered a curriculum about faucet-mounted point-of-use filters to Flint residents who became trainers for other Flint residents. Syndicated the curriculum to other communities with input from Flint community and partners. — 2018 - present
- **K-12 Drinking Water Filtration.** Working with multiple organizations in the following ways: (a) developing and providing technical guidance on assessing the performance of point-of-use filters and advanced hydration stations used in schools (Flint Community Schools, Ann Arbor Public Schools); (b) provided technical input to the development of a model law by the National Resources Defense Council; (c) serving in a technical advisory role to the FilterFirst grassroots initiative that has successfully introduced bipartisan legislation in the State of Michigan to require point-of-use filtration of drinking water in schools and daycare centers throughout the state. — 2018 - present
- **Partnerships around Research and Education in Ethiopia.** Partnering with faculty in various institutes at Addis Ababa University in Ethiopia to advance graduate education as new Ph.D. programs are implemented. Create opportunities for AAU students to visit U-M for beneficial research experiences and partner those students with U-M Ph.D. students who serve as peer collaborators. Serve on the Ph.D. committees of AAU students. — 2017 - 2019
- **Community-Targeted Scholarship**
  N. G. Love, R. Jackson, S. P. McElmurry. Water Stays in the Pipes Longer in Shrinking Cities – A Challenge for Public Health. *The Conversation*, May 24, 2019. http://theconversation.com/water-stays-in-the-pipes-longer-in-shrinking-cities-a-challenge-for-public-health-116119

  N. G. Love. We All Deserve to Have Confidence in Our Water. *Medium*. May 10, 2019. https://medium.com/@nglove/we-all-deserve-to-have-confidence-in-our-water-6994b2f7e00c?source=friends_link&sk=a1703f45b607977176581383l9b971b1

MAJOR UNIVERSITY, COLLEGE & DEPARTMENT SERVICE/PROGRAMMATIC RESPONSIBILITIES

University of Michigan

- President's Public Health Advisory Committee on COVID — Fall 2020-present
- UM Center for Global Health Equity Leadership Council, and co-chair of Climate Vulnerability and Health group. $20 million center that is launching in 2021. — Aug 2020-present
- University of Michigan Scientific Reviewer, Institutional Biosafety Committee (IBC), appointed by Vice President for Research — July 1, 2020 – June 30, 2023
- CEE Diversity, Equity, and Inclusion Chair (through 2020), then committee member — Aug 2020–present
- CEE Executive Committee (elected position) — 2019-2021
- Undergraduate Recruitment Committee — 2019-2020
- Richart Lecture Committee — 2017-2018

	2019-2020
• Advisory Group on University of Michigan activities in Ethiopia, Provost's office	2017-2019
• Advisory Group: U-M Lead and Copper Rule Project, Graham Institute overseeing Mott Foundation project.	2018-2019
• Civil and Environmental Engineering Strategic Plan Implementation and Development Committee, Revising plan in 2017-2018	2013-2018
• College of Engineering Graduate Recruitment, Retention & Summer Programs Advisory Group	2017-2018
• Internal Advisory Board Member, Center for Socially-Engaged Design	2017-2020
• Administrative Structure Working Group, School of the Environment and Sustainability Transition Subcommittee	2017
• U-M ADVANCE LAUNCH Committee Chair	2016-2017
• College of Engineering Promotion, Tenure and Reappointment Process Review Committee, Chair	2017
• UM Energy Institute Faculty Affiliate (https://energy.umich.edu/)	2018-present
• College of Engineering Faculty Search Committee for positions in Engineering Education Research (EER)	2015-2016
• Ethiopia – Michigan Collaborative Consortium (EMC2) Planning Committee, appointed by Assoc Provost James Holloway	2015-2018
• Provost's Committee on Environment and Sustainability	2016
• Provost's Poverty Visioning Committee	2015-2016
• Integrated Training in Microbial Systems (ITiMS) (Burroughs Wellcome Fund training program) Faculty Affiliate	2015 - present
• President's Advisory Commission on Women's Issues	2014-2015
• President's Postdoctoral Fellowship Advisory Committee	2014-2015
• Rackham Graduate School Dean Search Committee	2014
• Provost's Promotion and Tenure Committee	2013
• Mentoring Others Results in Excellence (MORE) Committee, Rackham Graduate School, Member and Chair	2012 - 2013
• Alumni Liaison Committee, Civil and Environmental Engineering	2012-2014
• Deans Advisory Committee on Female Faculty, College of Engineering	2012-2013
• Faculty Search Committee Co-Chair, Civil and Environmental Engineering	2011-2012
• Center for Molecular and Clinical Epidemiology of Infectious Diseases (MAC-EPID) Faculty Affiliate	2009 - present
• Graham Sustainability Institute Faculty Affiliate	2009 - current
• College of Engineering Alumni Awards Selection Committee	2011
• Graham Environmental Sustainability Institute, Executive Committee	2009 - 2011
• College of Engineering Dean's Advisory Committee on Faculty Diversity	2010 - 2012
• Provost's Office - Classroom Emergency Training Video Planning Group	Fall 2008 – 2009
• College of Engineering *ad hoc* Committee on Graduate Student Excellence	Summer 2008
Virginia Tech	
• Chair, College of Engineering "Think Tank" Committee (6 faculty)	2006 – 2007
• Space/Overhead Return Allocation *ad hoc* Committee, Provost apptmt	2005

• College of Engineering Dean's Search Committee	2005
• co-Coordinator, Via Academic Preparation Program for graduate student professional development, Dept of Civil and Environmental Engineering	2004 – 2007
• co-Principal Investigator and Advance Professor for $3.5 million NSF Advance Institutional Transformation grant focused on increasing the participation and advancement of women in academic STEM careers. Chair: Advancing Women into the Profession	2003 – 2006
• Environmental Public Health Committee	2003 – 2004
• Provost's Implementation Committee, Biomedical & Public Health Institute	2002
• Board of Directors, WPI, Inc., a Virginia Tech affiliated company.	2001 – 2003
• Provost's Environmental Health Committee	2002
• Provost's Committee on Biomedical Research	2001 – 2002
• College of Engineering Diversity Committee	2001 – 2005
• Environmental Engineering Laboratory Coordinator & staff supervisor	1997 – 2005
• University Cross Cutting Initiatives Committee, Environment & Energy	1998 – 2000
• Fralin Biotechnology Center 5 Year Review Committee	2000
• Environmental Engineering Graduate Student Recruitment Officer	2000

UNIVERSITY TEACHING RESPONSIBILITIES

Introduction to Environmental Engineering; Models in Environmental Engineering; Water and Wastewater Treatment Design; Applied Biology of Environmental Systems; Biological Treatment Processes: Theory and Design; Environmental Microbiology; Introduction to Civil and Environmental Engineering; Engineering Solutions to Global Water Issues (Freshmen Design–Build–Test course); Decentralized Water Supply, Hygiene and Sanitation (co-produced with faculty at Addis Ababa University, Ethiopia); Urban Environmental Systems: Project-based Experiences for Students (focused on a diverse group of students in Engineering; Urban Planning, Public Health, Environment & Sustainability); Robots, Sensors and Smart Water Systems (co-developed Freshmen Design–Build–Test Course)

ADVISING RESPONSIBILITIES

Currently serving as advisor for 2 undergraduate research students, 1 master's students, and 8 Ph.D. students. Previously advised 44 M.S. students with thesis or significant project, 18 Ph.D. students, 7 post-doctoral research associates, and 36 undergraduate research projects/theses.

Major Undergraduate Research Projects

1. Harrison Suchyta. Summer 2019-current. Developing urine-derived fertilizers for flowering and woody plants at UM's Botanical Garden.
2. Leah Pifer. Fall 2019 – current. Developing an algorithm for a hand-held water quality monitoring strip.
3. Julia Raneses. Fall 2019 – Aug 2020. Building-Scale Urine Separation Systems.
4. Kensey Dahlquist. Spring 2019 – current. Projects in support of building-scale urine separation, collection and processing for nutrient-energy-water cycling.
5. Yen Jee Ooi. Summer 2018 (at Rich Earth Institute), then Fall 2018-2019. Nutrient analysis for NSF INFEWS project.
6. Brittany Brown. Summers 2017 and 2018. Characterization of *Stenotrophomonas maltophilia* from drinking water through culturing and qPCR, and bioavailability of high versus low water age carbon.
7. Myriam Sarment. 2018 summer. Bioavailability of high versus low water age carbon in drinking water isolates.
8. Alexi Sinanaj. 2017 – 2018. Pharmaceutical removal from urine through activated carbon adsorption.
9. Brady Nishimiya. 2017-2018. Disinfection residual effectiveness of point-of-use product.
10. Nicholas Lowe. 2017-2018. Automated flushing device to improve water quality through point-of-use drinking water filters.

11. Dylan Raye-Leonard. 2016-2018. Urine-derived fertilizer project.
12. Brittany Brown. 2016. Microbial ecology of novel nitrogen removal systems.
13. Ishi Keenum. 2015 – 2016. Plasma treatment of source-separated urine for fertilizer development (co-mentor with K. Wigginton).
14. Mariah Gnegy. 2015-2016. DNA-based analysis of bacteria and viruses in source separated urine (co-mentor with K. Wigginton).
15. Weitian Wang. 2010-2011. Microaerobic Removal of Pharmaceuticals from Wastewater
16. Celine Saucier. 2010-2011. Nitrate Removal to Enable the Effluent Organic Nitrogen Bioassay
17. Bryan VanDuinen. 2009. Life Cycle Assessment of Various Disposal Methods for Unused Pharmaceuticals.
18. Shayan Sengupta. 2009: Assessing the Toxicity of Pharmaceuticals at Doses Expected from Secondary Infections Experienced During a Pandemic.
19. Genevieve Ho. 2008-2009: First project - Assessing a Thin-Film pH Biosensor. Second project – Abiotic Ammonia release from Effluent Organic Nitrogen Along Salinity Gradients.
20. Brian Harris. 2007: Assessing Oxidative Stress Response Function of Alginate-Immobilized Bacteria
21. Zachary Frye. 2006. Assessing the Feasibility of Nanostructure-Enhanced Nitrifying Microbial Fuel Cells
22. Brian Segal. 2006-2007. Evaluation of Ammonia Oxidizing Bacterial Biofilms.
23. Stephanie Harris. 2005-2006. Development of a Microfluidic Immunomagnetic Separation Biosensor for Detecting Bacterial Pathogens.
24. Beth McConnell. 2003-2004. The Affect of Physiology on Bacterial Responses to Oxidative Uncouplers
25. Suzanne Ayers. 2002. VIA Undergraduate Scholar: Evaluating the Impact of Toxic Shocks on Wastewater Treatment Performance
26. Felicia Glapion. 2001-2002. NEM-Induced Potassium Efflux in *Pseudomonas aeruginosa*
27. Monica Mace. 2000-2001. GE Scholarship: Denitrification of Aquaculture Wastewaters
28. Denise Gillam. 2000. Water Center Undergraduate Fellowship: The Impact of Potassium Efflux on Biofilm Treatment Systems Exposed to Electrophilic Toxins
29. Mike Gatza. 1999-2000. Using Two-Dimensional Gel Electrophoresis to Characterize Stress Proteins (Co-advised with Dr. Ann Stevens)
30. Bethany McRae. 1999-2000. NSF REU: Induction of the Glutathione-Gated Potassium Efflux System in *Sphingomonas capsulata* Exposed to HOCl
31. Jennifer Abrajano. 1999-2000. NSF REU: Assessing the Metabolism of Xenobiotic Compounds by Microaerobically-Grown Magnetotactic Bacteria
32. Scott Phipps. 1998-1999. Dewatering of Oily Wastewater Sludges. (Co-advised with Dr. John Novak)
33. Katya Bilyk. 1998-1999. NSF REU: Nitrite Inhibition and Toluene Degradation Under Denitrifying Conditions
34. Julie Wheeler. 1997-1998. NSF REU: Impact of Xenobiotic Stressors on Activated Sludge System Performance
35. Mary Rust. 1996-1997. Water Center Undergraduate Fellowship and NSF REU: Development and Isolation of Acetaldehyde Oxime and Methylethyl Ketoxime Degrading Cultures
36. Elliott Wheeler. 1995-1996. The Role of Various Cations in Settling and Dewatering of Biological Wastewater Treatment Sludges
37. Jon Treadway. 1995. Determination of Proteins in Activated Sludge Using Commercial Assays
38. Kevin Gilmore. Fall 1995: The Impact of Oximes on the Degree and Rate of Nitrification in Activated Sludge Cultures. Spring 1996: Evaluation of Chemical Oxidation as Pretreatment for Wastewaters Containing Aldicarb Oxime

Masters Students with Theses, Extensive Research Project, or Project Report

1. Julia Raneses. 2019 – current. Nutrient balances at the community scale.
2. Nick J. Lowe. 2018 – 2019. Toxicological monitoring of SWIFT effluent from Hampton Roads Sanitation District.

3. Avery Carlson. 2016 – 2018. Isolating and identifying comma-shaped nuisance bacteria in Traverse City's membrane bioreactor treatment system. (co-advised with Glen Daigger)
4. Enrique Rodriguez. 2016 – 2018. Plasma as a platform for advanced oxidation of urine to generate safe fertilizers (co-advised with Krista Wigginton)
5. Zixu Zhao. 2016-2017. Optimizing flushing to reduce microbial contamination of point-of-use filtered drinking water.
6. Andrea McFarland. 2015 – 2018. NSF Fellowship Recipient. Water quality benefits due to green infrastructure. (Co-advised with Larissa Larsen, Urban Planning). National Achievement: NSF Graduate Research Fellowship.
7. Samayyah Williams. 2014-2015. Modeling, understanding, and assessing technologies for the Detroit Water and Sewerage Department (DWSD) Wastewater Treatment Plant.
8. Nigel Beaton. 2014-2015. Low energy-demanding nitrogen removal from anaerobic effluents using biofilm technologies.
9. Anton Dapcic. 2013 – 2014. A performance evaluation of the WASAC™ energy recovery process.
10. Angelica Perez De La Rosa. 2010-2012. The impact of chlorinated phenols on the microbial ecology of point-of-use drinking water filters.
11. C. Davis Powell. 2011-2014. Evaluating the environmental impacts of urine source separation.
12. Chris Moline. 2010-2011. The fate of pharmaceuticals in microaerobic biological treatment processes.
13. Alexi Ernstoff. 2009 – 2011. The impact of culturing buffer on the ability of *Nitrosomonas europaea* to biotransform 17 α-ethinylestradiol. Current affiliation – Ph.D. student, Technical University of Denmark.
14. Sam Hardin. 2006-2011. The effectiveness of corrective action strategies on chemically stressed biological wastewater treatment systems. Current affiliation – environmental engineering consulting. National Achievement: WEFTEC Best Poster, 1st Place, 2008.
15. Romeo Capuno. 2005-2007. Modeling anaerobic ammonia oxidizing biofilms. Current affiliation – environmental engineering consulting.
16. Jason Beck. 2005-2007. Evaluating deammonification processes to achieve nitrogen removal from dairy waste. Current affiliation – environmental engineering consulting.
17. Jeremy Guest. 2005-2007. Laboratory testing of process controls for the mitigation of toxic shock events at enhanced biological phosphorus removal wastewater treatment plants. Current affiliation – Assistant Professor, University of Illinois.
18. Kaoru Ikuma. 2004-2007. The development of a bacterial biosensor designed to detect oxidative chemicals in water: correlating sensor relevance to mammalian brain cells and assessing bacterial cell immobilization strategies. Current affiliation – Assistant Professor, Iowa State University.
19. Mert Muftugil. 2004-2011. Enhanced Biological Phosphorus Removal of Dairy Manure using Sequencing Batch Reactors: Performance, Kinetics and Model Development. Current affiliation – environmental engineering consulting.
20. Anna Zaklikowski. 2004-2006. Evaluating the Effectiveness of Disinfection Strategies in the Inhibition and Inactivation of Ammonia Oxidizing Bacteria. Current affiliation – environmental engineering consulting.
21. Ka Man Chan. 2004-2005. Feasibility Study of In Situ Bioremediation of Bis(2-Chloroethyl) Ether and 1,2-Dichloroethane. Affiliation upon graduation – water utility.
22. Paul Sweetman. 2004-2005. Evaluating the Fate of Manure Nitrogen in Confined Dairy Waste Operations: A Full-Scale Waste Analysis and Start-up Protocol for an Anammox –Based Treatment Technology Applicable to Dairy Waste Management. Affiliation upon graduation – government position in Ireland.
23. Irina Chakraborty. (Degree from University of Helsinki, Finland) 2002-2005. Characterizing the Adaptation of a Subsurface Microbial Community using Biomolecular Tools (co-advised with Dr. Ann Stevens, Biology). Affiliation upon graduation – Ph.D. student in environmental microbiology.
24. Katharine Linares. 2002-2004. Development of a Biosensor for Detecting Toxic Electrophilic Chemicals in Waters. Current affiliation – environmental engineering consulting.

25. Jennifer Dauphinais. 2002-2003. Effects of Toxic Chemicals on Biological Wastewater Treatment Processes. Current affiliation – US government-based environmental services.
26. Rachelle Rhodes. 2002-2004. Subsurface Microbial Community Adaptation to Xenobiotic Influx. Current affiliation – environmental engineering consulting.
27. Susanna Leung. 2001-2003. Oxygen Transfer Efficiency in a Biological Aerated Filter (co-advised with John Little). Current affiliation – environmental engineering consulting.
28. Giacomo Sonzini. (Degree from Politecnico Di Milano, Italy) 2001. Investigation of K^+ Efflux as Response to Intoxication for Nitrifying Activated Sludge. Affiliation upon graduating – financial analyst in Italy.
29. Kristina Yanosek (Biological Systems Engineering). 2000-2002. Enhanced Biological Phosphorus Removal from Dairy Manure to Meet Nitrogen and Phosphorus Crop Nutrient Requirements (co-advised with Dr. Mary Leigh Wolfe). Affiliation upon graduation – US Dept of Interior.
30. David Whichard. 2000-2001. Nitrogen Removal from Dairy Manure Wastewater Using Sequencing Batch Reactors. Affiliation upon graduating – environmental services in industry.
31. Kofi Asiedu. 2000-2001. Evaluating Biological Treatment Systems: I. Moving Bed Biofilm Reactor Versus Biological Aerated Filter. II. Sulfide-Induced Corrosion in Anaerobic Digester Gas Piping. Current affiliation – Engineer III, Prince William County, Virginia.
32. Melissa Fouratt (Biological Sciences). 1998-2001. Application of Molecular Techniques to the Characterization of a Nitrifying Bioaugmentation Culture (co-advised with Dr. Ann Stevens). Position upon graduation – pharmaceutical sales.
33. Scott Phipps. 1999-2001. Performance Evaluation and Yield Determination of a Full-Scale Biological Aerated Filter. Current affiliation – environmental engineering consulting.
34. Brian Brazil. 1999-2001. Evaluation of an Effluent Treatment Strategy to Control Nitrogen from a Recirculating Aquaculture Facility. Current affiliation – environmental engineering consulting.
35. Robert Wimmer. 1998-2001. Development of a Biosensor to Predict Activated Sludge Deflocculation and the Link Between Chlorination and Potassium Efflux. Current affiliation – environmental engineering consulting.
36. Arnaud Delahaye. 1997-1998. Distribution and Characteristics of Biomass in an Upflow Biological Aerated Filter. Affiliation upon graduation – Civil servant in France.
37. Kari Husovitz. 1997-1998. The Influence of Hydraulic Loading Rate on Nitrification Performance in a Two-Stage Biological Aerated Filter Pilot System. Current affiliation – environmental engineering consulting.
38. Kevin Gilmore. 1997-1999. Using Oligonucleotide Probes to Characterize Nitrification in a Two-Stage Pilot Plant Scale Biological Aerated Filter System. Current affiliation – Associate Professor, Bucknell University.
39. Jeff McGinnis. 1996-2003. Biodegradation and Dewatering of an Industrial Waste Oil. Current affiliation – environmental engineering consulting.
40. Jennifer Phillips. 1996-1997. Denitrification or Recirculating Aquaculture System Waters Using an Upflow Biofilter and a Fermented Substrate. Current affiliation – environmental engineering consulting.
41. Kristina Perri. 1996-1997. The Effectiveness of Multiple Redox Treatment Strategies on the Treatability of a High Strength Industrial Wastewater. Current affiliation – environmental engineering consulting.
42. James Drew Fettig. 1995-1998. A Study of the Patterns, Stoichiometry, and Kinetics of Microbial BTX Degradation Under Denitrifying Conditions by an Activated Sludge Consortium Receiving a Mixed Waste. Current affiliation – environmental engineering consulting.
43. Michelle Smith. 1995-1996. The Effect of Cation Addition on the Settling and Dewatering Properties of an Industrial Activated Sludge. Affiliation upon graduation – environmental engineering consulting in Canada.
44. Erika Lubkowicz (Bailey). 1995-1996. Biological Treatment Schemes for Preventing Oxime Inhibition of Nitrification. Current affiliation – environmental engineering consulting.

45. Patrick Brooks. 1995-1996. An Investigation of Temperature Effects on Denitrifying Bacterial Populations in a Biological Nutrient Removal System. Current affiliation – environmental engineering consulting.

Ph.D. Dissertations, Student Placement and Nationally Recognized Achievements by Mentees

1. Brittany Brown Hicks. 2019 – 2024 (anticipated). Project being defined. *National Achievement*: Ford Foundation Predoctoral Fellowship.
2. Alyssa Schubert. 2018 – 2023 (anticipated). Crowd-sourced water quality monitoring and community access to water monitoring.
3. Lucinda Li. 2018 – 2023 (anticipated). The impact of urine derived fertilizers on soil health (co-advised with Krista Wigginton).
4. Enrique Rodriguez. 2018 – 2022 (anticipated). Suspect screening, effect directed analysis and chemical risk of resource efficiency processes (co-advised with Krista Wigginton).
5. Hollie Adejumo. 2017 – 2022 (anticipated). The Toxicity and Transformation of Nitrogenated Disinfection Byproducts in the Human Gut (co-advised withi Laura Rozek). *National Achievement*: NSF Graduate Research Fellowship.
6. Avery Carlson. 2018 – 2021 (anticipated). Project topic being developed (co-advised with Glen Daigger)
7. Brett Wagner. 2016 – 2021 (anticipated). Membrane aerated biofilm reactor technology (co-advised with Glen Daigger). *National Achievement*: NSF Graduate Research Fellowship.
8. Sara Troutman. 2015-2020. Integrated urban water infrastructure systems modeling at the green and grey infrastructure interface. (co-advised with Branko Kerkez). *Current Affiliation*: Xylem, Inc. *National Achievement*: NSF Graduate Research Fellowship.
9. Zerihun Bekele Alemayehu. 2015-2020. Use of sensor-mediated controls to achieve enhanced, low energy nitrogen removal during mainstream wastewater treatment. (Co-advised with Charles Bott, Hampton Roads Sanitation District). *Current Affiliation: Engineer with BASF Corporation.*
10. Chia-Chen Wu. 2013- 2018. Bacterial colonization of point-of-use (PoU) drinking water filters, selection of opportunistic pathogens and presence of antibiotic resistance genes. (Co-advised with Terese Olson). *Current Affiliation*: Postdoctoral Research Associate, Wayne State University
11. Heather Goetsch. 2014 –2018. Evaluating the benefits and risks of source separation as a nutrient management strategy. (Co-advised with Krista Wigginton). *Current Affiliation:* Department of Energy. *National Achievement*: AAAS Fellow with the Dept of Energy.
12. Jeseth Delgado-Vela. 2012 –2018. NSF Fellowship Recipient and Ford Foundation Fellow. Nitrogen and Sulfur Cycling During Wastewater Treatment. (Co-advised with Greg Dick). *Current Affiliation:* Assistant Professor, Howard University, Washington D.C. *National Achievements:* NSF Graduate Research Fellowship; Ford Foundation Fellowship; AEESP Conference Best Student Presentation.
13. Lauren Stadler. 2010 – 2015. Fate of trace contaminants in bacterial communities under low dissolved oxygen environments. *Current Affiliation:* Assistant Professor, Rice University, Houston. *National Achievement:* NSF Graduate Research Fellowship; 2016 CH2M/AEESP Best Dissertation Award; AEESP Conference Best Student Presentation.
14. Sherri M. Cook. 2008-2014. Sustainable Waste Management: Modeling and Decision Strategies for Unused Medications and Wastewater Solids (Co-advised with Steve Skerlos). *Current Affiliation:* Assistant Professor, University of Colorado, Boulder. *National Achievement:* NSF Graduate Research Fellowship
15. Jeremy S. Guest. 2007-2012. Sustainable design of wastewater treatment systems: Evaluations of operational flexibility and phototrophs for resource recovery. (Co-advised with Steve Skerlos). *Current Affiliation:* Associate Professor, University of Illinois, Urbana-Champaign. *National Achievements:* 2014 NSF CAREER Award Recipient; 2016 Paul L. Busch Award, Water Research Foundation.
16. Ameet J. Pinto. 2005-2009. Upset Events at Wastewater Treatment Plants: Implications for Mitigative Strategy Development and Bioreactor Microbial Ecology. *Current Affiliation:* Assistant Professor, Northeastern University, Boston. *National Achievements*: 2018 NSF CAREER Award Recipient; 2018 ISME/IWA Rising Star Bio Cluster Award; 2019 Paul L. Busch Award, Water Research Foundation .

