

MPS Division of Chemistry

Briefing for MPS Advisory Committee

Carol A. Bessel, Acting Division Director

November 16, 2018



Report of the 2016
Committee of Visitors
Division of Chemistry
National Science
Foundation

May 11-12, 2016

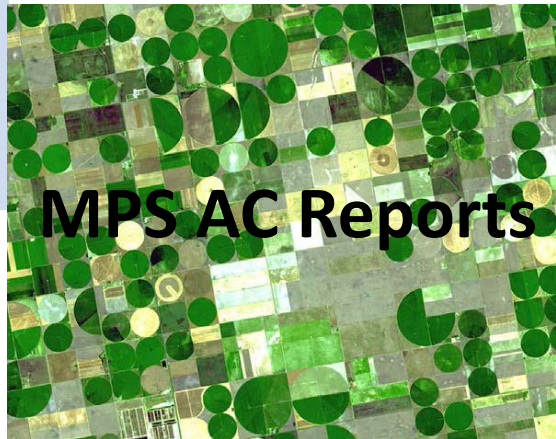
Community Inputs in Chemistry



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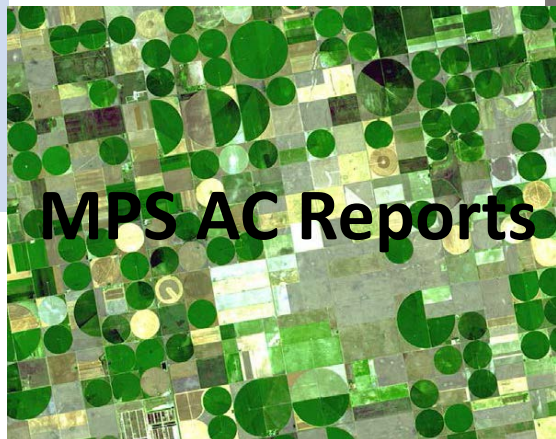
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ACS
Chemistry for Life®

NBCChESM
National Organization for the Professional Advancement
of Black Chemists and Chemical Engineers



*Advancing Chicanos/Hispanics
& Native Americans in Science*

IUPAC

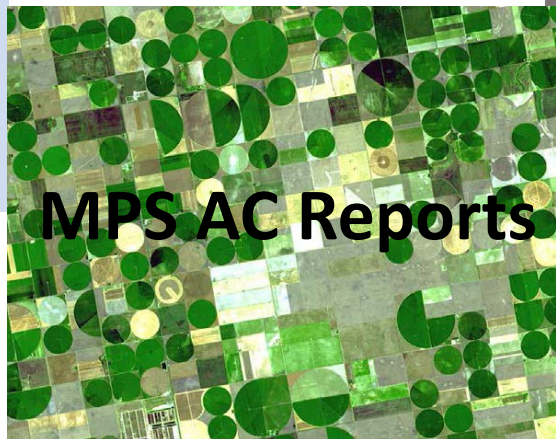
INTERNATIONAL UNION OF
PURE AND APPLIED CHEMISTRY



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INTERNATIONAL UNION OF
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SCIENCES
ENGINEERING
MEDICINE