17. Wendell Khunjar. 2004-2009. Elucidating Factors that Impact the Removal of Organic Microconstituents by Heterotrophic and Ammonia Oxidizing Bacteria. *Current Affiliation:* Hazen and Sawyer Consultants.
18. Martin Musabyimana. 2005-2008. Deammonification Process Kinetics and Inhibition Evaluation. *Current Affiliation:* East Bay Municipal Utility District, San Francisco, CA.
19. Kevin R. Gilmore. 2005-2008. Treatment of High-Strength Nitrogen Wastewater With a Hollow-Fiber Membrane-Aerated Biofilm Reactor: A Comprehensive Evaluation. *Current Affiliation:* Associate Professor, Bucknell University.
20. Jocelyn Fraga Muller. 2002-2006. The Role of Multidrug Efflux Pumps in the Stress Response of *Pseudomonas aeruginosa* to Organic Contamination. (Co-advised with Ann Stevens) *Current Affiliation:* Community College Instructor.
21. Ines D. S. Henriques. 2001-2006. The Response of Activated Sludge Cultures to Toxic Chemicals: Process Performance Effects, Role of Floc Structure, and Detection of Physiological Changes by Footprinting Methods. *Current Affiliation:* Business CEO, Portugal. National Achievement: WEFTEC Best Poster 1st Place, 2003.
22. Richard T. Kelly II. 2001-2005. Chemical Inhibition of Nitrification: Evaluating Methods to Detect and Characterize Inhibition and the Role of Selected Stress Responses Upon Exposure to Oxidative and Hydrophobic Toxins. *Current Affiliation:* Brown and Caldwell, Seattle, Washington.
23. R. David Holbrook. 2000-2003. The Role of Colloids in Defining the Fate of Endocrine System Disrupting Chemicals in Wastewater Treatment Systems (Co-advised with Dr. John Novak). *Current Affiliation:* Chief, Surface and Microanalysis Sciences Division, National Institute of Standards and Technology. *National Achievement:* 2010 PECASE (Presidential Early Career Award for Scientists and Engineers) recipient.
24. Charles B. Bott. 1997-2001. Elucidating the Role of Toxin-Induced Microbial Stress Responses in Biological Wastewater Treatment Process Upset. Affiliation upon graduation: environmental engineering consulting, then Assistant and Associate Professor at Virginia Military Institute. *Current Affiliation:* Director of Water Technology and Research, Hampton Roads Sanitation District, Virginia. *National Achievements*: Parsons Engineering Science/AEESP Doctoral Thesis Award; AEESP Fred Pohland Medal.
25. Guihua Ma. 1995-1999. The Kinetics, Biochemical Patterns, and Microbial Ecology in Multiredox Activated Sludge Systems Treating BTX Containing Wastewater. *Current Affiliation:* KCI, Inc., Baltimore, MD.

Post-Doctoral Research Associates

1. William Tarpeh, 2017-2018. Pharmaceutical transformation products through urine-derived fertilizer processing technologies. Co-advised with K. R. Wigginton. *Current Affiliation: Assistant Professor of Chemical Engineering, Stanford University.*
2. Rebecca Lahr, 2015-2016. Microbial fate in source-separated urine. Co-advised with K. R. Wigginton. *Prior Affiliation*: Assistant Professor, Michigan State University.
3. Dr. Kelly Martin. 2013 – 2015. Innovative, Low Energy Nitrogen Removal from Anaerobic Effluents. *Current Affiliation:* Black and Veatch, Inc.
4. Dr. Sudeshna Ghosh. 2008-2012. Chemical stressor-induced antibiotic resistance. *Current Affiliation*: Self Employed.
5. Dr. Kartik Chandran. 2004-2005. Chemical stress mechanisms in nitrifying bacteria. *Current Affiliation:* Associate Professor, Columbia University. *National Achievements:* NSF CAREER Award recipient; 2015 MacArthur Fellow; 2010 Paul L. Busch Award, Water Research Foundation.
6. Dr. Jane Duncan. 1998-1999. Heat shock protein expression in response to chemical stress in activated sludge. *Current Affiliation:* Research Scientist, Dept of Biochemistry, Virginia Tech.
7. Dr. Kathy Terlesky. 1996-1997. Heat shock protein expression in response to chemical stress in activated sludge. Current Affiliation: Vice President, Division Manager, SAIC, Inc., Charlottesville, Virginia.

PUBLICATIONS

Textbooks

1. Grady, C. P. L. Jr., G. T. Daigger, N. G. Love and C. Filipe. 2011. *Biological Wastewater Treatment*, 3rd Edition, Taylor and Francis Publishers.

Peer-Reviewed Journal Articles (undergraduate students; graduate students; post-doctoral research associates; *corresponding or senior author)

2. Wigginton, K. R., P. J. Arts, H. Clack, W. J. Fitzsimmons, M. Gamba, K. R. Harrison, W. LeBar, A. S. Lauring, L. Li, W. W Roberts, N. Rockey, J. Torreblanca, C. Young, L. G. Anderegg, A. M. Cohn, J. M. Doyle, C. M. Meisenhelder, L. Raskin, N. G. Love*, and K. S. Kaye*. 2021. Validation of N95 filtering facepiece respirator decontamination methods available at a large university hospital. *Open Forum Infectious Diseases*. Accepted. DOI: 10.1093/ofid/ofaa610.
3. Delgado-Vela, J., L. A. Bristow, H. K. Marchant, N. G. Love and G. J. Dick*. 2021. Sulfide alters microbial functional potential in a methane and nitrogen cycling biofilm reactor. *Environmental Microbiology*. Accepted.
4. Hilton*, S., G. Keoleian, G. T. Daigger, B. Zhou, N. G. Love. 2021. Life-cycle assessment of urine diversion and conversion to fertilizer products at the city scale. *Environmental Science & Technology*. 55:593-603.
5. Anderegg, L., J. Doyle, M. L. Gardel, A. Gupta, C. Hallas, Y. Lensky, N. G. Love, B. A. Lucas, E. Mazenc, C. Meisenhelder, A. Pillarisetti, D. Ranard, A. H. Squires, J. Vechakul, N. B. Vilas, S. Williams, D. Wilson, *Chen, T. and the N95DECON consortium. 2021. Heat and humidity for bioburden reduction of N95 filtering facepiece respirators. *Applied Biosafety*. In press. DOI:10.1089/apb.20.0053.
6. Rockey, N., P.J. Arts, L. Li, K.R. Harrison, K. Langenfeld, W.J. Fitzsimmons, A.S. Lauring, N.G. Love, K.S. Kaye, L. Raskin, W.W. Roberts, B. Hegarty, K.R. Wigginton*. 2020. Humidity and deposition solution play a critical role in virus inactivation by heat treatment on N95 respirators. *mSphere*. 5(5):e00588-20. DOI:10.1128/mSphere.00588-20.
7. Admassu Abate, T., A. F. Desta, F. Assefa, N. G. Love*. 2020 The performance of an Ethiopian tannery wastewater treatment system based on chemical and microbiological water quality. *Water Environment Research*. In press. DOI:10.1002/wer.1364.
8. Segrè Cohen*, A., N. G. Love, J. Árvai. 2020. Communicating the risks and benefits of human urine-derived fertilizer. *Sustainability*. **12**(23): 9973. DOI:10.3390/su12239973.
9. Troutman, S. C., N. G. Love and B. Kerkez*. 2020. Balancing water quality and flows in combined sewer systems using real-time control. *Environmental Science: Water Research & Technology*. **6**:1357-1369. DOI: 10.1039/c9ew00882a.
10. Schreiber*, T., S. Opperman, K. Nace, A. N. Pallmeyer, N. Love and R. Hardin. 2020. Leveraging integrative research for inclusive innovation: urine diversion and re-use in agriculture. *Elementa Science of the Anthropocene*. **8**:12. doi.org/10.1525/elementa.408
11. Cohen, A. S.*, N. G. Love, K. K. Nace and J. Arvai. 2020. Consumers' acceptance of agricultural fertilizers derived from diverted and recycled human urine. *Environmental Science & Technology*. **54**(8):5297-5305. 10.1021/acs.est.0c00576.
12. Carlson, A. L., G. T. Daigger*, N. G. Love and E. Hart. 2020. Multi-year diagnosis of unpredictable fouling occurrences in a full-scale membrane bioreactor. *Water Science and Technology*. **82**(3):524-536. DOI: 10.2166/wst.2020.354.
13. Bekele, Z. A., J. Delgado Vela, C. B. Bott, N. G. Love*. 2020. Sensor-mediated granular sludge reactor for nitrogen removal and reduced aeration demand using a dilute wastewater. *Water Environment Research*. **92**(7):1006-1016. DOI: 10.1002/wer.1296. *Honor: Editor selected for issue cover art*
14. Goetsch, H. E., N. G. Love, K. R. Wigginton*. 2020. Fate of extracellular DNA in the production of fertilizers from source-separated urine. *Environmental Science & Technology*.**54** (3):1808-1815. DOI:10.1021/acs.est.9b04263.
15. Brown, M., F. Karimova, N. Love, K. Pagilla, C. Bott, Z. He, B. Liner and S. Merther. 2020. University-utility partnerships: Best practices for water innovation and collaboration. *Water Environment Research*. **92**(3):314-319. DOI:10.1002/wer.1252.

16. Brouwer, A. F., M. C. Eisenberg, N. G. Love, J. N. S. Eisenberg*. 2019. Phenotypic variations in persistence and infectivity between and within environmentally transmitted pathogen populations impact population-level epidemic dynamics. *BMC Infectious Diseases*, **19**(1):449-461. DOI:10.1186/s12879-019-4054-8.

17. Daigger*, G. T., S. Sharvelle, M. Arabi, N. G. Love. 2019. Progress and Promise Transitioning to One Water/Resource Recovery Integrated Urban Water Management Systems. *Journal of Environmental Engineering.* **145** (10), 10 pages. DOI: 10.1061/(ASCE)EE.1943-7870.0001552. *Recipient of the ASCE Wesley W. Horner Award.*

18. McFarland, A. R., L. Larsen*, K. Yeshitela, A. N. Engida and N. G. Love. 2019. Guide for using green infrastructure in urban environments for stormwater management. *Environmental Science: Water Research & Technology*, **5**(4):643-659. DOI:10.1039/C8EW00498F.

19. Liang, S., S. Qu, Q. T. Zhao, X. L. Zhang, G. T. Daigger, J. P. Newell, S. A. Miller, J. X. Johnson, N. G. Love, L. X. Zhang, Z. F. Yang, M. Xu*. 2019. Quantifying the urban food-energy-water nexus: The case of the Detroit Metropolitan Area. *Environmental Science & Technology*, **53**(2):779-788. DOI:10.1021/acs.est.8b06240.

20. Stadler, L. B. and N. G. Love*. 2019. Oxygen half-saturation constants for pharmaceuticals in activated sludge and microbial community activity under varied oxygen levels. *Environmental Science & Technology.* **53**(4):1918-1927. DOI:10.1021/acs.est.8b06051.

21. Delgado Vela, J., G. J. Dick and N. G. Love*. 2018. Sulfide inhibition of nitrite oxidation in activated sludge depends on microbial community composition. *Water Research.* **138**:241-249, DOI:10.1016/j.watres.2018.03.047.

22. Byrne, B. G., S. McColm, S. P. McElmurry, P. E. Kilgore, J. Sobeck, R. Sadler, N. G. Love, M. S. Swanson*. 2018. Prevalence of infection-competent serogroup 6 *Legionella pneumophila* within premise plumbing in Southeast Michigan. *mBio,* **9**(1): DOI: 10.1128/mBio.00016-18.

23. Zahran, S., S. P. McElmurry, P. E. Kilgore, D. Mushinski, J. Press, N. G. Love, R. C. Sadler, M. S. Swanson*. 2018. Assessment of the Legionnaires' Disease Outbreak in Flint, Michigan. *Proceedings of the National Academy of Sciences USA,* **115**(8):E1730-E1739. DOI: 10.1073/pnas.1718679115.

24. Goetsch, H. E., L. B. Zhao, M. Gnegy, M. J. Imperiale, N. G. Love, K. R. Wigginton*. 2018. The fate of urinary tract virus BK human polyomavirus in source-separated urine. *Applied and Environmental Microbiology*, **84**(7): DOI:10.1128/AEM.02374-17.

25. Stadler, L. B.†, J. Delgado Vela†, S. Jain, G. J. Dick, and N. G. Love*. 2017. Elucidating the impact of microbial community biodiversity on pharmaceutical biotransformation during wastewater treatment. *Microbial Biotechnology*, **11**(6):995-1007. DOI: 10.1111/1751-7915.12870. †These authors contributed equally to this work.

26. Mullen, R. A., K. R. Wigginton, A. Noe-Hays, K. Nace, N. G. Love, C. B. Bott and D. S. Aga*. 2017. Optimizing extraction and analysis of pharmaceuticals in human urine, struvite, food crops, soil, and lysimeter water by liquid chromatography-tandem mass spectrometry. *Analytical Methods.* **9**(41):5952-5962.

27. Troutman, S. C., N. Schambach, N. G. Love and B. Kerkez*. 2017. A self-calibrating framework for the sensor-driven and dynamical modeling of combined sewer systems. *Water Research*, **126**:88-100. DOI: 10.1016/j.watres.2017.08.065

28. Wu, C.-C., S. Ghosh, K. J. Martin, A. J. Pinto, V. J. Denef, T. M. Olson, N. G. Love*. 2017. The microbial colonization of activated carbon block point-of-use (PoU) filters with and without chlorinated phenol disinfection byproducts. *Environmental Science: Water Research & Technology*, 3(5):830-843. DOI: 10.1039/C7EW00134G.

29. Cook, S.M., S. J. Skerlos, L. M. Raskin and N. G. Love*. 2017. A sustainability assessment tool for anaerobic digestion. *Water Research.* **112**:19-28.

30. Daigger*, G. T., J. Sandino, S. Murthy, N. G. Love. 2017. Transforming environmental engineering and science education, research and practice. *Environmental Engineering Science,* **34**(1):42-50.

31. Lahr, R.H., H. E. Goetsch, S. J. Haig, A. Noe-Hays, N. G. Love, D. S. Aga, C. B. Bott, B. Foxman, J. Jimenez, T. Luo, K. Nace, K. Ramadugu and K. R. Wigginton*. 2016. Urine bacterial community

convergence through fertilizer production: storage, pasteurization, and struvite precipitation. *Environmental Science and Technology*, **50**(21):11619-11626.

32. Lester, Y., D. Aga, N. G. Love, R. Singh, I. Morrissey and K. Linden*. 2016. Integrative advanced oxidation and biofiltration for treating pharmaceuticals in wastewater. *Water Environment Research*. **88**(11):1985-1993. DOI:10.2175/106143016X14504669767454
33. Stadler, L. B. and N. G. Love*. 2016. Impact of microbial physiology and microbial community structure on pharmaceutical fate driven by dissolved oxygen concentration in nitrifying bioreactors. *Water Research*, **104**:189-199. DOI: 10.1016/j.watres.2016.08.001
34. Keen, O., N. G. Love, D. S. Aga and K. Linden*. 2016. Biodegradability of iopromide products after UV/H2O2 advanced oxidation. *Chemosphere*, **144**:989-994.
35. Delgado Vela, J., L. B. Stadler, K. J. Martin, L. Raskin, C. B. Bott and N. G. Love*. 2015. Prospects for biological nitrogen removal from anaerobic effluents during mainstream wastewater treatment. *Environmental Science and Technology Letters*, **2**(9):234-244. **DOI:** 10.1021/acs.estlett.5b00191.
36. Muller, J. F., S. Ghosh, K. Ikuma, A. M. Stevens and N. G. Love*. 2015. Chlorinated phenol-induced physiological antibiotic resistance in *Pseudomonas aeruginosa*. *FEMS Microbiology Letters*, **362**(21):fnv172, DOI: 10.1093/femsle/fnv172.
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Refereed Conference Presentations (presenter in bold)

145. **Hicks, B.**, C. C. Wu, M. B. Perri, Z. Zhao, M. Zervos, S. P. McElmurry, N. G. Love. Isolating and characterizing *Stenotrophomonas maltophilia* from drinking water point-of-use filters in an aged distribution system. Poster presentation. International Water Association Microbial Ecology of Water Engineering (MEWE) Biannual Conference, Hiroshima, Japan, November 17-20, 2019.

146. **Love, N. G.** The International Water Association Specialists Group on Environmental Engineering Education: History and Background. Podium Presentation for pre-conference workshop. International Water Association Microbial Ecology of Water Engineering (MEWE) Biannual Conference, Hiroshima, Japan, November 17-20, 2019

147. Love, N.G., A. Noe-Hays, D. Aga, J. Arvai, A. Cohen, **G. Daigger**, A. Davis, R. Dickman, R. Hardin, S. Hilton, G. Keoleian, L. Li, N. Lowe, R. Mullen, K. Nace, E. Rodriguez, T. Schreiber, S. Skerlos, W. Tarpeh, K. Wigginton. Achieving Nutrient Resource Efficiency through Urine Separation, Processing and Reuse: A Comprehensive Study. Podium Presentation. 3rd IWA Resource Recovery Conference, Venice, Italy, September 2019.

148. **Carma Lewis***, Elizabeth Burtch*, Nick J. Lowe, Audrey Rose Zarb, **Alyssa Schubert**, Janée Rankin*, Lydia Starrs*, Rochelle Kelly*, Richard Kelley*, Alyssa Schubert, Enrique Rodriguez, Lucinda Li, Audrey Pallmeyer, Shawn P. McElmurry, Nancy G. Love *(*community collaborators from Flint, Ms. Lewis and Ms. Schubert gave the talk)*. Community-driven Train-the-Trainers program for point-of-use

filter maintenance in communities affected by drinking water lead contamination. Podium Presentation. Association of Environmental Engineering and Science Professors Biannual Conference, Arizona State University, Tempe, Arizona. May 15-16, 2019.

149. **Tarpeh, W.**, Y. Du, C. Carpenter, D. Helbling, N. G. Love, K. R. Wigginton. Suspect screening of pharmaceuticals during urine treatment processes. Podium Presentation. Association of Environmental Engineering and Science Professors Biannual Conference, Arizona State University, Tempe, Arizona. May 15-16, 2019.

150. **Goetsch, H.**, L. Li, N. G. Love and K. R. Wigginton. Understanding microbial agents in source-separated urine for the production of urine-derived fertilizers. Podium Presentation. Association of Environmental Engineering and Science Professors Biannual Conference, Arizona State University, Tempe, Arizona. May 15-16, 2019.

151. A. Noe-Hays, A. Davis, N. J. Lowe, J. Eraci, Y. J. Ooi, A. Sabido, K. Nace, E. Rodriguez, K. Wigginton, **N. Love**. Onsite production of concentrated urine-derived fertilizer in building-scale systems using remote process monitoring and control. Poster Presentation. Association of Environmental Engineering and Science Professors Biannual Conference, Arizona State University, Tempe, Arizona. May 15-16, 2019.

152. Kerkez, B., N. G. Love, **R. L. McCaffery**, M. Bartos, J. Montgomery, E. TerBeek. A First Year College Course on Smart Water Systems. Poster Presentation. Association of Environmental Engineering and Science Professors Biannual Conference, Arizona State University, Tempe, Arizona. May 15-16, 2019.

153. Cohen, A. S., **N. G. Love**, J. Árvai. Consumers' preferences and perceptions regarding the use of urine-derived fertilizer for domestic agriculture. Poster Presentation. Association of Environmental Engineering and Science Professors Biannual Conference, Arizona State University, Tempe, Arizona. May 15-16, 2019.

154. **Pallmeyer, A. and N. G. Love.** Achieving Resource Efficiency with Resource Recovery: Introduction the NSF INFEWS Project on Urine-Derived Fertilizers. Podium Presentation. 91st Annual Water Environment Federation Technical Exhibition and Conference, New Orleans, LA, October 1-3, 2018.

155. **Bekele, Z.**, J. Delgado Vela, C. B. Bott, N. G. Love. Sensor-mediated Control for Aerobic Granular Sludge Process Treating Mainstream Anaerobic Effluent. Podium presentation. 91st Annual Water Environment Federation Technical Exhibition and Conference, New Orleans, LA, October 1-3, 2018.

156. **Troutman, S.C.**, N. G. Love and B. Kerkez. Evaluating market-based algorithms for system-level TSS control. 13th International Conference on Hydroinformatics. Palermo, Italy, July 1-6, 2018.

157. **Troutman, S. C.**, N. G. Love and B. Kerkez. Market-based real-time control of TSS across large sewer systems. World Environmental & Water Resources Congress, EWRI. Minneapolis, MN, USA. June 3-7, 2018.

158. **Tarpeh, W.**, D. S. Aga, N. G. Love, K. Wigginton. Assessing Risks from Pharmaceuticals and Transformation Products in Urine-Derived Fertilizers. Podium presentation. American Chemical Society Annual Meeting. New Orleans, LA. March 2018.

159. **Troutman, S.C.**, N. G. Love and B. Kerkez. Evaluating market-based algorithms for system-level TSS control. Podium presentation. 13th International Conference on Hydroinformatics. Palermo, Italy, July 1-6, 2018.

160. **Wagner, B.**, G. T. Daigger, N. G. Love. Partial nitritation/anammox membrane aerated biofilm reactor for nitrogen removal from aerobic secondary effluent. Podium presentation. Water Environment Federation Nutrient Removal and Recovery Conference, Raleigh North Carolina, June 18-21, 2018. Presentation with associated conference paper.

161. **Love, N. G.**, A. Noe-Hays, K. R. Wigginton, L. Macpherson, D. S. Aga, C. B. Bott, G. T. Daigger, A. P. Davis, J. Eisenberg, A. Gagnon, Z. Getaneh, H. Goetsch, P. Gooding, R. Hardin, S. Hilton, J. Jimenez, G. Keoleian, N. J. Lowe, W. Mui, R. Mullen, K. Nace, A. Pallmeyer, N. Patel, D. Raye-Leonard, E. E. Rodriguez, T. Schreiber, A. Sinanaj, W. Tarpeh, R. Wombacher, B. Zhou. Advancing Nutrient Recovery through Urine-Derived Fertilizers (UDF) in the United States. Podium presentation. Water

Environment Federation Nutrient Removal and Recovery Conference, Raleigh North Carolina, June 18-21, 2018. Presentation with associated conference paper.

162. **Troutman, S. C.**, N. G. Love and B. Kerkez. Market-based real-time control of TSS across large sewer systems. Podium presentation. World Environmental & Water Resources Congress, EWRI. Minneapolis, MN, USA. June 3-7, 2018.

163. **Rodriguez, E.**, W. Tarpeh, H. Clack, N. G. Love, K. Wigginton. 2018. Degradation of pharmaceuticals in synthetic urine treated with plasma. Poster Presentation. American Chemical Society Meeting, New Orleans, LA, March 18-22, 2018.

164. **Zerihun A. Bekele**, Imre Takacs, Charles B. Bott, and Nancy G. Love. Harnessing biofilm models to advance nitrogen removal from mainstream anaerobic wastewater treatment processes. Poster presentation. WRRMod2018 conference, Quebec, Canada, March 2018.

165. **Tarpeh, W.**, D. S. Aga, N. G. Love, K. Wigginton. Assessing Risks from Pharmaceuticals and Transformation Products in Urine-Derived Fertilizers. Podium presentation. American Chemical Society Annual Meeting. New Orleans, LA. March 2018.

166. **Carlson, A.**, N. G. Love, G. T. Daigger and E. Hart. Trouble-shooting long-term biofouling in full-scale membrane bioreactor. International Water Association Young Water Professionals Conference, South Africa. December 10-14, 2017.

167. **Goetsch, H.E.**, Love, N.G., Imperiale, M.J., Wigginton, K. Fate of Human BK polyomavirus through urine diverted for fertilizer. 2nd International Resource Recovery Conference: New York City, NY, USA August 5-9, 2017.

168. **Delgado Vela, J.**, Dick, Gregory J., Love, N.G. The Impact of Sulfide on Nitrification: Implications for Nitritation Processes. Fifth International Conference on Nitrification and Related Processes (ICoN5): Early Career and Graduate Student Workshop. Vienna, Austria, July 23-27, 2017.

169. **Zerihun A. Bekele**, Jeseth Delgado Vela, Kelly J. Martin, Charles B. Bott, and Nancy G. Love. Using sensor-mediated control and modeling to develop an aerobic granular sludge technology for low energy nitrogen. Podium presentation. AEESP Biannual Conference, Ann Arbor, Michigan, June 20-22, 2017.

170. **Troutman, S. C.**, N. G. Love, B. Kerkez. 2017. Controlling a Sewer Network as an Extension of the Wastewater Treatment Plant. Podium presentation. AEESP Biannual Conference, Ann Arbor, Michigan, June 20-22, 2017

171. **Chia-Chen Wu**, Katie Stroh, Shawn P. McElmurry, Terese M. Olson, and Nancy G. Love. Understanding the transmission of planktonic and sessile bacteria across point-of-use (PoU) filters. Podium presentation. AEESP Biannual Conference, Ann Arbor, Michigan, June 20-22, 2017

172. **Delgado Vela, J.**, Dick, Gregory J., Love, N.G. Managing Healthy Activated Sludge Communities: Understanding the Impact of Sulfide on Nitrogen Removal. Podium presentation. AEESP Biannual Conference, Ann Arbor, Michigan, June 20-22, 2017

173. **Bekele, Z. A.**, Jeseth Delgado Vela, Kelly J. Martin, Charles B. Bott, and Nancy G. Love. Aerobic granular sludge process optimization and modeling for mainstream anaerobically treated wastewater. Poster presented at IWA Biofilm Reactors Conference, Dublin. Ireland, May 2017

174. **Troutman, S. C.**, N. G. Love, B. Kerkez. 2017. Understanding Combined Sewer Flow Dynamics through Data-Driven Modeling. World Environmental & Water Resources Congress, EWRI. Sacramento, CA, USA. May 21-25 2017.

175. **Zerihun A. Bekele**, Jeseth Delgado Vela, Kelly J. Martin, Charles B. Bott, and Nancy G. Love. Aerobic granular sludge process optimization and modeling for mainstream anaerobically treated wastewater. Poster presented at IWA Biofilm Reactors Conference, Dublin. Ireland, May 2017

176. **Goetsch, H.**, M. Imperiale, N. G. Love, K. R. Wigginton. 2017. Fate of human polyomavirus in urine diverted for fertilizer use. American Chemical Society 253rd National Meeting, San Francisco, CA, April 2017.

177. **Goetsch, H.**, M. Imperiale, N. G. Love, K. R. Wigginton. Refining liquid gold: Fate of human polyomavirus in urine diverted for fertilizer use. Oral presentation. Borchardt conference, Ann Arbor, Michigan, February 2017.

178. **Troutman**, S., N. G. Love, B. Kerkez. Use of Real-Time Sensor Data in City-Scale Water Modeling. Poster presentation presented at two different conferences: Borchardt conference, Ann Arbor, Michigan, February 2017; and CUAHSI Biennial Symposium

179. **Zhao, Z.**, M. P. Runho, C.-C. Wu, A. Zarb, T. M. Olson, S. P. McElmurry, and Nancy G. Love. 2017 Effect of flushing on microbiological quality of water effluent from point-of-use filters. Poster presentation, Borchardt conference, Ann Arbor, Michigan, February 2017.