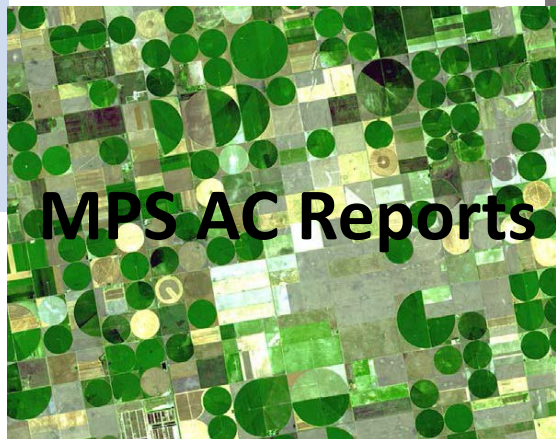
CHEMICAL SCIENCES ROUNDTABLE



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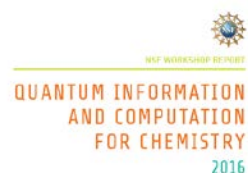
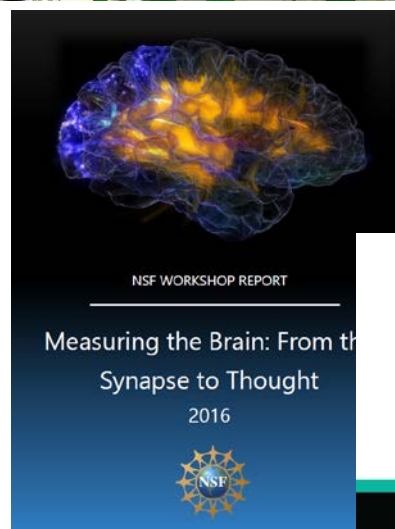
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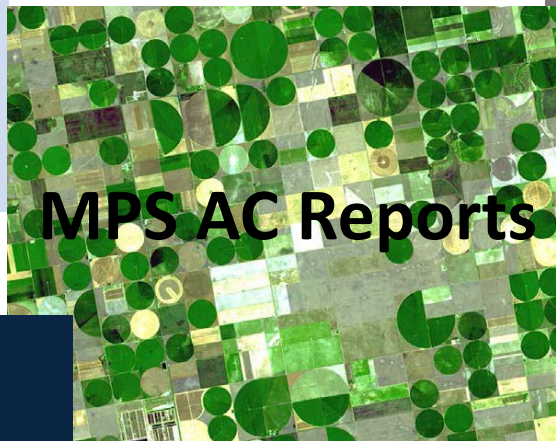
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PLAN FOR ADDRESSING
CRITICAL RESEARCH GAPS
RELATED TO EMERGING
CONTAMINANTS IN DRINKING
WATER

A Report by the
TASK FORCE ON EMERGING CONTAMINANTS
of the
NATIONAL SCIENCE & TECHNOLOGY COUNCIL

OCTOBER 2018



NSF WORKSHOP REPORT

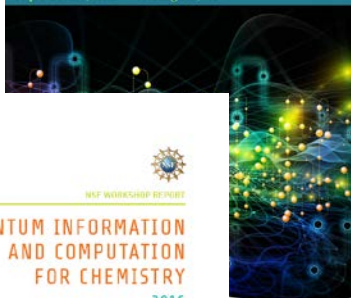
Measuring the Brain: From the
Synapse to Thought
2016



CHE WORKSHOP:

Framing the Role of Big Data and
Modern Data Science in Chemistry

April 18-19, 2017 Arlington, VA



Final Report

NSF WORKSHOP REPORT
QUANTUM INFORMATION
AND COMPUTATION
FOR CHEMISTRY
2016

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MEDICINE



CHEMICAL SCIENCES ROUNDTABLE



Sustainability

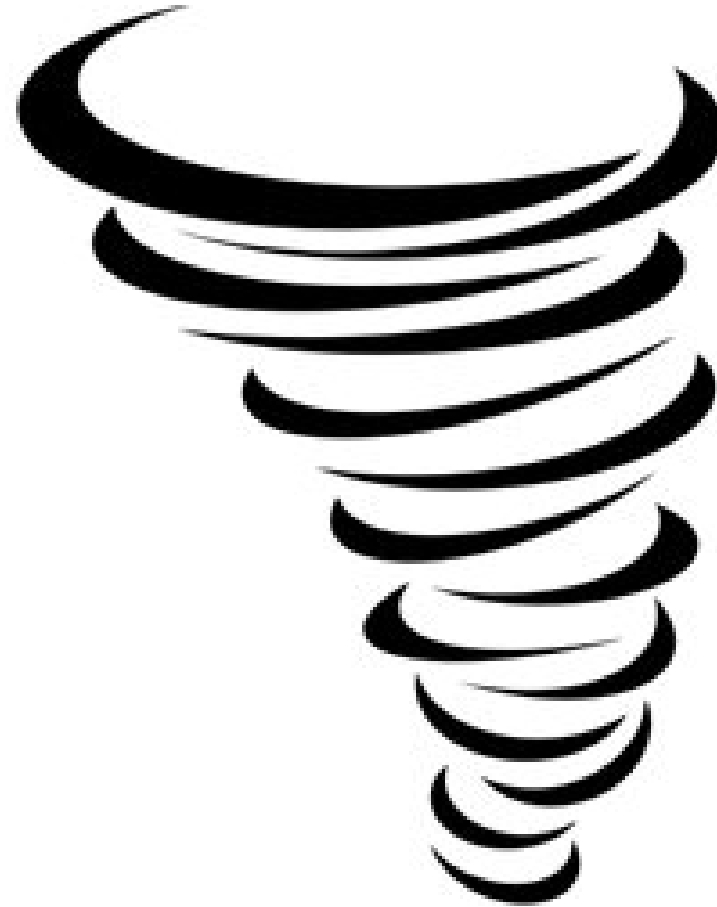
**629 Awards in MPS/CHE, DMR, DMS; ENG/CBET, CMMI; GEO/EAR
\$349,347,002 from FY 2014 - FY 2018**