180. **Alemayehu, Z.**, C. B. Bott and N. G. Love. 2017. Achieving nitrogen removal from mainstream anaerobically treated wastewater using aerobic granular sludge with low aeration rate. Poster presentation, Borchardt conference, Ann Arbor, Michigan, February 2017.

181. **Delgado Vela, J.**, Z. A. Bekele, A. McFarland, A. Arcelay, K. J. Martin, C. B. Bott, G. J. Dick and N. G. Love. 2016. The membrane aerated biofilm reactor for nitrogen removal from mainstream anaerobic processes. 89th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), New Orleans, LA, Sept 25-28, 2016.

182. **Desta, A. F.**, N. G. Love, K. R. Wigginton, H. Goetsch and R. Lahr. 2016. Keynote lecture: Metagenomic analysis of biological contaminants in source-separated urine undergoing sanitization.: A way towards sustainable development in low-income countries. Microbial Ecology and Biofilm Specialists Conference, Copenhagen, Denmark, Sept 3-5, 2016.

183. **Stadler, L.** and N. G. Love. 2016. Associations between microbial community activity, pharmaceutical biotransformation rates, and DO concentration in wastewater treatment. Microbial Ecology and Biofilm Specialists Conference, Copenhagen, Denmark, Sept 3-5, 2016.

184. **Goetsch, H.**, M. Imperiale, N. G. Love and K. R. Wigginton. 2016. Refining liquid gold: Fate of human polyomavirus in urine diverted for fertilizer use. Microbial Ecology and Biofilm Specialists Conference, Copenhagen, Denmark, Sept 3-5, 2016.

185. **Wu, C.-C.**, T. M. Olson and N. G. Love. 2016. Prevalence of Antibiotic Resistance Genes (ARGs) in Point-of-Use (PoU) Drinking Water Filters. Microbial Ecology and Biofilm Specialists Conference, Copenhagen, Denmark, Sept 3-5, 2016.

186. **Troutman**, S., N. G. Love, B. Kerkez. 2016. Predicting combined sewer flow through use of real-time, city-scale sensor data. Oral presentation, World Environmental and Water Resources Congress, ASCE, West Palm Beach, Florida, May 2016.

187. **Goetsch, H.**, R. Mullen, R. Lahr, A. Noe-Hays, D. Aga, C. Bott, B. Foxman, J. Jimenez, N. Love, T. Luo, K. Nace, K. Ramadugu, K. Wigginton. 2015. Fate of pharmaceutical and biological contaminants through the preparation and application of urine derived fertilizers. International Water Association First Resource Recovery Conference. Ghent, Belgium, Aug 30-Sept 2, 2015.

188. **Delgado Vela, J.**, Martin, K. J., McFarland, A., Beaton, N., Stadler, L.B., Skerlos, S.J., Raskin, L., Bott, C. B., Love, N.G. Removing nitrogen from effluents of anaerobic wastewater treatment processes: Understanding control and operation through biofilm modeling. 250th American Chemical Society National Meeting and Exhibition. Boston, MA, August 16-20, 2015. (podium).

189. **Delgado Vela, J.**, K. J. Martin, A. R. McFarland, N. L. Beaton, L. B. Stadler, C. B. Bott, L. Raskin, S. J. Skerlos, N. G. Love, A. Salveson, T. Rauch-Williams. 2015. Advancing energy neutral wastewater treatment: removing nitrogen and dissolved methane from dilute anaerobic effluents. AEESP Biannual Conference, Yale University, June 14-16 (poster presentation).

190. **Stadler, L. B., J. Delgado Vela** and N. G. Love. 2015. Elucidating the relationship between wastewater treatment plant microbial diversity and pharmaceutical fate. AEESP Biannual Conference, Yale University, June 14-16 (podium presentation), *winner of best student paper award.*

191. **Goetsch, H., R.**, Lahr, R. Mullen, A. Noe-Hays, D. Aga, C. B. Bott, J. Jimenez, N. G. Love, K. Nace and K. Wigginton. 2015. Fate or organic contaminants in urine-derived fertilizers. AEESP Biannual Conference, Yale University, June 14-16 (poster presentation).

192. **Lahr, R., H.**, Goetsch, A. Noe-Hays, D. Aga, C. B. Bott, B. Foxman, J. Jimenez, N. G. Love, T. Luo, R. Mullen, K. Nace, K. Ramadugu and K. Wigginton. 2015. Microbial communities in urine separated for nutrient recovery. AEESP Biannual Conference, Yale University, June 14-16 (poster presentation).

193. **Stadler, L. B.**, J. Delgado Vela and N. G. Love. 2015. Elucidating the relationship between wastewater treatment plant microbial diversity and pharmaceutical fate. American Society for Microbiology, New Orleans, LA, May 30-June 2 (Poster Presentation).

194. **Goetsch, H.**, R. Lahr, A. Desta, N. G. Love, C. Bott, A. Gagnon, K. Nace, A. Noe-Hays, D. S. Aga, R. Mullen, J. Jimenez, K. Wigginton, 2015. Fate of pharmaceutical and biological contaminants through the preparation and application of urine-derived fertilizers. 88th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), Chicago, IL, Sept 27-30, 2015.

195. **Stadler, L.**, J. Delgado Vela and N. G. Love. 2015. Impact of low dissolved oxygen and microbial community on pharmaceutical biotransformations during wastewater treatment. 88th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), Chicago, IL, Sept 27-30, 2015.

196. **Delgado-Vela, J.**, K. J. Martin, N. Beaton, A. McFarland, L. B. Stadler, C. B. Bott, S. J. Skerlos, L. Raskin, N. G. Love. 2015. Nutrient removal from mainstream anaerobic processes using a membrane aerated biofilm reactor and a granular sludge sequencing batch reactor. 88th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), Chicago, IL, Sept 27-30, 2015.

197. **Delgado Vela J.**, Martin, K. J., Beaton, N., McFarland, A., Stadler, L., Bott, C. B., Raskin, L., Skerlos, S.J., and Love, N.G. 2014. Nitrogen Removal Downstream of an Anaerobic Membrane Bioreactor for Domestic Wastewater Treatment. IWA Global Challenges: Sustainable Wastewater Treatment and Resource Recovery. Kathmandu, Nepal, October 26-30.

198. **Delgado Vela, J.**, Martin, K.J., Stadler, L.B., Bott, C. Skerlos, S.J., Raskin, L,. Love, N.G., 2014. Nutrient Removal from Mainstream Anaerobic Effluents: Linking Biofilm Modeling to Experimental Design. 87th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), New Orleans, LA, September 28-October 1. (poster presentation)

199. **Stadler, L. B.**, Su, L., Aga, D. S., and Love, N. G. 2014. Understanding the impact of low dissolved oxygen treatment on nitrifier community characteristics and micropollutant fate. 4th International Conference on Occurrence, Fate, Effects, and Analysis of Emerging Contaminants in the Environment. Iowa City, IA, August 19 – 22, 2014.

200. **Love, N. G.** 2014. Achieving resilience and sustainability in the global urban water sector – a role for environmental chemistry. Special Seminar Series: Women in Environmental Chemistry and Engineering, Abstract 312-ENVR, 248th American Chemical Society National Meeting. San Francisco, CA, August 10-14. (podium presentation)

201. **Stadler, L. B.**, Su, L., Aga, D. S., and Love, N. G. 2014. Understanding the impact of low dissolved oxygen treatment on nitrifier community characteristics and micropollutant fate. Abstract 415-ENVR, 248th American Chemical Society National Meeting. San Francisco, CA, August 10 – 14, 2014. (podium presentation)

202. **Wu, C.-C.**, K. J. Martin, A. Perez De La Rosa, G. Ryskamp, N. G. Love and T. M. Olson. 2014. Effect of disinfection by-products on antibiotic resistance in the bacterial communities of point-of-use (PoU) drinking water filters. Abstract 473-ENVR, 248th American Chemical Society National Meeting. San Francisco, CA, August 10 – 14, 2014. (podium presentation)

203. **Lester, Y.**, N. G. Love, D. S. Aga, R. Singh and K. G. Linden. 2014. Demonstrating advanced oxidation/biofiltration to remove emerging contaminants from wastewater: A pilot study. Abstract 130-ENVR, 248th American Chemical Society National Meeting. San Francisco, CA, August 10 – 14, 2014. (podium presentation)

204. **Aga, D. S.**, K. G. Linden, N. G. Love, R. Singh, Y. Lester, O. S. Keen and S. Baik. 2014. Identification of degradation products of carbamazepine and iopromide after UV/H2O2 advanced oxidation and

biodegradation. 283-ENVR, 248th American Chemical Society National Meeting. San Francisco, CA, August 10 – 14, 2014. (podium presentation)

205. **Stadler, L. B.**, Smith, A. L., Jain, A. K., Martin, K. J., Delgado Vela, J., Puente, P., Cao, L., Frenette, S., Bott, C. B., Rauch-Williams, T., Shimada, T., Salveson, A., Love, N. G., Raskin, L., and Skerlos, S. J. 2014. Integrating Life Cycle Assessment and Experimental Research: Evaluating Anaerobic Membrane Bioreactors in Domestic Wastewater Treatment for Energy Recovery. Borchardt Conference. Ann Arbor, MI, February 25 – 26, 2014. (podium presentation)

206. **Stadler, L. B.**, Su, L., Aga, D. S., and Love, N. G. 2014. Understanding the impact of low dissolved oxygen treatment on nitrifier community characteristics and micropollutant fate. 4th International Conference on Occurrence, Fate, Effects, and Analysis of Emerging Contaminants in the Environment. Iowa City, IA, August 19 – 22. (podium presentation)

207. **Stadler, L. B.**, Smith, A. L., Cao, L., Love, N. G., Raskin, L., and Skerlos, S. J. 2013. Life Cycle Comparison of Emerging and Established Wastewater Energy Recovery Systems. In Mainstream Anaerobic Treatment Systems for Energy Neutral Wastewater Management Workshop at the 86th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), Chicago, IL, October 5 – 9.

208. **Stadler, L.B.**, A.L. Smith, L. Cao, N.G. Love, L. Raskin, and S.J. Skerlos, 2013. Energy Recovery from Wastewater: Life Cycle Comparison of Carbon Removal Technologies Upstream of Autotrophic Nitrogen Removal. *WEF/IWA Nutrient Removal and Recovery 2013: Trends in Resource Recovery and Use*, July 28-31, Vancouver, British Columbia, Canada.

209. **Smith, A.L.**, T. Shimada, and L. Raskin, 2013. Syntrophic interactions in full-scale two-phase anaerobic digesters determined by pyrosequencing. *5th International Conference on Microbial Ecology and Water Engineering Conference*, July 7-10, Ann Arbor, Michigan.

210. **Stadler, L.B., A.L. Smith**, L. Cao, N.G. Love, L. Raskin, and S.J. Skerlos, 2013. Life cycle comparison of emerging and established wastewater energy recovery systems. Poster presentation. *2013 AEESP Education & Research Conference*, July 14-16, Denver, Colorado.

211. **Delgado-Vela, J.**, Stadler, L.B., and Love, N. G. 2013. Elucidating Biotransformation of Pharmaceuticals by Methanotrophic Bacteria. Association of Environmental Engineering & Science Professors 50th Anniversary Conference. Golden, CO, July 14 – 16.

212. **Moline, C. J., Stadler, L. B.**, Su, L., Ernstoff, A. S., Dapcic, A. D., Vela, J. D., Aga, D., and Love, N. G. 2012. Pharmaceutical Fate Under Varying Redox Treatment Environments. Proceedings of the 85th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), New Orleans, LA, September 29 - October 3.

213. Smith, A. L., **Stadler, L. B.**, Cao, L., Love, N. G., Raskin, L., and Skerlos, S. J. 2012. Performance and environmental impacts of anaerobic membrane bioreactor for low-strength wastewater treatment, Proceedings of the 85th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), New Orleans, LA, September 29-October 3.

214. **Jimenez, J.**, C. B. Bott, N. G. Love and J. Bratby. 2012. Source separation of urine as an alternative solution to nutrient management in wastewater treatment plants: a model-based analysis. Water Environment Federation Technical Exhibition and Conference. New Orleans, LA. Sept 30-Oct 3, 2012. Podium presentation.

215. **Love, N.G.** 2012. Challenges in predicting micropollutant fate in biological processes. WWTMod2012 workshop on modelling micropollutant fate in biological processes, Mont-Sainte-Anne, Québec, Canada, Feb 26-28, 2012. Podium presentation

216. **Colby, A.**, Khunjar, W., Pinto, A., Ghosh, S., Raskin, L., Love, N. Impact of Copper Stress on Nitrification Performance and the Ammonia Oxidizer Community Structure in Activated Sludge. *2011 AEESP Education & Research Conference*, Tampa, Florida, July 10-12, 2011.

217. **Smith, A.L.**, H.J. Dorer, N.G. Love, S.J. Skerlos, and L. Raskin. 2011. Psychrophilic anaerobic membrane bioreactor for domestic wastewater treatment. *2011 AEESP Education & Research Conference*, Tampa, Florida, July 10-12, 2011.

218. **Smith, A.L.**, N.G. Love, S. Skerlos, and L. Raskin, 2012. Effects of changes in temperature and hydraulic retention time on performance and environmental impacts of anaerobic membrane bioreactors for domestic wastewater treatment. *Leading-Edge Conference on Water and Wastewater Technologies*, June 3-7, Brisbane, Australia.

219. **Smith, A.L.**, Z. Li, H. Dorer, N.G. Love, S. Skerlos, and L. Raskin, 2011. Energy recovery from domestic wastewater using anaerobic membrane bioreactors. *2011 Borchardt Conference*, February 23-24, Ann Arbor, Michigan.

220. Guest, J. S., **N. G. Love**, S. Snowling, C. B. Bott, G. T. Daigger and S. J. Skerlos. Quantitative sustainable design of wastewater treatment plants. Water Environment Federation Technical Exhibition and Conference. Los Angeles, CA. October 15-19, 2011. Podium presentation.

221. **Keen, O.**, S. Baik, K. Linden, D. Aga and N. G. Love. 2011. Degradation of carbamazepine during UV/H_2O_2 treatment of wastewater. Water Environment Federation Technical Exhibition and Conference. Los Angeles, CA. October 15-19, 2011. Podium presentation.

222. **Smith, A.**, N. G. Love, S. J. Skerlos, and L. Raskin. Role of membrane biofilm in psychrophilic anaerobic membrane bioreactor for domestic wastewater treatment. Water Environment Federation Technical Exhibition and Conference. Los Angeles, CA. October 15-19, 2011. Podium presentation.

223. **Colby, A.**, Khunjar, W., Pinto, A., Ghosh, S., Raskin, L., Love, N. Impact of Copper Stress on Ammonia Oxidizer Activity and Community Structure in Nitrifying Activated Sludge. Water Environment Federation Technical Exhibition and Conference. Los Angeles, CA. October 15-19, 2011. Podium presentation.

224. **Smith, A.L.**, N.G. Love, S. Skerlos, and L. Raskin, 2011. Analysis of microbial communities in an anaerobic membrane bioreactor for domestic wastewater treatment at psychrophilic conditions. *2011 Biogas Microbiology Conference*, September 14-16, Leipzig, Germany.

225. **Colby, A.**, Khunjar, W., Pinto, A., Ghosh, S., Raskin, L., Love, N. 2011. Effect of Copper Stress on Ammonia Oxidizer Community Structure and Nitrification Performance in a Nitrifying Activated Sludge Wastewater Treatment Process. 2nd International Conference on Nitrification. Nijmegen, the Netherlands. July 1-7.

226. **Guest, J.S.**, S.J. Skerlos, N.G. Love. 2011. Quantitative sustainable design of wastewater treatment plants. *Engineering Sustainability 2011*, Pittsburgh, PA, March 10-12, 2011, Podium presentation.

227. **Cook, S. M.**, B.J. VanDuinen, S.J. Skerlos, N.G. Love. Life cycle comparison of environmental impacts from alternative pharmaceutical disposal methods. *Engineering Sustainability 2011 Conference*, Pittsburgh, PA, April 11, 2011

228. **Smith, A.L.**, N.G. Love, S.J. Skerlos, and L. Raskin. 2010. Anaerobic membrane bioreactors for sustainable domestic wastewater treatment at psychrophilic temperatures. *Proceedings of the 12th World Congress on Anaerobic Digestion*, Guadalajara, Mexico, November 1-4, 2010

229. **Smith, A.L.**, H.J. Dorer, N.G. Love, S.J. Skerlos, and L. Raskin. 2011. Role of membrane biofilm in psychrophilic anaerobic membrane bioreactor for domestic wastewater treatment. *Proceedings of the 84th Annual Water Environment Federation Technical Exhibition and Conference*, Los Angeles, California, October 15-19, 2011.

230. **Pinto, A.J.** and N.G. Love. Impact of chemical perturbation on trophic interactions and its implications for ecosystem function in an engineered environment. *13th International Symposium on Microbial Ecology 2010*, Seattle, Washington. August 22-27, 2010

231. **Love, N.G.**, W. O. Khunjar, S. Mackintosh, S. Baik, and D. Aga. The Relative Roles of Ammonia Oxidizing and Heterotrophic Activated Sludge Bacteria in Biotransforming 17α-Ethinylestradiol and Trimethoprim. Podium presentation, AEESP Special Session. 83rd Water Environment Federation Technical Exposition and Conference 2010, New Orleans, LA, October 3-6, 2010.

232. **Smith, A.L.**, N.G. Love, S. Skerlos, and L. Raskin, 2010. Anaerobic membrane bioreactors for sustainable domestic wastewater treatment at psychrophilic temperatures. *12th World Congress on Anaerobic Digestion*, October 31 - November 4, Guadalajara, Mexico. International Water Association.

233. **N. G. Love**, W. O. Khunjar, J. Skotnicka-Pitak, S. Mackintosh, S. Baik, D. S. Aga, T. Yi, and W. F. Harper Jr. 2010. Elucidating the role of ammonia oxidizing bacteria versus heterotrophic bacteria during the biotransformation of 17α-ethinylestradiol and trimethoprim. Podium presentation. International Water Association World Water Congress and Exposition, Montreal, Quebec, Canada, Sept 20-24, 2010.

234. **W.O. Khunjar**, J. Skotnicka-Pitak, S. Mackintosh, S. Baik, N. G. Love, D.S. Aga, W.F. Harper Jr. 2010. Elucidating factors that influence the biotransformation of 17 α-ethinylestradiol and trimethoprim. Poster presentation. International Water Association Leading Edge Technology Conference, Phoenix, AZ, June 1-4, 2010.

235. **Guest, J. S.**, S. J. Skerlos and N. G. Love. 2010. An optimization methodology for elucidating locality-specific sustainability trade-offs in wastewater treatment plant process selection. Poster presentation. International Water Association Leading Edge Technology Conference, Phoenix, AZ, June 1-4, 2010.

236. **Pinto, A.J.**, Hardin, S.C., Love, N.G., Fairey, A., Earle, J., Washington, P., Iler, P., Doane-Weideman, T., and Lagrange, R. Remedial Intervention Strategies for Wastewater Treatment Plant Exposed to Heavy Metal Stress: Laboratory and Pilot Scale Evaluations. Podium presentation. *Proceedings of the 82nd Water Environment Federation Technical Exposition and Conference 2009*, Orlando, Florida, October 10-14, 2009.

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327. **Love, N. G.**, Gilmore, K. G., Husovitz, K. J., Delahaye, A. P., Novak, J. T. and Little, J. C. 1999. Performance of a Biological Aerated Filter System Treating Domestic Wastewater for BOD, Ammonia and TSS Removal: Pilot Plant Results. Podium presentation. *Proceedings of the Water Environment Federation 72nd Annual Conference and Exposition*, New Orleans, LA, October 9-13, 1999.

328. **Husovitz, K. L.**, Gilmore, K. R., Delahaye, A. P., Love, N. G., and Little, J. C. 1999. The influence of upflow liquid velocity on nitrification in a biological aerated filter. Podium presentation. *Proceedings of the Water Environment Federation 72nd Annual Conference and Exposition*, New Orleans, LA, October 9-13, 1999.

329. **Love, N. G.**, Bott, C. B., Duncan, A. J., Terlesky, K. C. 1999. Using the molecular stress response as an indicator of system stress in complex environmental systems. Selected Podium Presentation, Association of Environmental Engineering and Science Professors Research Frontiers Conference, Pennsylvania State University, University Park, PA.

330. Bott, C. B., Terlesky, K. C., Duncan, A. Jane, Wheeler, J., and **Love, N. G.** 1998. The immunochemical detection of stress proteins as an indicator of toxic discharges to activated sludge systems. Podium presentation. *Proceedings of the Water Environment Federation 71st Annual Conference and Exposition*, Orlando, FL, October 3-7, 1998. 1:203-214.

331. Phillips, J. B., and **Love, N. G.** 1998. Biological denitrification using upflow biofiltration in recirculating aquaculture systems: pilot-scale experience and implications for full-scale. Podium presentation. *Proceedings of the Second International Conference on Successes and Failures in Commercial Recirculating Aquaculture*, Roanoke, VA. pp 171-178.

332. **Gilmore, K. R.**, K. J. Husovitz, T. Holst, and N. G. Love. 1998. Influent of organic and ammonia loading on nitrifier activity and nitrification performance for a two-stage biological aerated filter system. 1998. *Proceedings of the International Specialty Conference on Microbial Ecology of Biofilms: Concepts, Tools, and Applications*, International Association on Water Quality, Lake Bluff, Illinois, October 8-10, 1998. 309-316.

333. Terlesky, K. C. and **Love, N. G.** 1998. Detection of Hsp60 in activated sludge following exposure to xenobiotic compounds. Poster Presentation, *Abstracts of the 98th General Meeting of the American Society for Microbiology*, Atlanta, Georgia, p. 444.

334. **Terlesky, K. C.**, and Love, N. G. 1998. Photoheterotrophy in activated sludge, Poster Presentation, *Abstracts of the 98th General Meeting of the American Society for Microbiology*, Atlanta, Georgia, p. 423.

335. **Fettig, J. D.**, and Love, N. G. 1997. BTX degradation in activated sludge culture under denitrifying conditions. Podium presentation. *Proceedings from the 2nd International Conference on Microorganisms in Activated Sludge and Biofilm Processes*, International Association on Water Quality, Berkeley, CA, pp 579-582.

336. **Lubkowitz, E. M.** and Love, N. G. 1997. Development of a single sludge biological treatment scheme that incorporates nitrogen removal for a wastewater containing compounds inhibitory to nitrification. Podium presentation. *Proceedings of the Water Environment Federation 70th Annual Conference and Exposition*, Chicago, IL, October 18-22, 1997. 3(2):577-588.

337. **Rasnake, W. J.**, Love, N. G., Black, W. L., and Gruber, D. 1997. Application of a toxicity reduction evaluation at a seafood processing facility which emphasized source reduction and treatment

efficiency to minimize environmental risk. Podium presentation. *Proceedings of the 29th Annual Mid-Atlantic Industrial and Hazardous Waste Conference*, Roanoke, VA, pp 263-269.

338. **Terlesky, K. C.** and Love, N. G. 1997. Analysis of total protein present in activated sludge: applicability to monitoring the induction of indicator proteins in a microbial consortium. Poster presentation. *Abstracts of the 97th General Meeting of the American Society for Microbiology*, Miami Beach, Florida, p. 469.

339. **Novak, J. T.**, Smith, M. L., and Love, N. G. 1996. The impact of cationic salt addition on the settleability and dewaterability of an industrial activated sludge. Podium presentation. *Proceedings of the Water Environment Federation 69th Annual Conference and Exposition*, 2:211-222.

340. **Love, N. G.** and Grady, C. P. L. Jr., 1995. Impact of glucose and m-toluate on the rate and extent of benzoate-mediated TOL plasmid instability. Poster presentation. *Abstracts of the 95th General Meeting* of the *American Society for Microbiology*, Washington, D.C.

341. **Lu, Y.-T.**, Love, N. G., and Grady, C. P. L. Jr. 1993. A microscopic technique to detect plasmid-free cells in a background of plasmid-containing cells. Poster presentation. *Abstracts of the 93rd General Meeting of the American Society for Microbiology*, Atlanta, Georgia.

Published Reports (not peer reviewed)

342. Margaret R. Mulholland*, Nancy G. Love*, Deborah A. Bronk, Vikram Pattarkine, Amit Pramanik, H. David Stensel. 2009. Establishing a research agenda for assessing the bioavailability of wastewater treatment plant-derived effluent organic nitrogen in treatment systems and receiving waters. Chesapeake Bay Scientific and Technical Advisory Committee Publication 09-002, http://www.chesapeake.org/stac/Pubs/eonreport.pdf. (*co-chairs)

343. Mulholland, M. R., Love, N. G., Pattarkine, V. M., Bronk, D. A. and Canuel, E. 2007. Bioavailability of Organic Nitrogen from Treated Wastewater. Chesapeake Bay Scientific and Technical Advisory Committee Publication 07-001.

Conference Presentations (not listed elsewhere; presenter in bold, student designations as defined previously)

344. Several posters to be presented at the Association of Environmental Engineering and Science Professors Biannual Conference, Arizona State University, Tempe, Arizona. May 15-16, 2019.
    - A. Noe-Hays, A. Davis, N. J. Lowe, J. Eraci, Y. J. Ooi, A. Sabido, K. Nace, E. Rodriguez, K. Wigginton, **N. Love**. Onsite production of concentrated urine-derived fertilizer in building-scale systems using remote process monitoring and control.
    - E. Rodriguez, W. Tarpeh, K. Wigginton, **N. G. Love**. Comparative Examination of Pharmaceutical Degradation in Synthetic Urine by a Dielectric Barrier Discharge Plasma Jet and UV/H_2O_2 Reactor.
    - Kerkez, B., N. G. Love, R. L. McCaffery, M. Bartos, J. Montgomery, E. TerBeek. A First Year College Course on Smart Water Systems.

345. Several talks were given by invitation at the Rich Earth Institute's Urine Summit, August 16-17, 2017 in Brattleboro, VT. As PI, Nancy Love was involved with developing content for all these slides and overseeing their presentations.
    - Malavika Sahai. Social Research for the UM INFEWS Project.
    - Heather Goetsch. Microbial risks in source-separated urine.
    - Enrique Rodriguez. Urine-derived fertilizer tool.
    - Dylan Raye-Leonard. Pilot-scale urine diversion and processing @ UMICH

346. **Enrique Rodriguez, Dylan Raye-Leonard and Heather Goetsch**. 2017. Overview and tour of the urine-diversion and urine processing @Michigan. AEESP Biannual Conference, June 21, 2017.

347. **McFarland, A.**, Larsen, L., Love, N.G. Stormwater Management in Low-Resource Settings Using Green Infrastructure. Fall 2017. Dow Sustainability Symposium, Poster Presentation, Ann Arbor, MI.

348. **Delgado Vela, J.**, Stadler, L., Love, N.G. 2014. Elucidating Biotransformation of Pharmaceuticals by the Methanotroph *Methylosinus trichosporium* Ob3b. Gordon Research Conference Environmental Sciences: Water, Plymouth, NH, June 22-27. (poster presentation)

349. **Stadler, L. B.**, Su, L., Stevens, L., Delgado Vela, J., Aga, D. S., and Love, N. G. 2013. Impact of Redox Environment and Microbial Populations on Pharmaceutical Biotransformation. Poster presentation. IWA 5th International Conference on Microbial Ecology and Water Engineering, Ann Arbor, MI, July 7 – 10. (poster presentation)

350. **Stadler, L. B.**, Su, L., Aga, D. S., and Love, N. G. 2013. Impact of Dissolved Oxygen Concentration on Pharmaceutical Biotransformations during Wastewater Treatment. Poster presentation. Engineering Graduate Symposium, University of Michigan, Ann Arbor, MI, November 15. *(1st place in Civil & Environmental Engineering track poster competition).*

351. **Stadler, L. B.**, Su, L., Aga, D. S., and Love, N. G. 2013. Impact of Redox Environment and Microbial Populations on Pharmaceutical Biotransformation during Wastewater Treatment. Poster presentation. 86th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), Chicago, IL, October 5 – 9.

352. **Delgado Vela, J.**, Stadler, L., Love, N.G. 2013. Elucidating Biotransformation of Pharmaceuticals by Methanotrophic Bacteria. Association of Environmental Engineering & Science Professors (AEESP) 50th Anniversary Conference, Golden CO, July 14-16.

353. **Stadler, L. B.**, Moline, C. J., Ernstoff, A. S., Su, L., Dapcic, A. D., Aga, D., and Love, N. G. 2012. Pharmaceutical Fate in Biological Treatment Reactors Across Varying Redox Environments. Poster presentation. Gordon Research Conference, Environmental Science: Water. Holderness, NH, June 25 - 29.

354. **Love, N.G.** Challenges in Predicting Micropollutant Fate in Biological Processes. WWTMod2012 Workshop on Modelling Micropollutant Fate in Biological Processes, Mont-Sainte-Anne, Québec, Canada, Feb 26-28, 2012.

355. Keen, O., Baik, S., **Stadler, L. B.**, Linden, K. G., Aga, D. S., and Love, N.G. 2011. Assessing the Use of Advanced Oxidation and Biofiltration to Remove Recalcitrant Pharmaceuticals Downstream of Biological Treatment. Borchardt Conference, University of Michigan, Ann Arbor, MI, February 23.

356. **Cook, S. M.** and N.G. Love. A Regional Strategy for Managing Food Processing and Septage Waste: The Grand Traverse Region Collaboration. Oral presentation at *Biogas Summit.* Flint, MI, October 29, 2010.

357. **Smith, A.L.**, H.J. Dorer, N.G. Love, S.J. Skerlos, and L. Raskin. Methane Production from Domestic Wastewater using Anaerobic Membrane Bioreactors. Oral presentation at *Biogas Summit,* Flint, Michigan, October 29, 2010.

358. **Cook, S. M.** and N.G. Love. A Regional Strategy for Managing Food Processing and Septage Waste: The Grand Traverse Region Collaboration. *Michigan Food Processors Summit.* Mt. Pleasant, MI, October 20, 2010

359. **S. Ghosh**, C. M. Cremers, U. Jakob, and N. G. Love. Chlorophenols modulate expression of the multidrug resistance efflux pump MexAB-OprM in *Pseudomonas aeruginosa.* Gordon Research Conference on Environmental Sciences: Water. Holderness, New Hampshire. June 20-25, 2010

360. **Guest, J.S.**, S. J. Skerlos, N. G. Love. 2011. Quantitative sustainable design of wastewater treatment plants. Borchardt 2011 Conference: A Seminar on Advancements in Water and Wastewater, Ann Arbor, MI. February 24, 2011. Podium presentation.

361. **Cook, S. M.** and N.G. Love. 2011. Two-phase anaerobic codigestion of septage and food processing waste: designing a reliable, regional waste management strategy. *Borchardt 2011 Conference*, Ann Arbor, MI, February 23-24, 2011. Poster presentation.

362. S. Ghosh, J. F. Muller, A. M. Stevens and **N. G. Love.** Chlorinated phenols and multidrug resistance in *Pseudomonas aeruginosa. Borchardt 2011 Conference*, Ann Arbor, Michigan. February 23-34, 2011. Poster presentation

363. **Smith, A.L.**, Z. Li, H.J. Dorer, N.G. Love, S.J. Skerlos, and L. Raskin. 2011. Energy recovery from domestic wastewater using anaerobic membrane bioreactors. Presented at *Borchardt 2011 Conference*, Ann Arbor, Michigan, February 23-24, 2011. Podium presentation.

364. **Guest, J.S.**, S.J. Skerlos, N.G. Love. 2010. An optimization methodology for elucidating locality-specific sustainability trade-offs in wastewater treatment plant process selection. *IWA Leading Edge Conference on Water and Wastewater Technologies*, Phoenix, AZ, June 2, 2010. Poster presentation.

365. **Knowlton, K. F.**, Love, N. G., Thames, T. H., and Z. Zhao. 2010. Is manure turning boy fish into girl fish? An emerging environmental challenge for livestock producers. In *Proceedings of the Virginia State Feed Association Conference*, Roanoke, VA February 19, 2010, pp 83-89.

366. **Guest, J. S.**, Love, N. G., Lamp, J., Ellis, M. W., Naha, S., and Puri, I. K. 2008. Development of a Nitrifying Microbial Fuel Cell for Sustainable Wastewater Treatment. Podium presentation. The Borchardt Conference, Ann Arbor, MI, Feb 27, 2008.

367. Khunjar, W. O., **Love, N. G.**, Skotnicka-Pitak, J., Aga, D. S., Yi, T., and Harper, W. F. Jr. 2008. Biotransformation of pharmaceuticals and personal care products during nitrification: the role of ammonia oxidizing bacteria. Podium presentation. The Borchardt Conference, Ann Arbor, MI, Feb. 27, 2008.

368. **Aruguete, D.M.**, Guest, J.S., Shrout, J. D., Love, N. G., Hochella, Jr., M. F. 2008. Bacteria quantum dot interactions and their environmental implications. Poster presentation. *Environmental Nanoparticles: Science, Ethics and Policy*, University of Delaware, Newark, DE, November 10, 2008.

369. **Skotnicka-Pitak, J.**, Aga, D. S., Khunjar, W. O., Love, N. G., Yi, T., Harper Jr., W. F. 2007. Characterization of EE2 metabolite in bioreactors with pure cultures of *Nitrosomonas europaea* and in activated sludge using LC/ITMS. *56th ASMS Conference on Mass Spectrometry.*

370. **Aruguete, D.M.**, J.S. Guest, J.D. Shrout, N.G. Love, and M.F. Hochella, Jr. 2007. Bacterial physiology and viability in the presence of quantum dot nanoparticles: towards an environmental perspective. American Geophysical Union Fall Meeting, San Francisco, California, December 10, 2007.

371. **Pinto, A.J.**, Hardin, S.C., Guest, J.S., Love, N.G., Shaw, A. 2007. Comparing toxic shock event response protocols for wastewater treatment plants. Podium Presentation. Virginia American Water Works Association and Virginia Water Environment Association Joint Annual Meeting (WaterJAM), Hampton, VA, September 16-20, 2007.

372. **Guest, J.S.**, A.J. Pinto, N.G. Love, and A. Shaw. Corrective action strategies for enhanced biological phosphorus removal wastewater treatment plants during short-term and prolonged toxic shock events. Podium Presentation. Virginia American Water Works Association and Virginia Water Environment Association Water Joint Annual Meeting 2007 (Water JAM), Hampton, Virginia, September 16-20, 2007. *Winner 2007 Best Student Paper Award.*

373. **Kelly, R. T.** and Love, N. G. 2007. Detecting nitrification problems: A comparison of methods. Podium presentation at the Pacific Northwest Clean Water Association Annual Conference, September 9-12, 2007, Vancouver, British Columbia.

374. **Guest, J. S.**, Naha, S., Frey, S., Sole, J.D., Love, N.G., Puri, I.K., Ellis, M. W. 2007. Development of a Nitrifying Microbial Fuel Cell for Sustainable Wastewater Treatment. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation. *First Place Student Poster – Environmental Technologies Category.*

375. **Zhao, Z.**, Knowlton, K. F., Love, N. G. 2007. Can we remove estrogens in dairy manure during storage? Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation. *First Place Student Poster - Natural Environment Category.*

376. **Pinto, A.J.**, Guest, J.S., Love, N.G., Shaw, A. 2007. Process controls at nutrient removal wastewater treatment plants during toxic shock events. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

377. **Khunjar, W. O.**, Baik, S., Celiz, D., Yi, T., Henriques, I. D. S., Love, N. G., Aga, D. S., and Harper Jr., W. F. 2007. Evaluation of the fate of environmentally relevant micropollutants. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

378. **Gilmore, K. R.**, Love, N. G. and Smets, B. F. 2007. Nitritation and autotrophic nitrogen removal in a hollow-fiber membrane-aerated biofilm reactor. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

379. **Ikuma, K.**, Henriques, I. D. S., Rzigalinski, B. A., Love, B. J., and Love, N. G. 2007. Predicting the public health impact of oxidative toxins using a bacterial glutathione-gated potassium efflux stress response biosensor. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

380. Fraga-Muller, J., **Ikuma, K.**, Stevens, A. M., and Love, N. G. 2007. Organic contaminants cause increased antibiotic resistance in *Pseudomonas aeruginosa*. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

381. **Gungor, K.**, Arogo Ogejo, J. Knowlton, K. F., Love, N. G. 2007. Biological phosphorus removal to produce "Designer Manures" for dairy farms. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

382. **Arogo Ogejo, J.**, Gungor, K., Wen, Z., Hu, Z., Yao, T., Love, N. G., Knowlton, K. F. 2007. Recovery of phosphorus from dairy manure as struvite. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

383. **DeBusk, J.**, Arogo Ogejo, J., Love, N. G., Knowlton, K. F. 2007. Adjusting N:P ratios in liquid dairy manure through nitrification and chemical phosphorus removal to match crop fertilizer requirements. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

384. **Beck, J.**, Gilmore, K. R., Knowlton, K. F., Arogo Ogejo, J., Love, N. G. 2007. Nitrogen removal from dairy waste using deammonification fueled by fermented dairy manure. Virginia Tech's Deans' Forum on the Environment. Blacksburg, VA. February 26, 2007, poster presentation.

385. **Muller, J. F.**, Stevens, A. M. and Love, N. G. 2006. Organic contaminants cause increased antibiotic resistance in Pseudomonas aeruginosa. Poster presentation. Environmental Science – Water Gordon Research Conference, June 25-30, 2006, Holderness School, Plymouth, New Hampshire.

386. **Zhao, Z.**, Knowlton, K. F., Love, N. G., and Fang, Y. 2006. Estrogen content of treated dairy manure. Virginia Water Science and Technology Symposium, November 1-3, 2006, Blacksburg, VA. *2006 Best Student Presentation Award.*

387. **Capuno, R. E.**, Love, N. G. and Smets, B. F. 2006. Mathematical modeling of nitrogen removal via a coupled nitritation:anaerobic ammonia oxidation biofilm in a hollow fiber membrane bioreactor. Virginia Water Environment Association Annual Meeting, May 1-3, 2006, Roanoke, VA. *2006 Best Student Paper Award.*

388. **Muftugil, M.**, Knowlton, K. F., and Love, N. G. 2005. Using enhanced biological phosphorus removal to minimize nutrient delivery from dairy farms to receiving waters. Presentation at AWWA/WEA Joint Annual Meeting, Virginia Beach, Virginia, September 26-28, 2005.

389. **Khunjar, W.**, Sweetman, P., Knowlton, K. F., Smets, B. F. and Love, N. G. 2005. Treatment of anaerobically stabilized dairy waste with an oxygen limited autotrophic nitrification plus denitrification (OLAND) fixed film reactor: startup and maintenance issues. Presentation at AWWA/WEA Joint Annual Meeting, Virginia Beach, Virginia, September 26-28, 2005.

390. **Hafey, M.**, Grandstaff, J. and Love, N. G. 2005. Solving a mystery: a case study using root cause analysis to decipher a toxic upset event. Presentation at AWWA/WEA Joint Annual Meeting, Virginia Beach, Virginia, September 26-28, 2005.

391. **Muftugil, M. B.**, Love, N. G. and Knowlton, K. F. 2005. Using Enhanced Biological Phosphorus Removal (EBPR) to Alter the Nitrogen:Phosphorus Ratio of Dairy Manure and to Minimize Nutrient

Delivery to Receiving Waters, Water Environment Federation Innovative Uses of Agricultural Wastes Conference, Chicago, IL, July 1-3, 2005.

392. Xu, Y., Linares, K., Meehan, K. A., Love, N. G. and Love, B. J. 2004. pH dependent optical properties of surface modified gold nanoparticles using bovine serum albumin coating. NSTI Nanotechnology Conference and Trade Show, Boston, MA, March 2004.

393. Kelly II, R. T. and **Love, N. G.** 2004. Investigating the role of oxidative stress mechanisms in chemically inhibited nitrifiers. Poster presentation. Environmental Science – Water Gordon Research Conference, June 27-July 1, 2004, Holderness School, Plymouth, New Hampshire.

394. **Sandu, S.**, Hallerman, E. and Love, N. G. 2004. Ozone treatability and pilot-scale treatment for aquaculture effluent recovery and reuse. Presented at the International Conference on Successes and Failures in Commercial Recirculating Aquaculture, Roanoke, VA, July 2004.

395. **Fleming, D.**, Linares, K., Xu, Y., Love, B., Love, N. and Meehan, K. 2004. Use of immobilized bacterial elements in an environmental biosensor. The Eighth World Conference on Biosensors, Granada, Spain. May 24-26, 2004.

396. **Chakraborty, I.**, Rhodes, R.R., Stevens, A.M., and Love, N. G. 2004. Monitoring the adaptation of an enriched bacterial consortium in response to chemical stressors using DGGE and sequencing. Poster Presentation, 10th International Symposium on Microbial Ecology, Cancun, Mexico, August 22-27, 2004.

397. **Kelly, R. T.** and Love, N. G. Mechanisms of chemical inhibition of nitrification in wastewater treatment. Virginia Water Environment Association, Roanoke, VA, May 2003. *2003 Best Student Paper Award.*

398. **Leung, S.M.**, Little, J. C., Holst, T., and Love, N. G. 2003. Oxygen transfer and consumption in a biological aerated filter. Virginia Water Environment Association, Roanoke, VA, May 2003.

399. **Dauphinais, J. L.** and Love, N. G. 2003. Determination of toxic inhibition potential from industrial dischargers to a POTW using a respirometric assay. Virginia Water Environment Association, Roanoke, VA, May 2003.

400. **Bott, C.B.**, Henriques, I. D. S., Kelly, R. T., Dauphinais, J. L., and Love, N. G. 2002. WERF - Upset early warning systems for biological wastewater treatment. *Proceedings of the Water Environment Federation 8th Annual Industrial Wastes Technical and Regulatory Conference*, Atlantic City, New Jersey, August 11-14, 2002.

401. **Holbrook, R.D.**, Novak, J. T. and Love, N. G. 2002. The role of particulate and colloidal material in the fate and transport of endocrine disrupting compounds. Joint Annual Meeting of the Virginia Water Environment Association and Virginia American Water Works Association, September 2002, Virginia Beach, VA.

402. **Leung, S.**, Holst, T., Love, N. G. and Little, J. C. 2002. A fundamental investigation of oxygen utilization in a biological aerated filter. Joint Annual Meeting of the Virginia Water Environment Association and Virginia American Water Works Association, September 2002, Virginia Beach, VA.

403. **Kelly, R. T. II**, **Henriques, I. D. S.**, Dauphinais, J. and Love, N. G. 2002. Evaluation of source-effect relationships for activated sludge response to shock loads of disruptive chemical toxins. Joint Annual Meeting of the Virginia Water Environment Association and Virginia American Water Works Association, September 2002, Virginia Beach, VA.

404. **Wimmer, R. F.** and Love, N. G. 2002. Activated sludge deflocculation in response to chlorine addition: the potassium connection. Joint Annual Meeting of the Virginia Water Environment Association and Virginia American Water Works Association, September 2002, Virginia Beach, VA.

405. **Love, N. G.** and Bott, C. B. 2002. In search of physiological mechanisms linked to wastewater treatment malfunctions caused by toxic chemicals. Oral presentation. Gordon Research Conference on Microbial Stress Responses. July 14-19, Salve Regina University, Newport, Rhode Island.

406. **Brazil, B. L.** and Love, N. G. 2002. Design and implementation of a pilot-scale nitrogen removal system employing fermentation of endogenous carbon sources to treat an aquaculture waste stream. Aquaculture America 2002, Jan. 27-30, San Diego, CA.

407. **Wimmer, R. F.** and Love, N. G. 2001. Potassium efflux as a bacterial defense mechanism against chlorinated disinfectants. Virginia Water Environment Association Annual Meeting, May 2001. Williamsburg, VA. *2001 Best Student Research Paper Award.*

408. **Brazil, B. L.** and Love, N. G. 2001. Design and implementation of a pilot-scale nitrogen removal system employing fermentation and endogenous carbon sources to treat an aquaculture waste stream. Virginia Water Environment Association Annual Meeting, May 2001. Williamsburg, VA.

409. **Bott, C. B.** and Love, N. G. 2000. Mechanistic evaluation of activated sludge deflocculation in response to shock loads of electrophilic xenobiotic chemicals. Virginia Water Environment Association Annual Meeting, May 2000, Roanoke, VA. *2000 Best Student Research Paper Award.*

410. **Ma, G.** and Love, N. G. 1999. BTX biodegradation under anoxic, microaerobic, and aerobic conditions in activated sludge sequencing batch reactors. Podium presentation. Virginia Water Environment Association Annual Meeting, May 1999, Tyson's Corner, VA. *1999 Best Student Research Paper Award.*

411. **Love, N.G.**, Delahaye, A., Gilmore, K. R., Holst, T., Husovitz, K. J., Little, J. C., and Novak, J. T. 1999. Performance of a two-stage biological aerated filter system treating domestic wastewater for BOD and ammonia removal – pilot-scale results. Podium presentation. Virginia Water Environment Association Annual Meeting, May 1999, Tyson's Corner, VA.

412. **Love, N. G.** 1999. The Applicability of the Microbial Stress Response as an Indicator for In Situ and Up-Stream Wastewater Treatment Monitoring. Invited podium presentation. Virginia Water Environment Association Industrial Waste and Pretreatment Seminar, Charlottesville, VA.

413. **Ma, G.**, **Bilyk, K.** and Love, N. G. 1999 Nitrite accumulation and inhibition during denitrification. Poster presentation. Virginia Water Environment Association Industrial Waste and Pretreatment Seminar, Charlottesville, VA. *2nd Place Best Student Research Award.*

414. **Phipps, S.**, Love, N. G., and Novak, J. T. 1999 Dewatering of oily wastewater sludge. Poster presentation. Virginia Water Environment Association Industrial Waste and Pretreatment Seminar, Charlottesville, VA. *3rd Place Best Student Research Award.*

415. **Love, N .G.**, Duncan, A. J., and Bott, C. B. 1998. Detection of Hsp60 in activated sludge following heat shock and exposure to xenobiotic compounds. Poster presentation. Gordon Research Conference on the Microbial Stress Response, New England College, Henniker, NH.

416. **McInnis, J.**, Love, N. G., and Novak, J. T. 1998. Pilot Study of Aerobic Treatment of Waste Oily Sludge. Podium presentation. Virginia Water Environment Association Annual Meeting, Norfolk, Virginia.

417. **Fallon, A.**, Novak, J. T., and Love, N. G. 1998. Biological Treatment of Oily Sludge: Laboratory Studies. Podium presentation. Virginia Water Environment Association Annual Meeting, Norfolk, Virginia. *1998 Best Student Research Paper Award.*

418. **Phillips, J.**, and Love, N. G. 1997. Denitrification of recirculating aquaculture system waters using an upflow fixed film bioreactor. Podium presentation. Virginia Water Environment Association Annual Meeting, Roanoke, Virginia. *1997 Best Student Research Paper Award.*

419. **Perri, K. L.**, and Love, N. G. 1997. The effectiveness of sequential treatment strategies on the treatability of a high strength industrial wastewater. Podium presentation. Virginia Water Environment Association Annual Meeting, Roanoke, Virginia.

420. **Love, N. G.** and Grady, C. P. L. Jr. 1994. The impact of second substrates on the expression of a TOL plasmid. Poster presentation. Gordon Research Conference on Environmental Sciences: Water, New Hampton, New Hampshire.

421. Hegan (Love), N. G. and Pfeffer, J. T. 1987. Using oxidation-reduction potential as a monitoring device for biological phosphorus removal systems. Podium presentation. Texas Water Pollution Control Association Annual Meeting, Corpus Christi, Texas.

FUNDED PROJECTS

(Total Value: $29.3 million; Share Value: $7.4 million)

Research Support Received – External Programs

(Total Value: $21.6 million; Share Value: $5.8 million)

1.	Love, N. G. An effect-directed monitoring program for SWIFT effluent-Yr 2. Hampton Roads Sanitation District	$130,000 3/1/17-continuing 100% share
2.	Love, N. G., J. P. Newell, M. Arabi, T. Bradley and S. P. McElmurry. Planning Grant: Engineering Research Center for Regenerative, Restorative and Resilient Community Infrastructure Systems (R3CIS). National Science Foundation.	$100,000 09/18 – 08/20 100% share
3.	McElmurry, S. P., M. Seeger, N. G. Love, B. Kerkez, J. A. MacDonald Gibson. COLLABORATIVE PROPOSAL: CRISP 2.0 Type 2 – Water and Health Infrastructure Resilience and Learning (WHIRL). National Science Foundation.	$2 million 09/18 – 08/22 5% share
4.	Love, N. G., V. Bertacco, B. Kerkez, L. Larsen. IRES: Advancing Cyber-Enabled, Decentralized Water Systems in Rapidly Developing Cities. National Science Foundation.	$249,989 09/17 – 08/20 25% share
5.	Lastoskie, C. and N. G. Love. Workshop: Advancing Healthy Communities – the 2017 AEESP Meeting. National Science Foundation.	$49,999 01/17 – 12/17 50% share
6.	Kerkez, B. and N. G. Love. Dynamic collection system reconfiguration through real-time modeling and control. Great Lakes Water Authority	$131,864 5/22/17-11/21/18 10% share
7.	Daigger, G. T. and N. G. Love. Characterizing the performance and operational characteristics of the bioreactors at the Detroit, MI wastewater treatment plant. Great Lakes Water Authority.	$100,000 5/1/17-4/30/17 10% share
8.	Daigger, G. T. and N. G. Love. Traverse City regional wastewater treatment plant's comma-shaped Gram positive bacteria study. Traverse City Regional Wastewater Treatment Plant.	$120,000 9/1/16-12/31/17 25% share
9.	Love, N.G., D. S. Aga, R. Hardin, A. Noe-Hays, and K. R. Wigginton. INFEWS/T3: Advancing technologies and improving communication of urine-derived fertilizers for food production within a risk-based framework. National Science Foundation.	$3 million 9/1/16-8/31/20 23% share
10.	McElmurry, S. (PI, Wayne State University), multiple co-PIs, N. G. Love is co-PI for project and PI for UM. Flint Area Community Health and Environment Partnership (FACHEP) Phase II Study-Enhanced disease surveillance and environmental monitoring in Flint, Michigan. State of Michigan Department of Health and Human Services.	$2 million 8/1/16-12/31/17 ~4% share
11.	Xu, M., J. Johnson, N. G. Love, S. Miller and J. Newell. UNS: U.S.-China: Integrated systems modeling of food-energy-water (FEW) nexus for urban sustainability. National Science Foundation.	$499,990 61/16-5/31/20 10% share
12.	Love, N.G. and T. M. Olson. RAPID: Assessing microbiological quality across point-of-use filters deployed in Flint, MI. ($30,250 cost share from College of Engineering). National Science Foundation.	$49,999 4/1/16 – 3/31/2017 50% share
13.	Newell, J. P., G. T. Daigger, N. McClintock, A. Ramswami,J. Vandermeer. N.G. Love Senior Personnel and one of three proposal authors (with Newell and	$69,242 7/01/15 – 12/31/15