Dear Colleague Letter: **FY 2014 Sustainable
Chemistry, Engineering, and Materials (SusChEM)
Funding Opportunity**



Report on NSF SusChem Workshop and American Chemical Society Symposiu

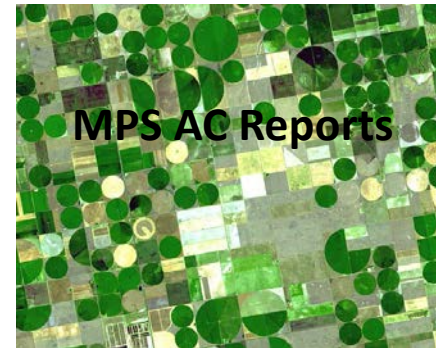
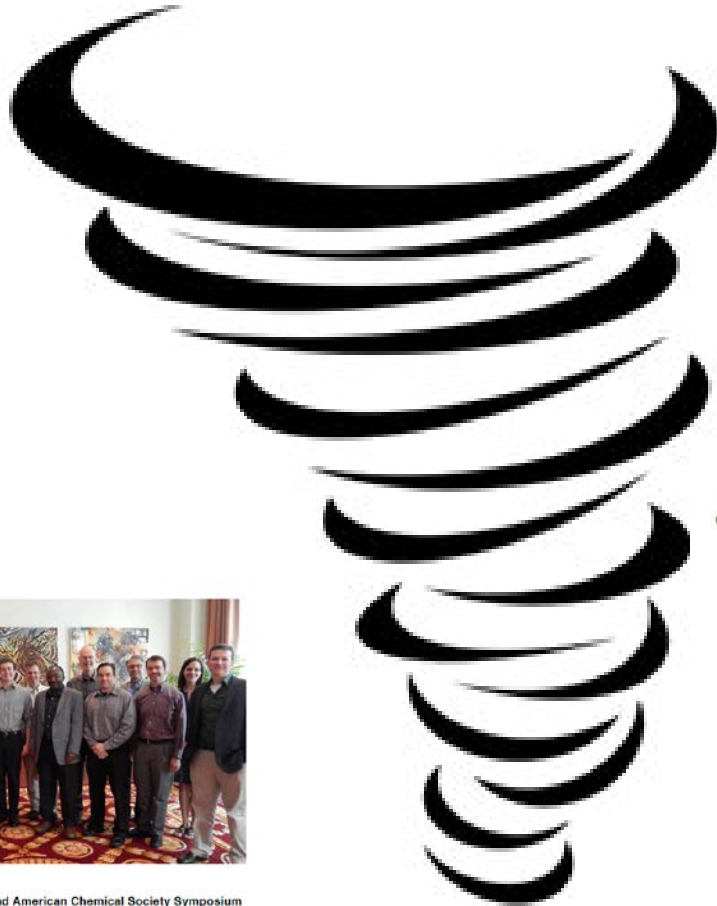
Indianapolis, Indiana, 7-9 September 2013