	Daigger). FEW Workshop: "Scaling Up" Urban Agriculture to Mitigate Food-Energy-Water Impacts. National Science Foundation.	30% share
14.	Love, N.G. and C. B. Bott. GOALI: Developing Sensor-Mediated Control Strategies that Allow Innovative Treatment of Nitrogen in Wastewater. National Science Foundation.	$330,000 9/1/14 – 8/31/18 100% share
15.	Wigginton, K. R., N. G. Love, J. Jimenez, A. Noe Hayes, D. S. Aga, C. B. Bott. Nutrient Recovery Through Urine Separation. Water Environment Research Foundation EPA Water Center.	$554,034 5/1/14 – 12/31/15 10% share
16.	Raskin, L. and N. G. Love. Evaluation of Waste Activated Sludge Anaerobic Contactor (WASAC™) as a Process for Energy Conservation at Domestic Wastewater Treatment Plants. Carollo Engineering.	$104,481 3/1/2013-4/30/2014 50% share
17.	Love, N.G., L. Raskin, C. Bott, S. Skerlos and A. Salveson. Low Energy Alternatives for Activated Sludge-Advancing Anaerobic Membrane Bioreactor Technology. Water Environment Research Foundation.	$527,000 1/1/2013-12/31/2014 33% share
18.	Burns, M. A. and N. G. Love. Point-of-Use Water Quality Assessment (Sensors for Faucets). MASCO Inc.	$583,868 9/1/12-8/31/15 10% share
19.	Linden, K., D. S. Aga and N. G. Love. Demonstrating Advanced Oxidation/ Biofiltration for Pharmaceutical Removal in Wastewater. Water Environment Research Foundation.	$150,000 3/1/2012-8/31/2013 10% share
20.	Raskin, L., S. J. Skerlos and N. G. Love. Low-temperature Anaerobic Membrane Bioreactors for Sustainable Domestic Wastewater Treatment. National Science Foundation (CBET-1133793)	$404,365 9/1/11 – 8/31/14 10% share
21.	Olson, T. and N. G. Love. Point-of-Use Devices as Incubators of Halogenated Phenol-Mediated Antibiotic Resistant Bacteria. National Science Foundation (CBET-1067450) (includes $55,669 supplement to support dissertation work of Mr. Bayable Atnafu Kassa of Addis Ababa University)	$373,556 5/1/11 – 4/30/15 50% share
22.	Love, N. G., J. S. Guest and S. J. Skerlos. Quantitative Sustainable Design of Chesapeake-Elizabeth WWTP Upgrade Alternatives	$8,500 1/1/11-6/30/11 33% share
23.	Love, N. G. Understanding Microaerobic Metabolism in a Sustainable World. Water Environment Research Foundation	$149,312 2/1/10–3/31/12 100% share
24.	Savage, P. E., G. Keoleian, A. Matzger, S. Linic, and N. Lin (Senior Personnel = H. Wang and N. G. Love). EFRI HyBi: The Science and Engineering of Microalgae Hydrothermal Processing. National Science Foundation (EFRI 0937992)	$2,000,000 9/1/09-8/31/13 2% share
25.	Love, N. G., K. Linden and D. S. Aga. Demonstrating Advanced Oxidation Technologies on Pharmaceutical Removal Downstream of Biological Treatment. Water Environment Research Foundation.	$80,000 1/1/10-5/15/11 34% share
26.	Love, N. G. and L. Raskin. MSB – Investigating the Relationship Between Structural Diversity and Functional Resilience to Stress in Ammonia Oxidizers. National Science Foundation (IOS-0919629)	$312,560 9/1/09-8/31/11 50% share
27.	Raskin, L., S. J. Skerlos and N. G. Love. Anaerobic Membrane Bioreactors for Sustainable Wastewater Treatment. Water Environment Research Foundation	$159,938 5/1/09-4/30/11 10% share

28.	Bott, C. B., Schafran, G., Mulholland, M. and Love, N. G. Integrated Fixed-Film Activated Sludge (IFAS) Demonstration Project at the James River Wastewater Treatment Plant (JRWWTP). Hampton Roads Sanitation District	$100,000 4/1/08–3/31/09 30% share
29.	Bronk, D., Canuel, E., Hatcher, P., Love, N. G. and Mulholland, M. Collaborative Research: Assessing the Bioavailability of Effluent Organic Nitrogen Along a Freshwater to Saltwater Continuum. National Science Foundation (NG Love original PI, shifted to co-PI upon moving to MI)	$448,073 4/1/08–3/31/10 8% share
30.	Love, N. G., Ellis, M., Puri, I. Development of a Nitrifying Microbial Fuel Cell for Sustainable Wastewater Treatment. Water Environment Research Foundation	$155,869 3/15/07–3/14/09 50% share
31.	Edwards, M. and Love, N. G. Effects of Nitrification on Distribution System Materials. American Water Works Research Foundation	$350,000 1/15/07–11/15/09 8% share
32.	Love, N. G. Anammox Studies in Association with DC Water and Sewer Authority. District of Columbia Water and Sewer Authority	$95,000 9/1/06–8/31/08 100% share
33.	Love, N. G. Development of Response Protocols for Wastewater Treatment Plants Exposed to CBR Contaminants. Water Environment Research Foundation.	$300,000 1/1/06–8/31/08 100% share
34.	Love, N. G. Preliminary Nitritation Experiments in Support of the Reject Water Treatment Study for The Blue Plains Advanced Wastewater Treatment Facility. District of Columbia Water and Sewage Authority.	$32,133 12/24/05–6/24/06 100% share
35.	Love, N. G. Planning, Mobilization, Enrichment and Evaluation of Anammox Organisms. District of Columbia Water and Sewage Authority.	$7,364 11/15/05–9/30/06 100% share
36.	Love, N. G. and Love, B. J. Detection of Toxins in the Water Supply. National Institute of Standards and Technology.	$75,000 10/1/05–9/29/06 50% share
37.	Love, N. G., Aga, D. S. and Harper, W. J. Collaborative Research: The Biotransformation of Hydrophobic and Hydrophilic Pharmaceuticals and their Metabolites by Nitrifying and Heterotrophic Cultures, National Science Foundation.	$414,196 6/1/2005–5/31/2009 26% share
38.	Bonner, J. S., Love, N. G., Jones, K. L., Zaslavsky, I., Baru, C. K., Fountain, T., Wentling, T. L., Collaborative Large-Scale Engineering Analysis Network for Environmental Research for the Coastal Margin, National Science Foundation.	$85,309 8/1/2004–7/31/2005 8% share
39.	Love, N. G., Knowlton, K. F. and Smets, B. F. Wastewater Treatment to Minimize Nitrogen Delivery from Dairy Farms to Receiving Waters. The Cooperative Institute for Coastal and Estuarine Environmental Toxicology.	$214,200 9/1/2004–8/31/2006 60% share
40.	Love, N. G. and Smets, B. F. Integrated Biotreatment Technology for Nitrogen-Rich Wastewaters in Advanced Life Support Systems. NASA.	$419,119 10/1/2004–9/30/2007 90% share
41.	Shaw, A. and Love, N. G. Feasibility Testing of Support Systems to Prevent Upsets. Water Environment Research Foundation.	$175,000 3/1/04–2/28/06 15% share
42.	Vikesland, P. and Love, N. G. Treatability Evaluation of Three Chlorinated Organic Compounds. Parsons Corporation.	$115,730 12/19/03–12/31/04 50% share

43.	Vikesland, P. and Love, N. G. Effects of Dissimilatory Iron Reducing Bacteria on the Longevity of Iron Permeable Reactive Barriers. Virginia Water Resources Research Center.	$18,500 7/1/03–6/30/04 20% share
44.	Knowlton, K. F., Love, N. G. and Mullins, G. Wastewater Treatment to Minimize Nutrient Delivery from Dairy Farms to Receiving Waters. The Cooperative Institute for Coastal and Estuarine Environmental Toxicology.	$278,934 9/1/03–8/31/05 40% share
45.	Love, N. G., Meehan, K. A., Love, B. J. A Microfluidic Biosensor for Environmental Monitoring. U. S. Environmental Protection Agency Midwest Hazardous Substances Research Center.	$279,022 10/1/03–9/30/06 34% share
46.	Love, N. G. Factors Affecting the Performance of Acid Phase Digesters Treating Municipal Sludges: Stage I. District of Columbia Water and Sewer Authority.	$24,382 6/3/02–11/30/02 100% share
47.	Vikesland, P., Love, N. G. and DiGiano, F. Assessment of Seasonal Practices and Impacts to Chloraminating Utilities. American Waterworks Association Research Foundation.	$528,362 7/1/02–1/1/05 22% share
48.	Little, J. D. and Love, N. G. Optimizing a Biological Aerated Filter. Virginia Center for Innovative Technology.	$30,000 3/1/02–10/31/02 50% share
49.	Little, J. C., Filz, G., Berry, D., Eick, M., Hochella, M., Love, N., Schreiber, M., Widdowson, M. GAANN: An Interdisciplinary Program in Environmental Biogeochemistry. US Dept of Education.	Phase I: $432,855 8/16/01–8/15/04 17% share Phase II: $373,599 8/16/04–8/15/07 8% share
50.	Novak, J. T., Holbrook, D., Love, N. G. Endocrine Disrupting Potential in Wastewater Effluents and Biosolids. Virginia Water Resources Research Center.	$19,200 7/1/01–6/30/02 33% share
51.	Love, N. G. and Little, J. C. Development of a Fundamentally-Based Model of a Biological Aerated Filter. Degremont North American Research and Development, Inc.	$55,420 6/11/01–8/10/02 50% share
52.	Novak, J. T., Holbrook, D., Love, N. G. Endocrine Disrupting Potential in Wastewater Effluents and Biosolids. Virginia Water Resources Research Center.	$19,200 7/1/01–6/30/02 33% share
53.	Bishop, P., Love, N. G., and Stevens, A. M. Adaptation of subsurface microbial biofilm communities in response to chemical stressors. EPA Hazardous Substance Research Center (Purdue University).	$214,000 9/1/01–8/31/03 50% share
54.	Love, N. G., Upset early warning systems for biological treatment processes: fundamental studies on source-cause-effect relationships, Water Environment Research Foundation.	$326,646 1/1/01–4/30/04 100% share
55.	Novak, J. T., Love, N. G., and Hughes, J. M. Testing of a Package Wastewater Treatment System and Consultation Services for UTD, Inc., UTD, Inc. STTR II.	$150,100 10/1/00–5/1/02 45% share
56.	Love, N. G. and Love, B. J. New technologies: integrating microfluidics, materials science and microbiology: biosensors for protecting wastewater treatment systems. National Science Foundation.	$105,050 9/1/00–12/31/02 75% share
57.	Love, N. G., Grizzard, T., and Novak, J. T. Virginia Tech's Plan of Study for the Loudoun County Sanitation Authority Broad Run Advanced Wastewater Treatment Pilot Plant Study. CH2M Hill, Inc.	$126,564 8/15/00–5/31/01 30% share

58.	Love, N. G. Monitoring the full-scale Biofor® biological aerated filter system at Roanoke, VA. Infilco Degremont, Inc.	$30,000 12/24/99–2/15/01 100% share
59.	Love, N. G. and Bott, C. B. Assessment and framing workshop on upset early warning systems. Water Environment Research Foundation.	$81,064 6/30/99–7/1/00 75% share
60.	Love, N. G. and Stevens, A. M. Characterizing nitrifying bioaugmentation cultures. Sybron Chemical Company and Virginia Center for Innovative Technology.	$90,000 9/1/98–6/30/00 50% share
61.	Love, N. G. Evaluating protein induction patterns in industrial activated sludge cultures. Eastman Chemical Company.	$43,294 12/1/97–12/31/98 100% share
62.	Love, N. G., Little, J. C., and Novak, J. T. A Fundamentally-based investigation into the operational potential of the Biofor® biological aerated filter. Degremont North American Research and Development, Inc., with matching from the Virginia Center for Innovative Technology.	$95,592 9/97–12/98 50% share
63.	Widdowson, M. A. Love, N. G., and Novak, J. T. Evaluation of intrinsic bioremediation at the Douge Creek Subdivision, Ft. Belvoir, VA. Horne Engineering Services, Inc.	$28,800 9/16/96–9/16/97 10% share
64.	Love, N. G., Widdowson, M. A, and Novak, J. T. An investigation into the use of biologically-based treatment technologies for waste oil volume reduction at Norfolk Southern Corporation. Norfolk Southern Corporation and Virginia Water Resources Research Center.	$116,835 8/1/96–8/31/98 45% share
65.	Love, N. G. Laboratory studies to assess wastewater treatment strategies for Eastman Chemical Company. Eastman Chemical Company.	$10,000 11/15/95–3/1/97 100% share
66.	Love, N. G. The distribution and expression of BTX-degrading microorganisms in anoxic/aerobic single sludge biological treatment processes. National Science Foundation CAREER Award.	$335,618 7/1/95–6/30/99 100% share
67.	Love, N. G. The role of anoxic zones in preventing methylethyl ketoxime inhibition of nitrification. Virginia Water Resources Research Center and AlliedSignal Chemical Company.	$20,000 4/1/95-4/30/96 100% share
68.	Love, N. G. and Novak, J. T. The impact of industrial wastewater composition on the bioflocculation of biological sludges. Virginia Water Resources Research Center and Eastman Chemical Company.	$30,000 2/1/95–2/29/96 50% share

Research Support Received – Internal Programs
(Total Value: $4.0 million Share Value: $424,850)

69.	Love, N. G., M. Zimmerman. Partnerships that Support Confident Use and Management of Point-of-Use Drinking Water Units in Flint, MI. University of Michigan Poverty Solutions Center.	$25,000 Jan 2020-present 90% share
70.	Love, N.G., J. Eisenberg, A. Jones. Addressing the Food-WASH Nexus Across the Urban-Rural Gradient and Impacts on Childhood Stunting. University of Michigan MCubed 2.0 Program.	$60,000 2015-2017 33% share
71.	Schwank, J., M. Bareau, G. Fisher, P. Adriaens, E. Hill, N. G. Love, R. Clarke, J. Diana, K. Wigginton, D. Scavia, A. Hoffman, S. Miller, A. Huang-Saad, J. Trumpey, L. Raskin, S. Skerlos, A. Todd. REFRESCH: Researching Fresh	$2,998,832 7/1/14 – 6/30/17 1 of 17 co-PIs at 6% share each

	Solutions to the Energy/Water/Food Challenge in Resource-Constrained Environments. University of Michigan Third Century Initiative.	
72.	Newell, J., N. G. Love and R. Norton. Planning for Technological Innovation: Water, Infrastructure and Sustainability. University of Michigan MCubed program.	$60,000 1/13/13 – 12/31/14 33% share
73.	Kolars, J. D., N. G. Love, S. Fisseha, A. Burton, L. Isom, P. Yadav, J. Godfrey, and K. Sienko. A Proposal to Develop the Ethiopia-Michigan Platform for Advancing Collaborative Engagement (EM-PACE). University of Michigan Third Century Initiative. N. Love co-leads the Environmental Initiative within this program.	$297,800 1/1/14 – 8/31/15 1 of 8 co-PIs at 12% each
74.	Love, N. G., Skerlos, S., and Raskin, L. Global Sustainable Water Systems – Acknowledging Wastewater as a Resource. Graham Environmental Sustainability Institute, University of Michigan.	$5,000 1/1/08–8/1/08 34% share
75.	Love, N.G., Muller, J. F., Stevens, A. M. and Hagedorn, C. Evaluating the extent of pollution-induced antibiotic resistance in environmental bacterial strains. Virginia Water Resources Research Center.	$18,000 7/1/06–6/30/07 25% share
76.	Vikesland, P., Love, N. G. and Knocke, W. R. Construction of the Environmental BioNanoTechnology Laboratory (EB/NL), ASPIRES.	$82,030 7/1/05–6/30/06 33% share
77.	Knowlton, K. F., Love. N. G., and Ogejo, J. A. Fate of endocrine disrupting compounds in dairy manure during storage and treatment. Virginia Water Resources Research Center.	$18,000 7/1/05–6/30/06 33% share
78.	Hallerman, E. and Love, N. G. Scale up of water treatment and recovery system at Blue Ridge Aquaculture. Virginia Tech Commercial Fisheries and Shellfish Technologies Program	$26,569 7/1/01–6/30/02 50% share
79.	Love, N. G., Dietrich, A., Edwards, M., Godrej, A., Grizzard, T., Novak, J. T., Schreiber, M. Acquisition of a gas chromatograph with both mass spectrometer and flame photometric detector in support of water quality research. Virginia Tech ASPIRES program.	$88,340 1/1/01–12/31/01 14% share
80.	Gibson, H. W., Bevan, D. R., Love, N. G. A collaborative effort to establish a research program for developing biomimetic sensors using molecularly imprinted polymers (MIPs). Virginia Tech ASPIRES program.	$50,393 1/1/01–12/31/01 33% share
81.	Widdowson, M., Schreiber, M., and Love, N. G. Evaluating processes that control natural attenuation of nitrate in natural waters. Virginia Water Resources Research Center.	$5,000 7/1/00–6/30/01 33% share
82.	Love, N. G. and Knowlton, K. F. Development of a collaborative effort on environmentally responsible management of dairy wastes. Virginia Tech ASPIRES program plus College and Departmental matching support.	$37,944 1/1/00–5/31/01 50% share
83.	Stevens, A. M. and Love, N. G. Development of a *lux* reporter for the anaerobic human pathogen *Bacteroides*. Virginia Tech Optical Sciences and Engineering Research Center.	$50,000 7/1/00–6/30/01 10% share
84.	Love, N. G. and Brazil, B. L. Performance optimization and economic analysis of a fluidized denitrifying unit for treating aquaculture effluents. Virginia Tech Commercial Fisheries and Shellfish Technologies Program.	$57,456 7/1/99–6/30/01 50% share
85.	Popham, D. L., Brewer, K. J., Esen, A., Love, N. G., Rutherford, C. L., Shirley, S. W., Stevens, A. M., and Walker, R. A. Establishment of a phosphor/fluorescent imaging facility in Derring Hall. Virginia Tech ASPIRES program.	$69,200 1/98–12/99 2% share

86.	Love, N. G. and Stevens, A. M. Development of a collaborative research effort in environmental biotechnology as applied to biological wastewater treatment systems. Virginia Tech ASPIRES program.	$32,080 1/98–12/99 50% share
87.	Widdowson, M. A., Love, N. G., Novak, J. T., and Berry, D. F. Intrinsic bioremediation of contaminants in groundwater and soil: A strategy for research and partnerships. Virginia Tech ASPIRES program.	$37,300 4/97–3/98 25% share
88.	Love, N. G. Denitrification of recirculating aquaculture system waters. Virginia Tech Commercial Fisheries and Shellfish Technologies Program.	$6,000 3/1/95–6/30/96 100% share
89.	Randall, C. W. and Love, N. G. Identification of bacterial groups in biological nutrient removal systems. Virginia CORE Research Program.	$4,300 7/1/94–6/30/95 50% share

Institutional/ Educational Support Received – External Programs
(Total Value: $3.7 million, Share Value: $1.2 million)

90.	Love, N. G., Thole, K. A. and McCrickard, S. Development and Maintenance of a Portal Website for the NSF Advance Program, National Science Foundation.	$94,671 9/1/04-8/31/06 12% share
91.	Layne, P., Love, N. G. and Thole, K. A. ADVANCE Engineering Workshop, National Science Foundation.	$61,381 8/1/04–1/31/05 33% share
92.	McNamee, M., Hyer, P.B, Love, N. G. and Thole, K. A. ADVANCE Institutional Transformation Award for Virginia Tech. NSF. Co-initiated and co-authored proposal. Active participant from 2003-2006.	$3,460,211 7/1/03–6/30/08 33% share
93.	Oerther, D. and Love, N. G. Workshop to Explore the Value of Applying Molecular Biology Tools in Environmental Engineering, National Science Foundation.	$21,400 10/1/01–9/30/02 10% share
94.	Love, N. G. Making the Connection Program, Women in Engineering Programs and Advocates Network.	$5,000 12/1/1999–1/31/2003 100% share
95.	Little, J. C. and Love, N. G. Environmental Engineering: Creation of an electronic textbook. SUCCEED and College of Engineering Green Engineering Program.	$30,416 1/1/95–5/31/97 50% share

INVITED SEMINARS AND PRESENTATIONS

1. Invited Speaker – My Career Path: Seminar for CWEA-AWWA Student Chapter, California State Polytechnic University, Pomona. November 19, 2020.
2. Invited Speaker - Water Infrastructure in Resource-Constrained Shrinking and Expanding Cities: The Impact on Water Quality and Public Health. University of Arizona Department of Chemical and Environmental Engineering. September 21, 2020.
3. Invited Speaker: Rethinking America's Urban Water Infrastructure: Resource Efficiency, Access, and Public Health. University of Notre Dame, Civil and Environmental Engineering Challenges and Innovation Seminar Series. Virtual. September 17, 2020.
4. Invited Speaker. Water Infrastructure in Resource-Constrained Shrinking and Expanding Cities: The Impact on Water Quality and Public Health. Department of Environmental Engineering, Technical University of Denmark. January 17, 2020.
5. American Academy of Environmental Engineers and Scientists Kappe Lecturer

(https://www.aaees.org/kappelectureseries/kappelecturer.php). 2019-2020. Offered two talks and presented both at most venues. Talk 1: "Rethinking America's Urban Water Infrastructure: Resource Efficiency, Access and Public Health" or Talk 2: "Environmental Engineering and Science Academic Scholarship in Service to Society: Our Role and Responsibility." Seventeen venues were selected among 20 applicants. Most venues involve more than one host school. Host schools include: Carnegie Mellon University and University of Pittsburgh; Clemson University; Georgia Tech; Michigan State University and Wayne State University; North Carolina State University; Old Dominion University; Rice University, University of Houston and University of Texas-Austin; Wilkes University; University of California-Merced; University of Cincinnati; University of Iowa; University of Minnesota; University of Nebraska-Lincoln; University of Rhode Island; University of Tennessee-Knoxville; University of Washington; University of Wisconsin.

6. Invited Keynote Speaker: The Microbiology of Drinking Water Systems in Shrinking and Expanding Resource-Constrained Cities and the Link to Public Health. International Water Association Microbial Ecology of Water Engineering (MEWE) Biannual Conference, Hiroshima, Japan, November 2019.
7. Invited Keynote Speaker: Achieving Resource Efficiency through Urine Separation and Nutrient Recovery: Advancing Hybrid Solutions for a Sustainable Future. Virginia Water Environment Association Education Seminar, May 8-9, 2019, Richmond, VA.
8. Invited Plenary Speaker: Shrinking and Expanding Urban Water Systems in Resource-Constrained Cities: the Link to Public Health. TransCon2019: Understanding and Managing Microbial Transformation of Environmental Contaminants, Monte Verita, Asconia, Switzerland. April 28 to May 3, 2019.
9. Invited speaker: The Microbial Characteristics of Drinking Water in Flint, MI: The Point-of-Use "Lead" Filter Field Study. Texas A&M University Department of Civil Engineering Environmental and Water Resources Seminar Series. March 4, 2019.
10. Invited speaker: Progress with Source Separation and Conversion to Fertilizer. Water Environment Federation Forum 2019: James Barnard Research Conference on Emerging Themes on Biological Phosphorus Removal and Recovery. January 14-15, 2019, Austin, TX.
11. Invited speaker: A Field Study of Microbial Changes Across Activated Carbon Block Point of Use Filters Deployed During the Flint Water Crisis. University of California-Davis. May 22, 2018.
12. Keynote speaker. "Water Infrastructure in Shrinking and Expanding Cities: The Impact on Water Quality and Public Health". Integrity of Creation Conference, The Global Water Crisis, Duquesne University. September 27-28, 2017, Pittsburgh, PA.
13. Invited speaker: Microbiome at the Global Tap: Understanding Microbial Colonization of Point-of-Use Drinking Water Filters. 14th Annual USEPA Drinking Water Workshop: Small Systems Challenges and Solutions, Cincinnati, OH, August 22-24, 2017.
14. Distinguished Lecture. Borchardt and Glysson Collegiate Professorship Induction. "At the interplay of water and health." Borchardt Conference, University of Michigan, February 22, 2017.
15. Distinguished Lecture. "The interplay between chemicals and microbiomes: an environmental biotechnology perspective." Wayne State "Water at Wayne" Lecture Series, Feb 1, 2017.
16. Invited speaker. "Microbiome at the Global Tap: Understanding microbial colonization of point-of-use drinking water filters." Marquette University, January 25, 2017
17. Invited speaker. "A Balancing Act: Achieving Nutrient Recovery via Urine-Derived Fertilizers while Managing Emerging Contaminants." University of Buffalo, November 11, 2016.
18. Distinguished Lecture. "At the Confluence: Nutrients, Trace Chemicals and Sustainability in the Urban Water Sector." Cornell University, October 24, 2016.
19. AEESP Distinguished Lecturer. 2015-2016 academic year. Presented one of two talks: "The Interplay Between Chemicals and Microbiomes: An Environmental Biotechnology Perspective", or "At the

Confluence: Nutrients, Trace Chemicals and Sustainability in the Urban Water Sector." Eighteen venues were selected among 27 applicants. Most venues involve more than one host school. Host schools include: Ohio State; Michigan Tech and University of Minnesota-Duluth; Lehigh University and Lafayette College; Penn State University and St. Francis University; University of South Florida, University of Central Florida and University of Florida; University of Oklahoma; Technische Universitat Munchen and ETH Zurich; University of Pittsburgh and Carnegie Mellon University; Arizona State University; Colorado School of Mines and University of Colorado-Boulder; University of Tennessee; University of Cincinnati, University of Dayton and US EPA; University of Toronto; University of Maryland, Johns Hopkins University and Howard University; Virginia Tech; University of Vermont, Clarkson University, St. Michaels University, Norwich University and McGill University; University of Massachusetts, Yale University, University of Connecticut, Worcester Polytechnic Institute and Rensselaer Polytechnic Institute; Northwestern University and University of Illinois Chicago.

20. Invited Lecture: A balancing act: Achieving nutrient recovery via urine-derived fertilizers while managing emerging contaminants. University of Southern California, Los Angeles, CA. February 24, 2016.
21. Invited Lecture: Chlorinated phenols: their influence on microbial colonization and antibiotic resistance. Technical University of Delft, The Netherlands, January 22, 2016.
22. Distinguished Lecture: Microbial responses to and health implications for trace organic chemicals in the environment: A story about chlorinated phenols. School of Environment, Tsinghua University, Beijing China, December 5, 2014.
23. Distinguished Lecture: Bringing next generation sequencing to case studies in environmental biotechnology. Chinese Microbial Ecology Society, by webcast to Beijing China, October 26, 2014.
24. Distinguished Lecture: Chlorinated Phenols in Water: Their Influence on Microbial Colonization and Responses to Antibiotics. EAWAG, Swiss Federal Institute of Aquatic Science and Technology, Duebendorf, Switzerland, Invited, November 9, 2014.
25. Invited Lecture: Effect of Chlorinated Phenols on Microbial Communities that Colonize Point-of-Use Drinking Water Filters. Department of Civil and Environmental Engineering, University of Glasgow, Scotland, March 14, 2014
26. Invited Lecture: The Evolution of Wastewater Management in the United States: Toward Sustainable Systems. Dept of Civil and Environmental Engineering, Addis Ababa Institute of Technology, Ethiopia. October 17, 2013.
27. Distinguished Lecture: Eminent Scholar Lecture Series. At the Confluence of Nutrients, Pharmaceuticals and Sustainability: Emerging Issues in Wastewater Management. University of South Florida College of Engineering. April 19, 2013.
28. Distinguished Lecture: Water Resources and Environmental Engineering Research Symposium. At the Confluence of Nutrients, Pharmaceuticals and Sustainability: Emerging Issues in Wastewater Management. North Carolina State University. March 15, 2013
29. Invited Lecture: From Under the End Table: Navigating Fears, Hopes and Aspirations in Life and Career. North Carolina State University Women in Engineering Lecture Series. March 14, 2013.
30. Invited Lecture: Michigan Water Environment Association Annual Process Seminar. At the Confluence of Nutrients, Pharmaceuticals and Sustainability, East Lansing, MI, November 7, 2012.
31. Invited Speaker: Chesapeake Bay Science and Technical Advisory Committee/Water Environment Research Foundation. Real World Sustainable Wastewater Practices Workshop, At the Intersection of Nitrogen Transformation and Pharmaceuticals, Richmond, VA, May 16, 2012.
32. Keynote speaker: Virginia Water Environment Association Education Conference, At the Confluence of Nutrients, Pharmaceuticals and Sustainability: Emerging Issues in Wastewater Management, Richmond, VA, May 17, 2012.
33. Invited Speaker: Water & Wastewater Treatment BMP Forum, International Joint Commission, Wastewater Treatment Innovation: Current Research Focus, McGregor Memorial Conference Center,

Wayne State University, Detroit MI, March 26, 2012.

34. Distinguished Lecture: A Brace Lecture. The Brace Center for Water Resources Management. McGill University, At the Confluence of Nutrients, Pharmaceuticals and Sustainability: Emerging Issues in Wastewater Management, Montreal, Canada. February 29, 2012.

35. Invited Speaker: At the Confluence of Nutrients, Trace Contaminants and Sustainability: Emerging Issues in Wastewater Management. AEESP-Leading Edge Research Session in honor of the 10th anniversary of the Paul L. Busch Award, WEFTEC, Oct 17, 2011.

36. Invited Speaker: 16th Annual Central States Water Environment Association Meeting. At the confluence of nutrients, pharmaceuticals and sustainability: emerging issues in managing wastewater. Madison WI, April 5, 2011.

37. Distinguished Lecture: University of Texas, Austin, Department of Civil and Environmental Engineering, At the confluence of nutrients, pharmaceuticals and sustainability: emerging issues in urban water systems, March 24, 2011.

38. Invited Lecture: From Under the End Table: Navigating Fears, Hopes and Aspirations in Life and Career. University of Wisconsin-Madison Women in Science and Engineering Leadership Institute (WISELI) Lecture Series, which seeks to learn about the background and experiences of women who have succeeded in engineering and environmental chemistry fields, particularly those who have risen to leadership roles in academia, March 15, 2011.

39. Invited Lecture: University of Colorado, Boulder, Department of Civil and Environmental Engineering. At the confluence of nutrients, pharmaceuticals and sustainability: emerging issues in managing wastewater, January 13, 2011.

40. Invited Lecture: Northeastern University, Department of Civil and Environmental Engineering. At the confluence of nutrients, pharmaceuticals and sustainability: emerging issues in managing wastewater, December 2, 2010.

41. Keynote Lecture: International Water Association Leading Edge Technology 2010 Conference, Phoenix, AZ, USA. The pursuit of sustainable water and wastewater systems: The role of wastewater as a renewable resource, June 3, 2010.

42. Invited Lecture: University of California – Riverside, Department of Chemical and Environmental Engineering. Toward understanding dynamic microbiological responses to chemical stress: chemical stressors and antibiotic resistance, May 6, 2010.

43. Distinguished Lecture: Ernest and Agnes Gloyna Distinguished Lecture in Environmental Engineering, Johns Hopkins University, Baltimore, MD. Chemical Stressors in the Environment – Past, Present and Future. April 13, 2010.

44. Keynote Lecture: Somerville College, University of Oxford, England. Effects of antibiotics on sewage treatment processes. Part of the Workshop on Pharmaceutical Usage During an Influenza Pandemic – Implications for Sewage Treatment Plant Function, March 3, 2009.

45. Invited Lecture: University of Notre Dame Department of Civil Engineering and Geological Sciences. The Influence of Microbial Ecology and Physiology in the Biotransformation of Pharmaceuticals in Wastewater, November 11, 2008.

46. Distinguished Lecture: University of Minnesota Department of Civil Engineering Warren Lecture. Biotransformation of pharmaceuticals by nitrifying and heterotrophic cultures: Investigating degradation patterns, metabolite formation and the influence of growth state. November 14, 2008.

47. Invited Lecture: International Symposium on Glutathione and Related Thiols in Microorganisms and Plants, Faculté de Pharmacie de Nancy, France/ Glutathione as an *in vivo* indicator of chemical stress in complex biological systems, August 26-29, 2008.

48. Keynote Lecture: American Chemical Society Annual Meeting, Environmental Chemistry Symposium, Philadelphia, PA. Biotransformation and Chlorination of Pharmaceuticals and Their Byproducts during

Wastewater Treatment, August 20, 2008, Other co-authors include Wendell O. Khunjar, Komgrit Kotcharaksa, Peter Vikesland, Jolanta Skotnicka-Pitak, Diana Aga, Willie F. Harper Jr., Taewoo Yi.

49. Invited Lecture: Malcolm Pirnie, Inc. firm-wide seminar. Sustainable Water Systems – Acknowledging Wastewater as a Resource. May 2, 2008.

50. Invited Lecture: Research and Development Seminar Series, Metropolitan Water Reclamation District of Greater Chicago. Toward Understanding Dynamic Microbial Responses to Chemical Stress: Elucidating Biomarkers for Use in Upset Early Warning Systems, June 15, 2007.

51. Invited Lecture: Water Environment Research Foundation Nutrient Challenge Stakeholder Workshop, Baltimore, Maryland. Organic Nitrogen in Wastewater Effluents, March 7-8, 2007.

52. Invited Lecture: Department of Civil and Environmental Engineering, University of California, Los Angeles. Toward Understanding Dynamic Microbiological Responses to Chemical Stress: Elucidating Biomarkers and Ecological Impact, February 6, 2007.

53. Invited Lecture: Virginia Water Environment Association Education Seminar, 2010: A Nutrient Odyssey – A Timely Look for Options for Compliance. Nitrification Inhibition: An Overview of the Problem and How it Affects Nitrogen Removal, December 13, 2006.

54. Invited Lecture: Carnegie Mellon University, Department of Civil and Environmental Engineering. Toward Understanding Dynamic Microbiological Responses to Chemical Stress: Elucidating Biomarkers and Ecological Impact, November 3, 2006.

55. Invited Lecture: Workshop on The Future of Water Monitoring, Virginia Water Monitoring Council. Elucidating Biomarkers and Ecological Impacts of Chemical Stressors Informs Emerging Water Monitoring Technologies, October 12, 2006.

56. Invited Lecture: Center for Urban Environmental Research and Education, University of Maryland – Baltimore County. Stress-Induced Microbial Footprints as a Basis for Monitoring Complex Environmental Systems, March 31, 2006.

57. Invited Lecture: Virginia Department of Environmental Quality Permitting Workshop, Blacksburg, VA. Nitrogen Removal Technologies for Meeting Nitrogen Load Reductions in the Chesapeake Bay Watershed, August 30, 2005.

58. Workshop Coordinator and Presenter. Overview of WERF Research on Upset Early Warning Technologies for Wastewater Treatment Plants. WEFTEC workshop, Washington DC, October 30, 2005

59. Keynote Lecture: 4th International Water Association Activated Sludge Population Dynamics Specialist Conference, Gold Coast, Australia. Detecting Microbial Fingerprints and Their Role in Advancing Our Understanding of Activated Sludge Population Dynamics, July 2005.

60. Invited Lecture: EPA/WERF Water Sector Security Workshop, Eastern Section, Philadelphia, PA. Upset early warning systems for wastewater treatment plants: technology status and potential, May 10-12, 2005.

61. Invited Lecture: Vistas for Microbial Ecology and Environmental Biotechnology, Center for Environmental Biotechnology, The Biodesign Institutes, Arizona State University, Tempe, Arizona. Monitoring our environment: bridging the interface between biology, chemistry and technology. One of eight international experts invited to present my view of the future for environmental biotechnology/microbial ecology. Outcome was published in *Environmental Science and Technology* (see journal papers).

62. Invited Lecture: Department of Geography and Environmental Engineering, Johns Hopkins University. Understanding Stress and its Role in Defining Environmental Health, March 29, 2004

63. Invited Lecture: Pondering Stress and its Role in Environmental Monitoring. Half Day Seminar in honor of the retirement of C. P. Leslie Grady Jr., Clemson University, Clemson, South Carolina, February 20, 2004

64. Invited Lecture: School of Civil Engineering, Purdue University, West Lafayette, Indiana, A Proposed Strategy for Developing Sensing Technologies for Environmental Monitoring: The Role of Stress, November 2003

65. Invited Lecture: Chemistry Department, University of Maryland Department of Chemistry, College Park, MD. Molecular indicators of toxin-induced stress in wastewater treatment systems, March 15, 2002

66. Keynote Lecture. European Union COST meeting, *Biosensors in Wastewater*, Milan Italy. Status and potential for biosensors in wastewater treatment, June 2002.

67. Invited Lecture: Civil Engineering Department, University of Texas, Austin, TX. Molecular indicators of toxin-induced stress in wastewater treatment systems, April, 2002

68. Invited Lecture: Chemical Engineering Department, Yale University. Using molecular stress responses as indicators of system stress in biological wastewater treatment facilities, April 11, 2001

69. Protecting your biological processes using upset early warning systems. Water Environment Research Foundation Subscriber Regional Meeting, Washington, D.C., April 5, 2001

70. Invited Lecture: Department of Civil and Environmental Engineering, University of California, Davis. Using molecular stress responses as indicators of system stress in biological wastewater treatment facilities, February 7, 2000

71. Invited Lecture: Department of Environmental Sciences, Rutgers University, Cook College, New Brunswick, NJ. Using molecular stress responses as indicators of system stress in biological wastewater treatment facilities, November 12, 1999

72. Invited Lecture: Department of Civil Engineering, Tulane University, New Orleans. Use of the microbial stress response as an indicator of system stress in biological treatment, October 1999

73. Invited Lecture: Department of Chemical Engineering, University of Virginia. Microbial stress in biological treatment systems, November 1998

PATENTS

1. Noe-Hays, A. and N. G. Love. Feb 20, 2020. Patent Application No. 16541846. Freeze Concentration for Urine-Based Fertilizer Production.

RESOLUTION NO.: 210228

MAY 19 2021

PRESENTED: _____

ADOPTED: _____

RESOLUTION FOR THE APPOINTMENT OF LAWRENCE REYNOLDS TO THE WATER SYSTEM ADVISORY COUNCIL

BY THE MAYOR:

WHEREAS, pursuant to the State of Michigan's administrative rules section 325.10410(7), water supplies serving a population of 50,000 or more, and consecutive systems serving a population of 50,000 or more, shall create a water system advisory council;

WHEREAS, the council shall consist of at least five members, appointed by the community supply;

WHEREAS, the purpose of this council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.

WHEREAS, to be eligible for appointment to the council, an individual shall have a demonstrated interest in or knowledge about lead in drinking water and its effects;

WHEREAS, the council will develop plans for continuing public awareness about lead in drinking water, even when the action level is not exceeded,; review public awareness campaign materials provided by the statewide drinking water advisory council to ensure the needs and interest of the community, considering the economic and cultural diversity of its residents, are addressed; advise and consult with the water supply on the development of appropriate plans for remediation and public education to be implemented if a lead action level is exceeded; advise and consult with the water supply on efforts to replace private lead service lines at locations where the owner declined service line replacement; assist in promoting transparency of all data and documents related to lead in drinking water within the water supply service area

WHEREAS, Mayor Neeley desires to appoint Lawrence Reynolds to the Water System Advisory Council (See Attached Resume).

NOW THEREFORE BE IT RESOLVED, that Mayor Neeley hereby appoints Lawrence Reynolds, address 2621 Indian Bow Trail, Flint, MI 48507 to serve on the Water System Advisory Council.

APPROVED AS TO FORM:

Angela Wheeler (May 13, 2021 13:09 EDT)

Angela Wheeler, City Attorney

FOR THE CITY OF FLINT:

Sheldon A. Neeley, Mayor

APPROVED BY CITY COUNCIL:

Kate Fields, City Council President

CITY OF FLINT

RESOLUTION STAFF REVIEW FORM

TODAY'S DATE: *05/13/2021*

BID/PROPOSAL#

AGENDA ITEM TITLE: RESOLUTION APPOINT MEMBERS TO THE WATER SYSTEM ADVISORY COUNCIL

PREPARED BY: Lottie Ferguson, Chief Resilience Officer
(Please type name and Department)

VENDOR NAME: N/A

BACKGROUND/SUMMARY OF PROPOSED ACTION:

In July 2018, the State of Michigan's Department of Environment, Great Lakes and Energy (EGLE) established the Lead and Copper Rule (LCR) under the Michigan Safe Water Drinking Act 399.
The purpose of the LCR is to minimize lead and copper in drinking water and indicates that a Water System Advisory Council (WSAC) is to be established on behalf of cities with 50,000 or more people served by its municipal water system. The WSAC is responsible for assisting with public awareness to create transparency and consumer confidence through statewide efforts of public education and action steps to ensure water quality through: water sampling, water treatment and lead service line replacement. A Council shall consist of a least five members appointed by the community supply. To be eligible for appointment to Council, an individual must have a demonstrated interest in or knowledge about lead in drinking water and its effects. At least one member must be a local resident who does not formally represent the interest of any incorporated organization.
In June 2019, the City of Flint began to establish a board for the WSAC by sending letters of interest to various community partners and members. The process of establishing the board did not see completion and was then put on hold due to a change in City administration. The open public meeting was also delayed due to the COVID-19 pandemic.

In February 2021, the Office of Public Health (OPH) sent notices of participation to public health community partners and community members and requested resumes of those individuals in order to submit an approval to Flint City Council to officially establish the Water System Advisory Council. The WSAC will be hosted by the City's OPH, who will organize and oversee the annual meeting, according to the Open Meetings Act 267. This annual meeting will inform and include the public on the City's lead and copper status, progress and next steps.

The names of the individuals who are Mayoral appointed to the Water System Advisory Council are: Dr. Lawrence Reynolds, Shawn P. McElmurry, PhD, and Benjamin Pauli, PhD, Environmental The designated Appointees have either lived or worked within the Flint community during the Flint Water

CITY OF FLINT

Crisis and have expressed interest and knowledge concerning lead in drinking water. Appointees resumes are attached.

It is the desire of the City to submit the approval of appointing members to complete the Water System Advisory Council, to Flint City Council. If approved, the City of Flint will, be in compliance with the Lead and Copper Rule required by the State of Michigan; create transparency with Flint residents; avoid any monetary penalties associated with the non-compliance of establishing the Water System Advisory Council.

FINANCIAL IMPLICATIONS: There is no budget required to establish or sustain the Water System Advisory Council.

BUDGETED EXPENDITURE? YES ☐ NO X☐ IF NO, PLEASE EXPLAIN:

Dept.	Name of Account	Account Number	Grant Code	Amount
Public Health	Water System Advisory Council	N/A	N/A	$0
		FY20/21 GRAND TOTAL		**$0**

PRE-ENCUMBERED? YES ☐ NO ☐ REQUISITION NO:

ACCOUNTING APPROVAL: _____ **Date:** _____

WILL YOUR DEPARTMENT NEED A CONTRACT? YES ☐ NO x ☐
(If yes, please indicate how many years for the contract) YEARS

WHEN APPLICABLE, IF MORE THAN ONE (1) YEAR, PLEASE ESTIMATE TOTAL AMOUNT FOR EACH BUDGET YEAR: (*This will depend on the term of the bid proposal)*

CITY OF FLINT

BUDGET YEAR 1 $0

BUDGET YEAR 2 $0

BUDGET YEAR 3 $0

OTHER IMPLICATIONS (*i.e., collective bargaining*):

STAFF RECOMMENDATION: *(PLEASE SELECT):* X☐ **APPROVED** ☐ **NOT APPROVED**

DEPARTMENT HEAD SIGNATURE: Lottie Ferguson, Chief Resilience Officer
(PLEASE TYPE NAME, TITLE)

Lawrence A. Reynolds, M.D.

Fellow, American Academy of Pediatrics

EDUCATION

1979	Doctorate of Medicine Howard University College of Medicine Washington, DC National Health Service Corps Scholarship recipient , four years
1974	Bachelor of Arts, Political Science Wayne State University

TRAINING

1981 – 1982	Chief Resident, Mt. Carmel Mercy Hospital Department of Pediatrics Detroit, MI Responsibilities included Neonatology Service Sinai, Grace, Providence, and Mt. Carmel Hospitals
1980 – 1982	Resident, Mt. Carmel Mercy Hospital Department of Pediatrics Detroit, MI
1979 – 1980	Intern, District of Columbia General Hospital Howard University Hospital Department of Pediatrics Washington, DC

1970-1976, morgue assistant- Temple University Hospital, phlebotomist and certified Emergency Medical Technician – Detroit General Hospital, Cardiac Monitor technician- Washington Hospital Center

PROFESSIONAL EXPERIENCE

2008 – 2016 President / CEO, retired 12/29/2016

Mott Children's Health Center, a private non-profit multidisciplinary , outpatient child health facility in Flint Michigan. Directed primary care pediatrics, school child and adolescent health centers, a jointly operated pediatric dental service and residency with the University of Michigan and Hurley Medical Center ,Child and Adolescent Psychiatric Services with Michigan State University. Planned , collaborated, advised

,piloted, directed and implemented projects to improve the health of children on county and state levels. Responsibilities included budget oversight ,monitoring the organization's $300 million endowment , internal review board and presentations regarding clinical activities to the community and university partners .Directed the annual child health conference and on site training activities for Michigan State University , University of Michigan , and other health education programs for students and residents .Assured employment practices promoted equitable pay and opportunity. Directed the introduction of the dental , child health EMR and updated activities to comply with the Affordable Care Act and meaningful use requirements. Directed the team to achieving NCQA Level Three Patient Centered Medical Home Certification

2007 - 2008 Executive Vice President
Mott Children's Health Center

2005 - 2007 Vice President, Clinical Services
Mott Children's Health Center

2003 - 2004 Medical Director / Clinical Director
Mott Children's Health Center

2002 FQHC Project Consultant - to Oakland County Human Services , Completed applications for various state and federal licenses and permits, assisted in site location and hiring staff to open a new FQHC in the Pontiac , Michigan area to meet HHS/BPC deadline.

2001- 2003 Pediatric Consultant
Mott Children's Health Center and
Genesee County Community Mental Health
Provide medical evaluations and management for children with developmental and behavioral problems including Fetal Alcohol Syndrome.

2001-2003 Physician Mentor
Hurley Physician Hospital Organization of Mid-Michigan

Analyze utilization and quality indicators to report to the executive board. Identify opportunities for improvement of individual performance.

1999 – 2003

Medical Consultant
Vinnell Corporation
Flint / Genesee Job Corp Center
Provide medical evaluation and treatment for young adults 16 – 25 years old in a Federal job-training program.

1992 – 2001

Pediatrician / Medical Director
Hamilton Family Health Center ,Flint ,Michigan– a Federally qualified health center (adult, pediatrics dental ,and obstetrical care) . Management team member to successfully turn around FQHC operations.

1990 – 1992

Pediatrician
Mott Children's Health Center – a freestanding private non-profit multidisciplinary ambulatory facility for the medically needy of Genesee County

Project Director
Beecher 103 Teen Clinic
Beecher High School – a State- and Mott-funded school-based clinic with a psychologist, health educator and nurse practitioner

1991 – 1997

Co-Director
Department of Pediatrics Sickle Cell Clinic
Hurley Medical Center
Care of children with hemoglobinopathies and teaching residents and medical students

1990 – 1997

Medical Consultant
Camp Echo Grove, Salvation Army
Leonard, MI
Reviewed standing orders for campers and employee health screenings

1986 – 1990	Pediatrician Woodland Medical Group, PC Detroit and Livonia, MI – a multi-specialty group serving fee for service or HMO / PPO patients; affiliated with the Detroit Medical Center
1982- 1986	General Pediatrician , Gloria Bigham Clinic , City of Detroit Health Department . Fulfilled a four year National Health Service Corps obligation.
1982 – 1983	Pediatrician (part-time) Mt. Carmel Mercy Hospital Emergency Department Emergent and urgent pediatric care
1982 – 1983	Associate Pediatrician (part –time) Charles N. Inniss, M.D., P.C. – private office Detroit, MI
1983 – 1990	Pediatrician Edwin Denby Children's Home of the Salvation Army Detroit, MI General pediatric care in a shelter for abused, abandoned, neglected, or adjudicated children and adolescents

TEACHING EXPERIENCE

2001 – Present	Clinical Assistant Professor Michigan State University Hurley Medical Center Department of Pediatrics Attending for residents in adolescent medicine

1991 – 2001 Associate Professor
Michigan State University
Hurley Medical Center
Department of Pediatrics
Attending for residents in adolescent medicine

RESEARCH / ABSTRACTS, PUBLICATIONS

2017 Lessons for Physicians from Flint's Water Crisis (*Carravallah, Reynolds., Woolford – AMA Journal of Ethics October2017, vol19 , Number10 :1001-1010)*

1991 Routing Screening for VDRL at Time of Delivery to Diagnose Congenital Syphilis (*Womack, Flagon, Liang, Reynolds – American Pediatric Society.* The Society for Pediatric Research. *Abstract presented 1991.)*

LICENSURE

1980 – Present State of Michigan
Drug Enforcement Agency
Controlled Substance License

PROFESSIONAL AFFILIATIONS / COMMUNITY SERVICE

2018-present **Board Member ,Community Foundation of Greater Flint**

2018- present member ,Advisory Committee **Catholic Charities Offender Success Program**

2016-present ,member **City of Flint ,Mayor's Technical Advisory Committee and Public Health Communications Committee**

2017 -present Board Member , **Hamilton Family Health Network** , a Federally Qualified Health Center

2017 -present Co- Chair, **Flint Lead Exposure Registry Community Advisory Committee**

2016 -past Chair and current member of the **Flint Healthy Children's Fund of the Community Foundation of Greater Flint**

Worked with the staff , consultants , and community stakeholders to formulate a strategy for grantmaking in response to the Flint Water Crisis

2017 -2018 Member , Governor's Environmental Justice Work Group, Developed recommendations to promote environmental justice in state government activities ,

including training, policies and procedures to protect communities that suffer disproportionate impact due to historic marginalization and continued discrimination.

2015-2016 Appointee to the **Governor's Flint Water Advisory Task Force** which issued a report with findings and recommendations to address the Flint Water crisis and the failure of state county and federal agencies to protect the public health after a three moth investigation

2013- present Genesee County Chid Healthcare Access Program ,medical director. A county wide patient centered medical home program whose goal is to eliminate health outcome disparities between commercially insured and Medicaid insured children. Funded by the Michigan Health Endowment in 2015and local support since 2013.

2010 –2012 President and Board Member , Michigan Chapter , American Academy of Pediatrics

2010 – 2014 Infant Mortality Steering Committee, Michigan Department of Community Health .Governor's task force to reduce racial disparities in infant mortality and design a Regional Perinatal Care System .

2002 – 2018 Arthur Tuuri Health Affairs Committee member
Community Foundation of Greater Flint , reviewed staff recommendations for grant requests for child health programs

2001 – 2010 Medical Services Committee Chair
Programs to Reduce Infant Deaths Effectively (PRIDE)
Facilitate change in the healthcare delivery system to reduce the racial disparity in infant deaths in Genesee County, Michigan, and improve outcomes for all mothers and infants.

2001 – 2008 Member, Advisory Board , School of Health Professions
University of Michigan , Flint
School of Health Professions & Studies

2001 – 2007 State-Wide Steering Committee
TEAM Nutrition
Physical Activity and Nutrition

2001-2003 Founding Board Member and Network Quality Chair
Genesee Health Plan
Represent the Genesee County Medical Society in a county-wide health benefits program for uninsured and low income adults to improve the quality of care for the poor and underserved.

2001 – 2004 Co-Chair
Michigan Chapter
American Academy of Pediatrics / Advocacy Committee

2002 – 2005 Chair, Flint Genesee County Friendly Access Project in affiliation with the Lawton and Rhea Chiles Center for Healthy Mothers and Babies , and the Greater Flint Health Coalition to reduce premature births ,low birth weight , and improve mothers' satisfaction with prenatal and postnatal care

1991– Present Genesee County Medical Society
Past President
Current Board Member
Past Alternate Delegate
Past Co-Chair and current member of the Community and Environmental Health Committee

1996 – 2002 Michigan State Medical Society
Medicaid Liaison Committee
Meet with the State Medicaid Administration Managers to address patient care and physician issues representing the Michigan Chapter of The American Academy of Pediatrics.

1995 – 2005 Secretary / Board Member
African American Physicians Association of Genesee County

1986-1990 Board Member and Officer (President , Secretary)
Salvation Army ,Children and Youth Services
Detroit Metropolitan Area

Recommendations

Provided on request.

rey/cv/apr08

RESOLUTION NO.: 210229

PRESENTED: MAY 19 2021

ADOPTED: _____

RESOLUTION FOR THE APPOINTMENT OF SHAWN P. MCELMURRY TO THE WATER SYSTEM ADVISORY COUNCIL

BY THE MAYOR:

WHEREAS, pursuant to the State of Michigan's administrative rules section 325.10410(7), water supplies serving a population of 50,000 or more, and consecutive systems serving a population of 50,000 or more, shall create a water system advisory council;

WHEREAS, the council shall consist of at least five members, appointed by the community supply;

WHEREAS, the purpose of this council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.