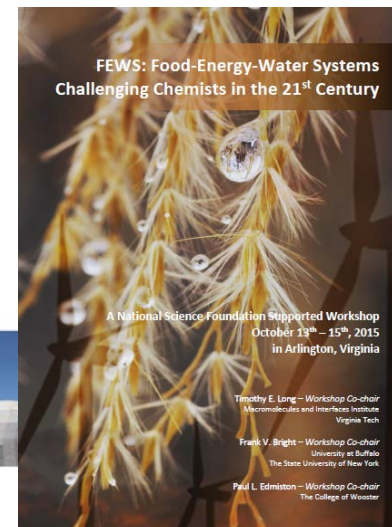
Sustainability

88 Awards
\$140,146,394 from FY 2016 - FY 2019

Innovations at the Nexus of Food, Energy and Water Systems (INFEWS) **FY 2016**
ENG, GEO, CISE, MPS, SBE, EHR, OISE, OIA and USDA



Enabling Resiliency in Energy, Water and Food Systems for Society
Addressing the Scientific, Technological, and Societal Challenges of the Energy, Water, and Food Nexus
A report on the NSF workshop
April 15-17, 2015
University of Arizona
Tucson, Arizona

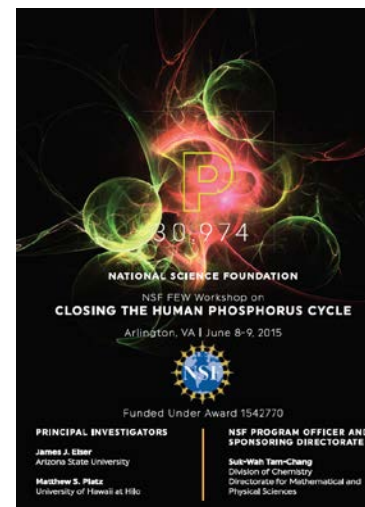


Feeding the World in the 21st Century:
Grand Challenges in the Nitrogen Cycle

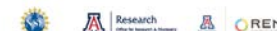
National Science Foundation
Arlington, Virginia
November 9-10, 2015



PI: Nissia Lehtinen (Department of Chemistry, University of Michigan)
Co-Organizers: Gloria Coruzzi (Department of Biology, New York University)
Eric Hogg (Department of Biochemistry and Molecular Biology, Michigan State University)
Lance Seefeldt (Department of Chemistry and Biochemistry, Utah State University)
NSF liaison: Timothy Patten (Division of Chemistry)
Co-funded by the Chemical, Bioengineering, Environmental, and Transport Systems Division
Funded under NSF Award Number 1550842