WHEREAS, to be eligible for appointment to the council, an individual shall have a demonstrated interest in or knowledge about lead in drinking water and its effects;

WHEREAS, the council will develop plans for continuing public awareness about lead in drinking water, even when the action level is not exceeded,; review public awareness campaign materials provided by the statewide drinking water advisory council to ensure the needs and interest of the community, considering the economic and cultural diversity of its residents, are addressed; advise and consult with the water supply on the development of appropriate plans for remediation and public education to be implemented if a lead action level is exceeded; advise and consult with the water supply on efforts to replace private lead service lines at locations where the owner declined service line replacement; assist in promoting transparency of all data and documents related to lead in drinking water within the water supply service area

WHEREAS, Mayor Neeley desires to appoint Shawn P. McElmurry to the Water System Advisory Council (See Attached Resume).

NOW THEREFORE BE IT RESOLVED, that Mayor Neeley hereby appoints Shawn P. McElmurry, address 2153 Engineering Building 5050 Anthony Wayne Drive, Detroit, MI 48202 to serve on the Water System Advisory Council.

APPROVED AS TO FORM:

Angela Wheeler (May 13, 2021 13:09 EDT)

Angela Wheeler, City Attorney

FOR THE CITY OF FLINT:

Sheldon A. Neeley, Mayor

APPROVED BY CITY COUNCIL:

Kate Fields, City Council President

CITY OF FLINT

RESOLUTION STAFF REVIEW FORM

TODAY'S DATE: *05/13/2021*

BID/PROPOSAL#

AGENDA ITEM TITLE: RESOLUTION APPOINT MEMBERS TO THE WATER SYSTEM ADVISORY COUNCIL

PREPARED BY: Lottie Ferguson, Chief Resilience Officer
(Please type name and Department)

VENDOR NAME: N/A

BACKGROUND/SUMMARY OF PROPOSED ACTION:

In July 2018, the State of Michigan's Department of Environment, Great Lakes and Energy (EGLE) established the Lead and Copper Rule (LCR) under the Michigan Safe Water Drinking Act 399.
The purpose of the LCR is to minimize lead and copper in drinking water and indicates that a Water System Advisory Council (WSAC) is to be established on behalf of cities with 50,000 or more people served by its municipal water system. The WSAC is responsible for assisting with public awareness to create transparency and consumer confidence through statewide efforts of public education and action steps to ensure water quality through: water sampling, water treatment and lead service line replacement. A Council shall consist of a least five members appointed by the community supply. To be eligible for appointment to Council, an individual must have a demonstrated interest in or knowledge about lead in drinking water and its effects. At least one member must be a local resident who does not formally represent the interest of any incorporated organization.
In June 2019, the City of Flint began to establish a board for the WSAC by sending letters of interest to various community partners and members. The process of establishing the board did not see completion and was then put on hold due to a change in City administration. The open public meeting was also delayed due to the COVID-19 pandemic.

In February 2021, the Office of Public Health (OPH) sent notices of participation to public health community partners and community members and requested resumes of those individuals in order to submit an approval to Flint City Council to officially establish the Water System Advisory Council. The WSAC will be hosted by the City's OPH, who will organize and oversee the annual meeting, according to the Open Meetings Act 267. This annual meeting will inform and include the public on the City's lead and copper status, progress and next steps.

The names of the individuals who are Mayoral appointed to the Water System Advisory Council are: Dr. Lawrence Reynolds, Shawn P. McElmurry, PhD, and Benjamin Pauli, PhD, Environmental The designated Appointees have either lived or worked within the Flint community during the Flint Water

CITY OF FLINT

Crisis and have expressed interest and knowledge concerning lead in drinking water. Appointees resumes are attached.

It is the desire of the City to submit the approval of appointing members to complete the Water System Advisory Council, to Flint City Council. If approved, the City of Flint will, be in compliance with the Lead and Copper Rule required by the State of Michigan; create transparency with Flint residents; avoid any monetary penalties associated with the non-compliance of establishing the Water System Advisory Council.

FINANCIAL IMPLICATIONS: There is no budget required to establish or sustain the Water System Advisory Council.

BUDGETED EXPENDITURE? YES ☐ NO X☐ IF NO, PLEASE EXPLAIN:

Dept.	Name of Account	Account Number	Grant Code	Amount
Public Health	Water System Advisory Council	N/A	N/A	$0
		FY20/21 GRAND TOTAL		**$0**

PRE-ENCUMBERED? YES ☐ NO ☐ REQUISITION NO:

ACCOUNTING APPROVAL: _____ **Date:** _____

WILL YOUR DEPARTMENT NEED A CONTRACT? YES ☐ NO x ☐
(If yes, please indicate how many years for the contract) YEARS

WHEN APPLICABLE, IF MORE THAN ONE (1) YEAR, PLEASE ESTIMATE TOTAL AMOUNT FOR EACH BUDGET YEAR: (*This will depend on the term of the bid proposal)*

CITY OF FLINT

BUDGET YEAR 1 $0

BUDGET YEAR 2 $0

BUDGET YEAR 3 $0

OTHER IMPLICATIONS (*i.e., collective bargaining*):

STAFF RECOMMENDATION: *(PLEASE SELECT):* X☐ **APPROVED** ☐ **NOT APPROVED**

DEPARTMENT HEAD SIGNATURE: Lottie Ferguson, Chief Resilience Officer
(PLEASE TYPE NAME, TITLE)

SHAWN P. MCELMURRY, PhD, PE

2158 Engineering Building
5050 Anthony Wayne Dr
Detroit, MI 48202

Office: (313) 577-3876
E-mail: s.mcelmurry@wayne.edu

EDUCATION

Ph.D. Environmental Engineering, Michigan State University, 2008

Dissertation: *Characterization of Dissolved Organic Carbon: Assessment of Copper Complexation and Export of Carbon from Watersheds as a Function of Land Use*

Co-Advisors: *Thomas C. Voice and David T. Long*

M.S. Environmental Engineering, Michigan State University, 2002

B.S. Chemistry major, Central Michigan University, 1998

EXPERIENCE

2014-current *Associate Professor*, Department of Civil & Environmental Engineering, Wayne State University

2008-2014 *Assistant Professor*, Department of Civil & Environmental Engineering, Wayne State University

RESEARCH PROJECTS IN LAST 5 YEARS *(PI listed first, otherwise co-PI unless noted)*

2018-2022 McElmurry, S.P.; Seeger, M; O'Donnovan, K.; Sobeck, J.; Smith, R.; Kilgore, P.; Love, N.G.; Kerkez, B.; MacDonald Gibson, J.A. *CRISP 2.0 Type 2: Collaborative Research: Water and Health Infrastructure Resilience and Learning (WHIRL). National Science Foundation. Award #1832692 ($1,570,000), 9/1/2018-8/31/2022*

2020-2021 *Harris, A.; Crouch, P.; McElmurry, S.P. Urban Residential Soil Lead Remediation Strategies Project. Erb Family Foundation, subcontract through EcoWorks, Cayuse Award #A17-0555. 1/1/2020-12/31/2021.*

2018-2019 Dittrich, T.; Allen, M.; Boukhalfa, H.; Migdissov, A.; Mohanty,S.; McElmurry, S.P. *AOI 2 Coupled Hydrothermal Extraction and Ligand-Associated Organosilica Media Recovery of REEs from Coal Fly Ash.* U.S. Department of Energy. Award #DE-FE0031565 ($538,849 total)

2017-2019 Harris, A.; Crouch, P.; McElmurry, S.P. Urban Residential Soil Lead Remediation Strategies Project. Erb Family Foundation, subcontract though EcoWorks, Cayuse Award #A17-0555. 6/1/2017-12/31/2019. (subcontract $64,646)

2016-2017 McElmurry, S.P.; Kilgore, P.; Sobeck, J.; Seeger, M.; Zervos, M.; Sullivan, L. (+17 other investigators); *Flint Area Community Health and Environment Partnership (FACHEP) – PHASE II* State of Michigan, Contract #20163753-00. 6/1/2016-12/21/2017 ($3,350,000 total)

2016-2017 McElmurry, S.P. *RAPID: Chemical treatment efficiency of point-of-use filters deployed in Flint, Michigan* National Science Foundation, Award #1633013 ($49,992 total)

2016-2018 McElmurry, S.P.; Miller, C.J.; Pitts, D.K.; Sackey, D.J.; Seeger, M.; Masten, S.J.; Hanna-Attisha, M. *Rapid Response to Contaminants in Flint Drinking Water.* National Institute of Health; National Institute of Environmental Health Sciences. Award # 1R21ES027199-01 ($422,110 total)

2016 McElmurry, S.P.; Kilgore, P. Seeger, M.; Zervos, M.; Sullivan, L. *Flint Area Community Health and Environment Partnership (FACHEP) – PHASE I* State of Michigan ($123,091 total)

2015-2018 Nassauer, J., McElmurry, S.P., Sampson, J., Webster, J., Dewar, M., Alvarez, A., Schulz, A., Burton, A., Riseng, C. *Providing support for watershed based policy and management decisions: Lake Erie and City of Detroit.* Erb Family Foundation, subcontract through The University of Michigan ($1,116,999 total; 82,392 subcontract)

2015-2018 Zhang, Y., Zhou, K, Lemke, L., McElmurry, S.P. (senior personnel) *An Integrated Approach to Ensuring Food Safety and Sustainability in Urban Agriculture in the Greater Detroit Area* US Department of Agriculture, grant # 2015-70001-23424 ($272,532 total)

2015-2016 Zhang, Y., Lemke, L., Zhou, K., McElmurry, S.P. *Heavy metals and the development of antibiotic resistance in urban agriculture.* Center for Urban Responses to Environmental Stressors (CURES) Pilot Project funded through National Institute of Health Grant P30 ES020957 ($80,000 total)

2015 Miller, C., Zhang, Y., McElmurry, S, Lemke, L., Pothukuchi, K. *A Workshop for Integrative and Sustainable Food, Energy, and Water in Transitioning Urban Landscapes.* National Science Foundation, CBET Award # 1541869 ($28,840 total)

2014-2016 Caruso, J.A.; McElmurry, S.P.; Moldenhauer, J.; Reynolds, R.; Sackey, D.; Schroeck, N; Stemmer, P; Westrick, J.; Zhang, K; Giblin, F. *Petcoke in an urban environment: A community-based participatory model.* Center for Urban Responses to Environmental Stressors (CURES) Pilot Project funded through National Institute of Health Grant P30 ES020957 ($150,000 total)

AWARDS, CERTIFICATES, HONORS, and LICENSURE

2014, 2015 *Outstanding Reviewer Award,* Journal of Environmental Engineering, American Society of Civil Engineers

2013 *2013 ExCEEd New Faculty Excellence in Teaching Award,* American Society of Civil Engineering

2012 *Outstanding Faculty Service Award,* Engineering Student and Faculty Board, College of Engineering, Wayne State University

2012 *Favorite Professor Award,* Wayne State University

2010, 2011 *Assistant Mentor ASCE ExCEEd Teaching Workshop*–American Society of Civil Engineering (ASCE) – U.S. Military Academy, West Point, NY

2010 *Michigan Professional Engineering License* (#6201057641, date issued 09/24/2010)

2009 *ExCEEd Fellow* –American Society of Civil Engineering (ASCE)

PEER REVIEWED PUBLICATIONS FROM LAST 5 YEARS

**corresponding author, §graduate student, †undergraduate student*

[48] §Alla, L.N.R; §Monshi, M; §Siddiqua, Z, §Shields, J.; §Alame, K.; §Wahls, A; §Akemann, C.; §Meyer, D; §Crofts, E.J.; §Saad, F.; §El-Nachef, J.; §Antoon, M.; §Nakhle, R.; §Hijazi, N.; §Hamid, M.; §Gurdziel, K.; **McElmurry, S.P.**; Kashian, D.R.; Baker, T.R.; *Pitt, D.K. (2021) *Detection of endocrine disrupting chemicals in Danio rerio and Daphnia pulex: Step-one, behavioral screen.* Chemosphere, *271*, p.129442. DOI:10.1016/j.chemosphere.2020.129442

[47] Salim, A.; *Kilgore, P.; Mudall, G.; **McElmurry, S.P.**; Zervos, P.K.; (2020) *Trends in Legionnaires' disease-associated hospitalizations, United States, 2006—2010.* Open Forum Infectious Diseases. DOI: 10.1093/ofid/ofaa296

[46] *§O'Shay-Wallace, S.; Day, A.M.; §Islam, K.; **McElmurry, S.P.**; Seeger, M.W. (2020) *Boil Water Advisories as Risk Communication: Consistency between CDC Guidelines and Local News Media Articles.* Health Communication. DOI: 10.1080/10410236.2020.1827540

[45] *Sobeck, J.; Smith-Darden, J.; Hicks, M.; Kernsmith, P.; Kilgore, P.E.; Treemore-Spears, L.; **McElmurry, S.P.** (2020) *Stress, Coping, Resilience and Trust during the Flint Water Crisis. Behavioral Medicine.* 46(3-4) DOI: 10.1080/08964289.2020.1729085 (PMID: 32787730)

[43] *§Day, A.M.; §O'Shay-Wallace, S.; Seeger, M.W.; **McElmurry, S.P.** (2020) *Gender and Presence of Children: Examining Media Uses, Informational Needs, and Source Preferences during the Flint, Michigan Water Crisis.* Journal of International Crisis & Risk Communication Research DOI: 10.30658/jicrcr.3.2.2.

[42] *Zahran, S.; Mushinski, D.; **McElmurry, S.P.**; Keyes, C. (2020) Water Lead Exposure Risk in Flint, Michigan after Switchback in Water Source: Implications for Lead Service Line Replacement Policy. Environmental Research. 181, 108928. DOI: 10.1016/j.envres.2019.108928 (NIHMSID: 1552950; PMID: 31787215)

[41] *§Day, A.M.; §O'Shay-Wallace, S.; Seeger, M.W.; **McElmurry, S.P.** (2019) Informational Sources, Social Media Use, and Race in Flint, Michigan's Water Crisis. Communication studies. DOI: 10.1080/10510974.2019.1567566 (NIHMS ID: 1518397)

[40] Zahran, S., Iverson, T., **McElmurry, S.P.**, Weiler, S., & Levitt, R. (2019). Hidden Costs of Blight and Arson in Detroit: Evidence From a Natural Experiment in Devil's Night. Ecological Economics, 157, 266-277. DOI: 10.1016/j.ecolecon.2018.11.009

[39] Zahran, S.; **McElmurry, S.P.**; Kilgore, P.; Mushinski, D.; §Press, D.; Love, N.; Sadler, R.; *Swanson, M.S. (2018) *Assessment of the Legionnaires' Disease outbreak in Flint, Michigan.* Proceedings of the National Academy of Sciences, February 201718679. DOI: 10.1073/pnas.1718679115

[38] Byrne, B.G.; McColm, S.; **McElmurry, S.P.**; Kilgore, P.E.; Sobeck, J.; Sadler, R.; Love, N.G.; *Swanson, M.S. (2018) *Prevalence of infection-competent serogroup 6 Legionella pneumophila within premise plumbing in Southeast Michigan.* mBio. 9 (1), e00016-18. DOI:10.1128/mBio.00016-18

[37] Zahran, S.; ***McElmurry, S.P.**, Sadler, R.C. (2017) *Four Phases of the Flint Water Crisis: Evidence from Blood Lead Levels in Children.* Environmental Research. 157, 160–172. DOI: 10.1016/j.envres.2017.05.028 (NIHMSID: 880419)

[36] Zahran, S., Iverson, T., **McElmurry, S.P.**, Weiler, S. (2017) *The Effect of Leaded Aviation Gasoline on Blood Lead in Children*. Journal of the Association of Environmental and Resource Economists. 4:2, 575-610 DOI: 10.1086/691686

[35] *Masten, S.J.; Davies, S.H.; **McElmurry, S.P. (2016)** Flint Water Crisis: What happened and why? *Journal of American Water Works Association.* 108:12, 22-34. DOI: 10.5942/jawwa.2016.108.0195 (NIHMSID: 845813)

[34] §Pathirathna,P., §Siriwardhane, T., **McElmurry, S.P.**, Morgan, S.L., *Hashemi, P. (2016) *Fast voltammetry of metals at carbon-fiber microelectrodes: towards an online speciation sensor.* Analyst. 141, 6432 – 6437 DOI: 10.1039/C6AN01807F

[33] §Siriwardhane, T., †Sulkanen, A., §Pathirathna, P., §Tremonti, A., **McElmurry, S.P.**, *Hashemi, P. (2016) *Voltammetric Characterization of Cu(II) Complexation in Real Time.* Analytical Chemistry. 88 (15), 7603–7608. DOI: 10.1021/acs.analchem.6b01312

[32] Watson, S., Miller, C.J., Wilhelm, S.W., Steffen, M., Depew, D., Carmichael, W., Boyer, G.L., Murray, M., **McElmurry, S.P.**, Confesor, R., Richards, R.P., Charlton, C., Matisoff, G., Arhonditsis, G., Yerubandi, R. (2016) *Lake Erie: Sentinel of Impairment and SOS for action.* Harmful Algae. 253-219-4514. DOI: 10.1016/j.hal.2016.04.010 (PMID: 28073496)

[31] Song, L. Li, L.; Yang, S.; Lan, J.; He, H.; **McElmurry, S.P.**; Zhao, Y. *Sulfamethoxazole, Tetracycline and Oxytetracycline and Related Antibiotic Resistance Genes in a Large-scale Landfill, China.* (2016) Science of the Total Environment, *551*, 9-15. DOI:10.1016/j.scitotenv.2016.02.007

[30] Chambers, L.G.; Chin, Y.-P; Filippelli, G.M.; Gardner, C.B.; Herndon, E.M.; Long, D.T.; Lyons, W.B.; Macpherson, G.L.; **McElmurry, S.P.**; McLean, C.E.; Moore, J.; Moyer, R.P.; Nezat, C.A.; Soderberg, K.; Teutsch, N.; Widom, E. (2016) *Developing the scientific framework for urban geochemistry.* Applied Geochemistry. 67,1-20 DOI: 10.1016/j.apgeochem.2016.01.005

[29] §Faust, K.M., *Abraham, D.D., **McElmurry, S.P.** (2015) *Sustainability of Water and Wastewater Infrastructure in Shrinking Cities.* Public Works Management & Policy, 1-29. DOI: 10.1177/1087724X15606737

[28] *Harris, A., §Rogers, M.M., Miller, C.J., Wang, C., **McElmurry, S.P.** (2015) *Residential emissions reductions through variable timing of electricity consumption* Applied Energy. 158, 484-489 DOI:10.1016/j.apenergy.2015.08.042

[27] Caruso, J.A., Zhang, K., Schroeck, N.J., **McElmurry, S.P.** (2015) *Petroleum Coke in the Urban Environment: A Review of Potential Health Effects.* International Journal of Environmental Research and Public Health. 12, 6218-6231; DOI:10.3390/ijerph120606218

[26] §Zein, M., ***McElmurry, S.P.**, Kashian, D., Savolainen, P.T., Pitts, D. (2015) *Toxic effects of combined stressors on Daphnia pulex: Interactions between diazinon, 4-nonylphenol, and wastewater.* Environmental Toxicology and Chemistry. 34(5), 1145-1153. DOI: 10.1002/etc.2908

[25] *Wang, C., Miller, C.J., Nehrir, M.H., Sheppard, J.W., **McElmurry, S.P.** (2015) *A Load Profile Management Integrated Power Dispatch Using a Newton-Like Particle Swarm Optimization Method.* Water and Energy of Sustainable Computing. 8, 8-17. DOI: 10.1016/j.suscom.2014.10.001

[24] §Alighalehbabakhani, F, §Abkenar, S.M.S., Jin, S.X., *Miller, C.J., Fracasso, P.T., **McElmurry, S.P.** (2015) *Comparative evaluation of three distinct energy optimization tools applied to real water network (Monroe).* Sustainable Computing: Informatics and Systems. 8, 29-35. DOI:10.1016/j.suscom.2014.11.001

[23] §*Abkenar, S.M.S., §Stanely, S.D., Chase, D.V., Miller, C.J., **McElmurry, S.P.** (2015) *Evaluation of genetic algorithms using discrete and continuous methods for pump optimization of water distribution systems.* Sustainable Computing: Informatics and Systems. 8, 18-23. DOI: 10.1016/j.suscom.2014.09.003

[22] §Rogers, M.M., §Xu, G., *Miller, C.J., **McElmurry, S.P.**, Shi, W., §Wang, Y, Miller, S.S., Wang, C., §Xu, CZ. (2015) *HERO: A Smart-Phone Application for Location Based Emissions Estimates.* Sustainable Computing: Informatics and Systems. 8, 3-7. DOI: 10.1016/j.suscom.2014.09.001

For complete list go to: https://scholar.google.com/citations?user=vtHjmu8AAAAJ&hl=en

OTHER ACADEMIC OUTPUT AND UNIVERSITY SERVICE (select, last 5 years)

- Love, N.G.; Jackson, R.; McElmurry, S.P. (2019) Water stays in the pipes longer in shrinking cities – a challenge for public health. The Conversation. 24 May 2019. https://theconversation.com/water-stays-in-the-pipes-longer-in-shrinking-cities-a-challenge-for-public-health-116119
- Love, N.G., Gebrie, G.S., Adejumo, H.A., McElmurry, S.P. (2019) Drinking Water Infrastructure in Shrinking and Expanding Cities: The Impact on Water Quality and Public Health. In G. Magil and J. Benedict (Eds) Cascading Challenges in the Global Water Crisis. Chapter Three (p. 23-39), Cambridge Scholars Publishing, ISBN: 978-1-5275-2447-7
- Zarb, A.R, McElmurry, S.P., Moldenhauer, J.A. (2017) *Technical to Teachable: The Flint Water Crisis and the Design of Instructions for Assembling Water Sampling Kits.* In *Design, User Experience, and Usability: Theory, Methodology, and Management*, Springer.

- Zahran, S., Laidlaw, M.A.S., McElmurry, S.P., Filippeli, G.M., Taylor, M. (2015) Linking Source and Effect: Re-suspended Soil Lead, Air Lead, and Children's Blood Lead Levels in Detroit, Michigan. In A. Hassan (Ed) *Everyday Environmental Toxins: Children's Exposure Risks* (p. 163-181). Apple Academic Press: Waretown, NJ, ISBN: 978-1-77188-101-2
- US EPA Workshop titled Michigan Water, Public Health and Healthcare Coordination Workshop, 9/16/2019, Wayne State University, Detroit, MI (Organizer and presenter)
- US EPA Webinar titled A Critical Connection: The Water and Healthcare/Public Health Sectors Webinar - Healthcare/Public Health Sector Focus, 9/26/2019 (Presenter)
- US EPA Webinar titled A Critical Connection: The Water and Healthcare/Public Health Sectors Webinar - Water Sector Focus, 9/19/2019 (Presenter)

TEACHING AND ADVISING

Undergraduate Courses

CE4210 – Introduction to Environmental Engineering (2014, 2015)
CE4140 – Environmental Engineering Design (2017, 2018, 2019, 2020)
CE5220 – Environmental Chemistry (2014, 2016)
CE5230 – Water Supply and Wastewater Engineering (2017, 2019, 2021)
CE5995 – Special Topics: Advanced Drinking Water Treatment (2016, 2019)

Graduate Courses

CE 6150 – Hydrologic Analysis and Design (2015, 2018, 2020)
PSC/CE6910 – Waste Pharmaceuticals: Environmental Impact and Management (2015)
CE7260 – Surface Water Quality Modeling (2015)
CE7580 – Environmental Remediation (2016)
CE7995 – Special Topics: Advanced Drinking Water Treatment (2016, 2019)

Committee Chair of 4 Ph.D. and 4 M.S. Thesis Students

Committee Member of 15 Ph.D. and 4 M.S. Thesis Students

OTHER SERVICE

Committee Assignments

- Michigan State University Department of Civil and Environmental Engineering Professional Advisory Board (2016-current)
- Graduate Program Officer, Department Civil & Environmental Engineering (2014-2016, 2020- current)
- College of Engineering P&T Committee (2016-2019)
- Wayne State University Water Safety Committee (2018-current)
- Technical Advisory Committee, Flint, MI (2015-current)
- *Great Lakes Science Advisory Board's Taking Action on Lake Erie (TAcLE) work group (2012-2013). Work resulted in the following report:*

  Lake Erie Ecosystem Priority | Scientific Findings and Policy: Recommendations to Reduce Nutrient Loadings and Harmful Algal Bloom, Draft Summary Report, August 2013. International Joint Commission. Available at: http://www.ijc.org/files/tinymce/uploaded/Draft%20LEEP-Aug29Final.pdf

Public Presentations as an Expert in Discipline

- *Featured in "Flint's Deadly Water" produced by FRONTLINE, SEASON 2019: EPISODE 16; premiered September 10, 2019 on PBS. Available at https://www.pbs.org/wgbh/frontline/film/flints-deadly-water.*
- *67TH DISTRICT COURT FOR THE COUNTY OF GENESEE. THE PEOPLE OF THE STATE OF MICHIGAN v. NICHOLAS LYON (Nov. 15, Dec. 1, 2017)*
- *67TH DISTRICT COURT FOR THE COUNTY OF GENESEE. THE PEOPLE OF THE STATE OF MICHIGAN v. EDEN WELLS (Dec. 11, 12, 2017)*
- *Featured technical expert on Secrets of the Earth: Mother Nature Reclaims Buildings, a TV show that premiered on the Weather Channel on October 27, 2014*
- *WJBK-TV Health Works, My Fox Detroit. Interviewed regarding Pb research (~133,000 viewers), Aired June 14, 2013 http://www.myfoxdetroit.com/video?autoStart=true&topVideoCatNo=default&clipId=8991514*
- *WDET-Radio Interview discussing resuspension of Pb, Aired March 19, 2013*

Proposal Review Panels

- National Institute of Environmental Health Sciences – Special Emphasis Panel
- National Institute of Environmental Health Sciences – Research to Action: Assessing and Addressing Community Exposures to Environmental Contaminants
- National Institute of Health - Social Sciences and Population Studies Study Section

- National Science Foundation - Civil, Mechanical and Manufacturing Innovation
- National Science Foundation – Chemical, Bioengineering, Environmental, and Transport Systems
- National Science Foundation - Geography and Spatial Sciences

Editorial Board Memberships

- *Toxics* (ISSN 2305-63040; Impact Factor = 3.271)

Reviewer

- *Applied Geochemistry*
- *Aquatic Geochemistry*
- *Chemosphere*
- *Desalination Water Treatment*
- *Elementa: Science of the Anthropocene*
- *Environmental Geochemistry & Health*
- *Environmental Research*
- *Environmental Science & Technology*
- *Environmental Science & Technology Letters*
- *Environmental Science: Processes & Impacts*
- *Environmental Science: Water Research & Technology*
- *Geohealth*
- *International Journal of Distributed Sensor Networks*
- *Journal of Environmental Engineering*
- *Journal of Environmental Pollution*
- *Journal of Exposure Science and Environmental Epidemiology*
- *Journal of Health and Place*
- *Landscape Architecture*
- *Photogrammetric Engineering and Remote Sensing*
- *Proceedings of the National Academy of Sciences*
- *Science of the Total Environment*
- *Sustainable Chemistry*
- *Toxics*
- *Water Science and Technology: Water Supply*

RESOLUTION NO.: 210230

PRESENTED: MAY 19 2021

ADOPTED: _____

RESOLUTION FOR THE APPOINTMENT OF BENJAMIN PAULI TO THE WATER SYSTEM ADVISORY COUNCIL

BY THE MAYOR:

WHEREAS, pursuant to the State of Michigan's administrative rules section 325.10410(7), water supplies serving a population of 50,000 or more, and consecutive systems serving a population of 50,000 or more, shall create a water system advisory council;

WHEREAS, the council shall consist of at least five members, appointed by the community supply;

WHEREAS, the purpose of this council is to improve transparency in the City of Flint community by developing materials and advising the water system on public awareness and education efforts.