Sponsored by



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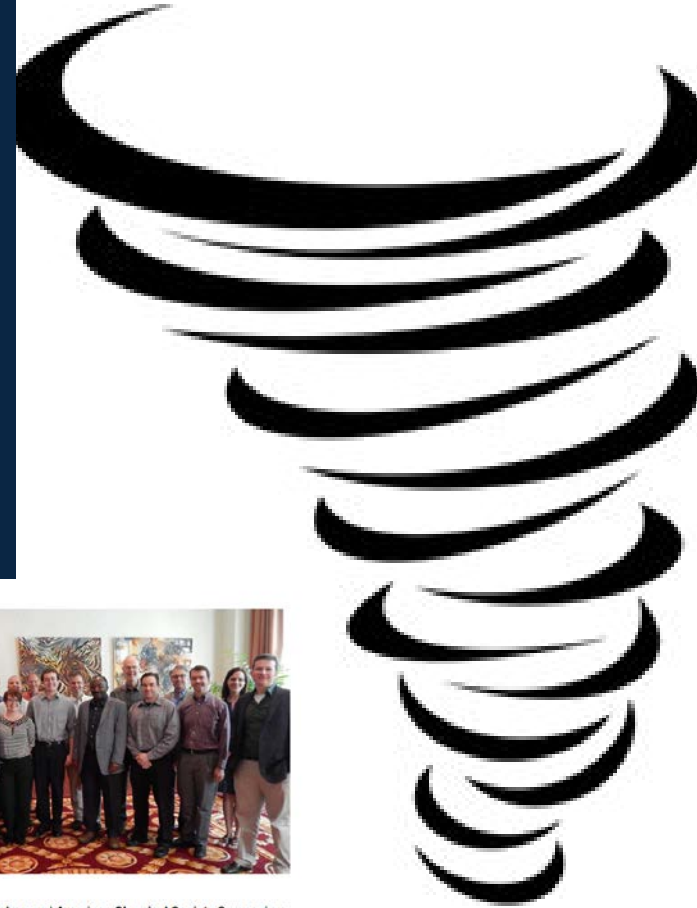
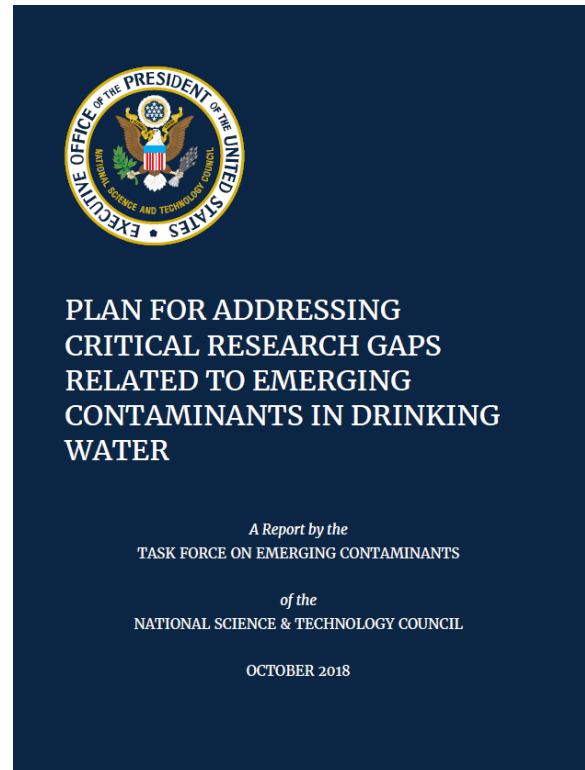
Report on NSF SusChem Workshop and American Chemical Society Symposium
Indianapolis, Indiana, 7-9 September 2013



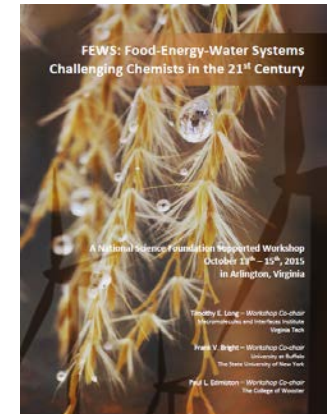
Sustainability



CHEMICAL SCIENCES ROUNDTABLE



Report on NSF SusChem Workshop and American Chemical Society Symposium
Indianapolis, Indiana, 7-9 September 2013



2019 Chemistry Upcoming Activities

New Division Director Onboarding

Evaluations: Centers for Chemical Innovation Evaluation (Abt) and Chemistry Disciplinary Research Program (DRP) Solicitation

Participation in Big Ideas: HDR, QL, URoL, **Midscale**

Workshops:

- HDR (with DMS and NIST): Innovation Lab to Learn the Power of Data in Chemistry, Dec. 17-21, 2018
- Quantum Leap (with PHY, DMR, Microsoft, and IBM)
- Understanding the Rules of Life
- Early Career Workshop (annual event)
- Program Workshops: Chemometrics

NASEM Board on Chemical Sciences and Technology (BCST):

Graduate Education and Industrial Training – Future of Work

NASEM Chemical Sciences Roundtable (CSR):

1) Sustainable Infrastructure, 2) Plastics, and 3) Electrochemistry
Code of Responsible Research with ACS

Collaborations: International Year of the Periodic Table (OLPA, MPS, and ACS), Electrochemical Society, and National GEM Consortium



2020 Chemistry Upcoming Activities

Evaluations:

- Committee of Visitors
- NAS “Decadal Study” (with DOE)

Participation in Big Ideas: HDR, QL, URoL, Midscale, and Future of Work

Other Potential Emphasis Areas: Sustainability and the Application of Artificial Intelligence to Chemical Synthesis

Collaborations: International