WHEREAS, to be eligible for appointment to the council, an individual shall have a demonstrated interest in or knowledge about lead in drinking water and its effects;

WHEREAS, the council will develop plans for continuing public awareness about lead in drinking water, even when the action level is not exceeded,; review public awareness campaign materials provided by the statewide drinking water advisory council to ensure the needs and interest of the community, considering the economic and cultural diversity of its residents, are addressed; advise and consult with the water supply on the development of appropriate plans for remediation and public education to be implemented if a lead action level is exceeded; advise and consult with the water supply on efforts to replace private lead service lines at locations where the owner declined service line replacement; assist in promoting transparency of all data and documents related to lead in drinking water within the water supply service area

WHEREAS, Mayor Neeley desires to appoint Benjamin Pauli to the Water System Advisory Council (See Attached Resume).

NOW THEREFORE BE IT RESOLVED, that Mayor Neeley hereby appoints Benjamin Pauli, address 1213 Beard Street, Flint, MI 48503 to serve on the Water System Advisory Council.

APPROVED AS TO FORM:

Angela Wheeler (May 13, 2021 13:08 EDT)

Angela Wheeler, City Attorney

FOR THE CITY OF FLINT:

Sheldon A. Neeley, Mayor

APPROVED BY CITY COUNCIL:

Kate Fields, City Council President

CITY OF FLINT

RESOLUTION STAFF REVIEW FORM

TODAY'S DATE: *05/13/2021*

BID/PROPOSAL#

AGENDA ITEM TITLE: RESOLUTION APPOINT MEMBERS TO THE WATER SYSTEM ADVISORY COUNCIL

PREPARED BY: Lottie Ferguson, Chief Resilience Officer
(Please type name and Department)

VENDOR NAME: N/A

BACKGROUND/SUMMARY OF PROPOSED ACTION:

In July 2018, the State of Michigan's Department of Environment, Great Lakes and Energy (EGLE) established the Lead and Copper Rule (LCR) under the Michigan Safe Water Drinking Act 399.
The purpose of the LCR is to minimize lead and copper in drinking water and indicates that a Water System Advisory Council (WSAC) is to be established on behalf of cities with 50,000 or more people served by its municipal water system. The WSAC is responsible for assisting with public awareness to create transparency and consumer confidence through statewide efforts of public education and action steps to ensure water quality through: water sampling, water treatment and lead service line replacement. A Council shall consist of a least five members appointed by the community supply. To be eligible for appointment to Council, an individual must have a demonstrated interest in or knowledge about lead in drinking water and its effects. At least one member must be a local resident who does not formally represent the interest of any incorporated organization.
In June 2019, the City of Flint began to establish a board for the WSAC by sending letters of interest to various community partners and members. The process of establishing the board did not see completion and was then put on hold due to a change in City administration. The open public meeting was also delayed due to the COVID-19 pandemic.

In February 2021, the Office of Public Health (OPH) sent notices of participation to public health community partners and community members and requested resumes of those individuals in order to submit an approval to Flint City Council to officially establish the Water System Advisory Council. The WSAC will be hosted by the City's OPH, who will organize and oversee the annual meeting, according to the Open Meetings Act 267. This annual meeting will inform and include the public on the City's lead and copper status, progress and next steps.

The names of the individuals who are Mayoral appointed to the Water System Advisory Council are: Dr. Lawrence Reynolds, Shawn P. McElmurry, PhD, and Benjamin Pauli, PhD, Environmental The designated Appointees have either lived or worked within the Flint community during the Flint Water

CITY OF FLINT

Crisis and have expressed interest and knowledge concerning lead in drinking water. Appointees resumes are attached.

It is the desire of the City to submit the approval of appointing members to complete the Water System Advisory Council, to Flint City Council. If approved, the City of Flint will, be in compliance with the Lead and Copper Rule required by the State of Michigan; create transparency with Flint residents; avoid any monetary penalties associated with the non-compliance of establishing the Water System Advisory Council.

FINANCIAL IMPLICATIONS: There is no budget required to establish or sustain the Water System Advisory Council.

BUDGETED EXPENDITURE? YES ☐ NO X☐ IF NO, PLEASE EXPLAIN:

Dept.	Name of Account	Account Number	Grant Code	Amount
Public Health	Water System Advisory Council	N/A	N/A	$0
		FY20/21 GRAND TOTAL		**$0**

PRE-ENCUMBERED? YES ☐ NO ☐ REQUISITION NO:

ACCOUNTING APPROVAL: _____ **Date:** _____

WILL YOUR DEPARTMENT NEED A CONTRACT? YES ☐ NO x ☐
(If yes, please indicate how many years for the contract) YEARS

WHEN APPLICABLE, IF MORE THAN ONE (1) YEAR, PLEASE ESTIMATE TOTAL AMOUNT FOR EACH BUDGET YEAR: (*This will depend on the term of the bid proposal)*

CITY OF FLINT

BUDGET YEAR 1 $0

BUDGET YEAR 2 $0

BUDGET YEAR 3 $0

OTHER IMPLICATIONS (*i.e., collective bargaining*):

STAFF RECOMMENDATION: *(PLEASE SELECT):* X☐ **APPROVED** ☐ **NOT APPROVED**

DEPARTMENT HEAD SIGNATURE: Lottie Ferguson, Chief Resilience Officer
(PLEASE TYPE NAME, TITLE)

BENJAMIN J. PAULI
Kettering University
Department of Liberal Studies
1700 University Ave., Flint, MI 48504
E-mail: bpauli@kettering.edu
Phone: 253-219-4514

EDUCATION

Ph.D. in Political Science — Rutgers University, 2014

Major field: Political Theory

Minor fields: American Politics, Religion and Politics

M.A. in Political Science — Rutgers University, 2009

B.A. in Politics and Values — University of Washington, Tacoma, 2005

PROFESSIONAL EMPLOYMENT

Assistant Professor of Social Science, Department of Liberal Studies, Kettering University (2015-)

Adjunct Lecturer, Department for Environment and Sustainability, University of Michigan-Ann Arbor (2020)

Adjunct Lecturer, Department of Political Science, Rutgers University (2010-2012, 2014-2015)

Instructor, Writing Program, Department of English, Rutgers University (2012-2013)

Adjunct Lecturer, Department of Women's and Gender Studies, Rutgers University (2011)

PUBLICATIONS

Book

2019 *Flint Fights Back: Environmental Justice and Democracy in the Flint Water Crisis*. The MIT Press.

Edited volume

2010 *Radical Religion: Contemporary Perspectives on Religion and the Left*, Lanham, MD: Lexington Books.

Refereed journal articles

2020 Meehan, Katie, Wendy Jepson, and Leila M. Harris, et al. "Exposing the Myths of Household Water Insecurity in the Global North: A Critical Review." Wiley Interdisciplinary Reviews Water. (Writing-review and editing)

2020 "The Flint Water Crisis." Wiley Interdisciplinary Reviews Water.

2015 "Pacifism, Nonviolence, and the Reinvention of Anarchist Tactics in the Twentieth Century." *Journal for the Study of Radicalism* 9.1.

2015 "The New Anarchism in Britain and the United States: Toward a Richer Understanding of Postwar Anarchist Thought." *Journal of Political Ideologies* 20.2.

Refereed book chapters

2020 "Lead Does (Not) Discriminate: Environmental Racism in Expert and Popular Discourse," in *Geographies of Indifference: At the Intersections of Environmental Racism and Neoliberal Austerity Governance*, eds. Terressa Benz and Graham Cassano, Brill (forthcoming).

2017 "The Catholic Worker, Dorothy Day, and Exemplary Anarchism," in *Essays in Anarchism and Religion*, eds. Alexandre Christoyannopoulos and Matthew Adams, Stockholm University Press.

Other book chapters

2020 "The Long Road Out of Crisis: (Re)building Trust in Flint's Water from Poisoning to Pandemic," in *Public Water and Covid-19: Dark Clouds and Silver Linings*, eds. David A. McDonald, Susan Spronk, and Daviel Chavez, Municipal Services Project (Kingston) and Transnational Institute (Amsterdam) (forthcoming).

2015 "The Citizen and the Nomad: Bookchin and Bey on Space and Temporality," in *Transgressing Frontiers: Anarchism, Geography, and the Spirit of Revolt*, eds. Simon Springer, Richard J. White, and Marcelo Lopes de Souza, Rowman and Littlefield.

2015 "Noam Chomsky and the Anarchist Tradition," in *Noam Chomsky (Critical Explorations in Contemporary Political Thought)*, ed. Alison Edgley, Palgrave Macmillan.

Encyclopedia entries

2017 "Social Movements (Theory of)," "Anarchism," and "Syndicalism" in *The Wiley Blackwell Encyclopedia of Social Theory*, Wiley-Blackwell.

2010 "Student Politics," "Commune," and "Clericalism" in *The Encyclopedia of Political Science*, CQ Press.

2009 "Dorothy Day," "The Catholic Worker," "Saul Alinsky," "Counter-recruitment," "Peter Kropotkin," and "Elisee Reclus" in *The International Encyclopedia of Revolution and Protest*, Wiley-Blackwell.

Other publications

2020 "A Long Way from Justice: Reflections from Flint on the $600 Million Settlement Proposal." *Environmental Justice*. With Bob Brown, Leon El-Alamin, Latisha Jones, Claire McClinton, Mona Munroe-Younis, Juani Olivares, Dan Scheid, Nayyirah Shariff, Laura Sullivan, and Monica M. Villarreal.

Book reviews

2020 "A conversation between the authors of *The poisoned city – Flint's water and the America urban tragedy* and *Flint fights back: Environmental justice and democracy in the Flint water crisis*." *Water Alternatives*. With Anna Clark.

2016 "Andrew Highsmith, *Demolition Means Progress: Flint, Michigan, and the Fate of the American Metropolis*," *City* 20.3.

2016 "Matthew S. Adams, *Kropotkin, Read, and the Intellectual History of British Anarchism: Between Reason and Romanticism*," *New Political Science* 38.2.

2016 "Janet Biehl, *Ecology or Catastrophe: The Life of Murray Bookchin*," *Environmental Politics* 25.3.

2015 "Murray Bookchin, *The Next Revolution: Popular Assemblies and the Promise of Direct Democracy*," *Logos: A Journal of Modern Society and Culture* 14.2-3.

2015 "Justin Wadland, *Trying Home: The Rise and Fall of an Anarchist Utopia on Puget Sound*," *Anarchist Studies* 23.1.

2014 "Davina Cooper, *Everyday Utopias: The Conceptual Life of Promising Spaces*," *New Political Science* 36.3.

2012 "Carissa Honeywell, *A British Anarchist Tradition: Herbert Read, Alex Comfort and Colin Ward*," *New Political Science* 34.2.

2009 "Chris Spannos, ed., *Real Utopia: Participatory Society for the 21st Century*," *New Political Science* 31.1.

2008 "Guido Giacomo Preparata, *The Ideology of Tyranny: Bataille, Foucault, and the Postmodern Corruption of Political Dissent*," *New Political Science* 30.2.

GRANTS

2016-17 Co-PI. Enhanced Disease Surveillance and Environmental Monitoring, Phase II, Michigan Department of Health and Human Services, $3.35 million. Flint Area Community Health and Environmental Partnership study led by Shawn McElmurry, Wayne State University.

2020 Co-PI. Partnerships that Support Confident Use and Management of Point-of-Use Drinking Water Units in Flint, Poverty Solutions, University of Michigan, $24,587. Led by Nancy Love, University of Michigan-Ann Arbor.

HONORS

2018- Honorary member of the Robot Honor Society, Kettering University.

INVITED TALKS

2021 "Environmental Racism in Michigan and Beyond," Michigan United People's Summit.

2021 Guest Lecture, "Writing for Change: Community Engagement, Activism, and Social Justice" course, Professor Yanna Lambrinidou, Smith College.

2021 Guest Lecture, "The Political Economy of Water" course, Professor Nicole Fabricant, Towson University.

2021 "Emergency Management, Environmental Racism, and the Flint Water Crisis," Flint Justice Partnership Speaker Series, University of Michigan-Ann Arbor.

2021 Guest Lecture, "Flint Water Crisis" course, Professor Louise Seamster, University of Iowa.

2021 Panelist, "The Flint Water Crisis: An Uncertain Aftermath and Future," ProPublica.

2021 Guest Lecture, "Community Social Work Theory and Practice" course, Professors Pat Clifford and Susan Blasko, Case Western Reserve University.

2021 Panelist, "Flint Water Crisis Settlement and Racism," The Tendaji Talks 2021, Neighborhoods without Borders, Flint, MI.

2021 "The Persistence of Our Water Pasts: The Flint Water Crisis and the Undone Work of Justice," Future Waters group, University of British Columbia.

2020 Guest Lecture, "Art and Environmental Justice" course, Professor Alan Braddock, William and Mary University.

2020 Speaker, Booked for Lunch, Flint Public Library.

2020 Guest Lecture, "Strategic Power Building With Communities" course, Professors Pat Clifford and Mark Chupp, Case Western Reserve University.

2020 Panelist, "Community Perspectives," Public Engagement with Science: Defining and Measuring Success, Michigan State University.

2020 Panelist, "A Discussion about Race and Reconciliation," Communities First, Inc.

2020 Guest Lecture, Moral Courage Project, University of Dayton.

2020 Guest Lecture, "Addressing Critical Global Issues" course, Professor Benjamin Peters, University of Michigan-Ann Arbor.

2020 Guest Lecture, Linden High School, Linden, MI.

2020 Guest Lecture, MIT Department of Urban Studies and Planning.

2020 Guest Lecture, Mott Middle College, Flint, MI.

2020 Panelist, Community-Engaged Learning, Firestone Center, Flint, MI.

2019 Guest Lecture, "Environmental Justice" course, Professor Diane Sicotte, Drexel University.

2019 "Flint Fights Back: Environmental Justice and Democracy in the Flint Water Crisis," University of Michigan-Flint.

2019 Panelist, "What I Wish I Knew: Four Writers Share Their Experiences Writing and Publishing," Flint Festival of Writers.

2019 Panelist, "Water Politics," Annual Meeting of the Michigan Sociological Association.

2019 Panelist, Screening of *What Lies Upstream*, Ann Arbor Downton District Library, Ann Arbor, MI.

2019 Panelist, Opening reception for *Flint Is Family* exhibit, Newcomb Art Museum of Tulane University.

2019 Panelist, "Reimagining University-Community Partnerships with Flint," Rackham Institute for Social Change, University of Michigan-Ann Arbor.

2019 "Still Fighting: The Flint Water Crisis at Five," Department of Community Sustainability, Michigan State University.

2019 Guest Lecture, "Flint's Water and the 'Urban Crisis'," "Urban Studies in Practice" course, Professor Anaid Yerena, University of Washington-Tacoma.

2019 Guest Lecture, "Environmental Justice" course, Professor Paul Mohai, University of Michigan-Ann Arbor.

2018 "Water and Global Citizenship," Global Scholars Program Annual Conference, University of Michigan-Ann Arbor.

2018 "The Flint Water Crisis and the Ongoing Struggle for Justice in Flint," Salem-South Lyon District Library, South Lyon, MI.

2018 Panelist, "Nor Any Drop to Drink" screening, Michigan Theater, Ann Arbor, MI.

2018 Guest Lecture, "Addressing Critical Global Issues" course, Professor Benjamin Peters, University of Michigan-Ann Arbor.

2017 "How Did It Happen?: Contesting the Narrative of the Flint Water Crisis," Lawrence Technological University.

2017 Guest Lecture, "Flint Water Crisis" course, Professor Jacob Lederman, University of Michigan-Flint.

2017 Guest Lecture, "Activism and the Academy" course, Professors Estrella Torrez and Kyle White, Michigan State University.

2017 Panelist, Flint Water Crisis Symposium following *Urinetown* performance, Wharton Center, Michigan State University.

2017 Panelist, "10 Ways to Beat the Lead Crisis," Flint Public Affairs Forum.

2015 Panelist, "Shining a Light on Money in Politics," with Congressman Frank Pallone, Mayor Gayle Brill Mittler, and NJPIRG, Rutgers University.

MEDIA APPEARANCES

2021 Guest, *Tainted Tap* podcast.

2021 Guest, *Radio Free Flint*.

2021 Guest, *The Water Loop* podcast.

2020 Guest, BBC Radio 4, *Thinking Allowed*.

2019 Guest, *The Received Wisdom* podcast.

2019 Guest, 101.9 WDET, Detroit Today with Stephen Henderson.

2019 Guest, 1470 WFNT, The Dan Foley Show.

2019 Guest, 92.1 WFOV, The Tom Sumner Show.

CONFERENCE PRESENTATIONS

2021 "Flint's Buick City between Hope and Despair: Urban Environmental Crisis and Shifting Meanings of Place." Annual meeting of the Urban History Association. (Paper abstract accepted but conference canceled due to COVID-19 pandemic.)

2020 "Paper, Pipes, and People: Using Data to Advance Community Self-Agency in Flint Water Crisis Rapid Response Campaign." With Carma Lewis, Mona Munroe-Younis, and Jared Webb. Michigan Environmental Justice Coalition summit.

2020 "Long Live the Emergency Manager: Democratic Reform after the Flint Water Crisis." Annual meeting of the American Political Science Association.

2019 "But Is It 'Safe?': Water Quality Regulations, Citizen Science, and Power in the Flint Water Crisis." With Michael Mascarenhas. Annual meeting of the Society for the Social Studies of Science.

2019 "'Flint Lives Matter!': Populist Frames and Environmental Racism." Annual meeting of the American Political Science Association.

2019 "Caught in the Storm: Militant Ethnography and Sites of Tension within Flint's Water Movement." Annual Meeting of the Society for the Study of Social Problems.

2019 "The Urban Crisis and the Politics of Flint's Water in the 2016 Election." The Return of the Rust Belt and the Populist Moment Conference.

2019 "Science in Times of Crisis: Precaution and Politics in Flint." Values in Medicine, Science, and Technology Conference.

2019 "Democracy on Tap? On the Techno-Politics of Point-of-Use Filters." Biannual meeting of the Society for the Philosophy of Technology.

2019 "The Flint Water Crisis and the Multiple Dimensions of Water Insecurity." Annual Meeting of the American Association of Geographers.

2019 "Building Collaboration and Ensuring Justice in Community-Based Participatory Research: Lessons Learned from California, South Carolina, and Michigan." With Lawrence Reynolds, Nayyirah Shariff, and Laura Sullivan. Annual Meeting of the Citizen Science Association.

2019 "Engineering, Science, and Technology Ethics in Community-Engaged Research." With Wenda Bauchspies, Elliot Douglas, J. Britt Holbrook, Yanna Lambrinidou, and Yvonne Lewis. Annual Meeting of the Association for Practical and Professional Ethics.

2018 "Research Justice and Community Empowerment." With Stephen Gasteyer, Michael Mascarenhas, Claire McClinton, and Monica Lewis Patrick. Michigan Environmental Justice Coalition summit.

2018 "Core Values for Community-engaged STEM Research." With Yanna Lambrinidou, Antonio Reyes Lopez, and Donna Riley. Annual Meeting of the Association for Practical and Professional Ethics.

2017 "The Pro-Democracy Struggle in Michigan and the Prehistory of the Water Movement in Flint." Annual Meeting of the Midwest Political Science Association.

2016 "'Stop Poisoning Our Children!': Motherhood and Political Agency in the Flint Water Crisis." Annual Meeting of the Association for Political Theory.

2015 "Keeping Utopia Alive: Spontaneity and Planning in Postwar Anarchist Thought." Annual Meeting of the Northeastern Political Science Association.

2015 "Toward an Anarchist Theory of Democracy." Annual Meeting of the Association for Political Theory.

2015 "Mill and Mormonism." Annual Meeting of the Southern Political Science Association.

2014 "Things as They Aren't: Godwin's Critique of Rousseau." Annual Meeting of the Association for Political Theory.

2013 "The Depth of Domination: Murray Bookchin's Social Ecology and the New Horizons of Modern Anarchism." Annual Meeting of the Midwest Political Science Association.

2011 "The Spectre of Racism in *Laissez-Faire* Ideology." Annual Meeting of the Social Science History Association.

2011 "Paul Goodman's Anarchist *Paideia*: Educating for Community." Annual Meeting of the New England Political Science Association.

2011 "Making Waves: Towards a Map of Modern Anarchism." Eagleton Institute of Politics at Rutgers University.

2010 "The Kingdom of God: Family, Nation and Faith in Tolstoy's *Hadji Murad*." With Vivian Kao. Political Communities, Eagleton Institute of Politics at Rutgers University.

2009 "Utopia from Below: Conceptions of the Ideal Society in Anti-Statist Political Philosophy." Annual Meeting of the Northeast Political Science Association.

2009 "Tradition and the Continuity of Ideals in Left- and Right-Libertarianism." Annual Meeting of the New England Political Science Association.

2009 "In the Court of the God-Like Prince: Presidential Prerogative and the Military Tribunals of the War on Terror." With Timothy Knievel. Annual Meeting of the New York Political Science Association.

2009 "Faith, Authority, and Anarchism: Dorothy Day as Leader and Believer." Annual Meeting of the Southern Political Science Association.

2008 "The Question of Agency in Robert Nozick and Robert Paul Wolff." Annual Meeting of the Northeast Political Science Association.

2008 "The Ghostbuster: Picking Up the Pieces of Max Stirner's Holy Crusade." Annual Meeting of the New England Political Science Association.

2007 "A Measured 'Decision': Tracing the Development of Paul Tillich's Religious Socialism." Annual Meeting of the Northeast Political Science Association.

TEACHING EXPERIENCE

Courses Taught at Kettering University

Introduction to the Social Sciences (2015-2016)
The Flint Water Crisis (2016-)
Sophomore Seminar: The Human Condition (2017-)

Courses Taught at University of Michigan-Ann Arbor

Environmental Justice and the Flint Water Crisis (Fall 2020)

Courses Taught at Rutgers University

Religion and Politics (Spring 2010, Spring 2011)
Nature of Politics (Summer 2010, Spring 2014, Fall 2014, Spring 2015)
- online version (Fall 2014, Spring 2015)

American Political Thought (Fall 2010)
Introduction to Social Justice (Spring 2011)
Marx and Marxist Theory (Spring 2012)
Expository Writing (Fall 2012, Fall 2013)
Gender and Political Theory (Fall 2014)
Democratic Political Philosophy (Spring 2015)

Courses Taught as Teaching Assistant at Rutgers University

Nature of Politics (Fall 2008 – Spring 2011)
Critics of Modernity (Spring 2010)
Introduction to Cultural Anthropology (Fall 2011)

PROFESSIONAL MEMBERSHIPS

Household Water Insecurity Experiences Research Coordination Network

PROFESSIONAL DEVELOPMENT

2018 "Teaching Poverty 101" workshop, Institute for Research on Poverty, University of Wisconsin-Madison.

PROFESSIONAL SERVICE

Reviewer, *Social Epistemology*.

Reviewer, *Social Science and Medicine*.

Reviewer, *Environmental Politics*.

Reviewer, *Health and Human Rights Journal*.

Reviewer, *Journal of Political Ideologies*.

Reviewer, *Sociological Inquiry*.

Reviewer, Brill Publishers.

Reviewer, *Journal of Human Rights and the Environment.*

Reviewer, *Environmental Justice.*

Reviewer, *Water Alternatives.*

Reviewer, WIRES Water.

Reviewer, *Anarchist Studies.*

DEPARTMENTAL/UNIVERSITY SERVICE

2019- Member, Flint Area Public Affairs Forum Committee.

2019- Member, Senate Assessment Committee.

2016-19 Member, Liberal Studies Curriculum Committee.

2014 Event Organizer, "Anarchism and Education in New Jersey: The Legacy of the Modern School of Stelton," Rutgers University.

2013 Reader, "Demanding Liberty: Visions of an Anarchist Future." Senior Thesis by Michael Perino, Rutgers University.

COMMUNITY SERVICE

2020- Member, Sylvester Broome Empowerment Village Sportsplex Advisory Committee.

2018- President, Board of Directors, Environmental Transformation Movement of Flint.

2018 Moderator, "Resiliency and Recovery through Smart Growth Strategies, Equitable Planning, and Just Development," Through Surviving and Into Thriving: Resiliency + Environmental Justice Summit, Flint, Michigan.

2015- Member, Montessori Elementary for Flint.

2015-17 Member, Flint Charter Review Advisory Committee.

OTHER SERVICE

2019- Member, Environmental Protection Agency National Environmental Justice Advisory Council.

LANGUAGES

Moderate speaking and reading knowledge of Spanish.

REFERENCES

Karen Wilkinson
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