Karen L. Howard, PhD

202-512-5599
howardk@gao.gov
linkedin.com/in/karen-l-howard

Citizenship: United States
Veteran's Preference: N/A
Federal Civilian Status: Acting Chief Scientist and Director

CAREER SUMMARY

Director in GAO's Science, Technology Assessment, and Analytics (STAA) team. Ph.D. in Environmental Chemistry, M.S. in Analytical Chemistry. Extensive leadership and project management experience. Proven track record of working with diverse groups to accomplish goals under tight time frames. Communicate research findings and policy analysis to Congressional members and staff, the public, and other key stakeholders through written reports, briefings, and presentations. Detail oriented with experience in research design and implementation, data collection and analysis, and development of policy considerations and options. Skilled at building strong external relationships with stakeholder groups, policymakers, and others.

KEY QUALIFICATIONS

Effective Team Leader. Lead and support interdisciplinary teams of scientists, engineers, analysts, and other stakeholders to provide high quality research, technology assessments, and performance audits that assist Congress with its oversight and investigative responsibilities. Oversee a broad portfolio of topics at the nexus of science, technology, and policy. Frequently manage multiple high-risk projects simultaneously.

Experienced supervisor. Manage staff members at various levels of experience and development across multiple simultaneous projects. Mentor staff to maximize professional development and career advancement. Adept at organizing personnel and resources to accomplish goals. Dedicated to accuracy and timely project completion. Proven ability to set challenging goals and take steps necessary for achievement, including delegation to staff according to mission needs, skills, and interests.

Strong analytical and technical skills. Skilled in experimental design and interpretation of research results. Adept at applying research, analysis, and policy skills to new areas of study. Experienced in applying GAO methodologies to varied fields including artificial intelligence, sustainable chemistry, health care, ocean acidification, management of toxic chemicals, emerging contaminants, technologies to address water scarcity, and water quality issues.

Excellent written communication skills. Disciplined writer with strong attention to detail. Co-author or key contributor to 93 GAO reports to date. Authored publications in peer-reviewed scientific journals, including one that earned the Best Paper Award for 2006, and presented award-winning posters of research results for local and national conferences.

Accomplished public speaker. Experienced at representing GAO externally as an invited speaker and panelist. Skilled at presenting information to technical and non-technical audiences. Presented numerous GAO brown bag seminars, Learning Center courses, briefings, and invited talks, including national and international conferences.

EDUCATION

State University of New York–Environmental Science and Forestry, Syracuse NY 13210
Doctor of Philosophy, Chemistry, 2007
87 semester credit hours

Youngstown State University, Youngstown, OH 44555
Master of Science, Chemistry, 2003
44 semester credit hours

Duquesne University, Pittsburgh, PA 15282
Master of Science, Education, 1991
30 semester credit hours

Penn State University, University Park, PA 16801
Bachelor of Science, Biology, 1988
Bachelor of Science, Secondary Education, 1988
191 semester credit hours

Sturgeon Bay High School, Sturgeon Bay, WI 54235
Diploma, 1983

PROFESSIONAL EXPERIENCE

Acting Chief Scientist January 2023–Present
U. S. Government Accountability Office
Science, Technology Assessment, and Analytics (STAA) Team
Supervisor may be contacted: John Neumann, Managing Director, STAA, (202) 512-6888

Director of Science and Technology Assessment November 2019–Present
U. S. Government Accountability Office
Science, Technology Assessment, and Analytics (STAA) Team
Huntsville Field Office
Supervisor may be contacted: John Neumann, Managing Director, STAA, (202) 512-6888

- Key member of the executive leadership team for STAA. Contribute to a wide variety of team and GAO-wide projects including helping to set the organizational culture, contributing to innovation and change management, expanding and diversifying the workforce, and strategic planning for STAA and GAO.
- Lead and support interdisciplinary teams of scientists, engineers, analysts, and other stakeholders to provide high quality research, technology assessments, and performance audits that assist Congress with its oversight and investigative responsibilities.
- Provide a voice for diversity within the team, particularly in the area of women in science, technology, engineering, and mathematics (STEM) fields.
- Oversee a broad portfolio of topics at the nexus of science, technology, and policy, including artificial intelligence, sustainable chemistry, ocean acidification, management of toxic chemicals, quantum computing and communications, blockchain, emerging contaminants, health care and infectious disease, biodefense, and water quality issues.
- Communicate research findings and policy analysis to Congressional members and staff, the public, and other key stakeholders through written reports, briefings, presentations, and media interactions.

Assistant Director (Physical Sciences), Band III January 2019–November 2019
Science, Technology Assessment, and Analytics Team 40 hours/week

Assistant Director (Physical Sciences), Band III April 2016–January 2019
Applied Research and Methods Team 40 hours/week

Senior Physical Scientist, Band IIB May 2014–April 2016
Applied Research and Methods Team 40 hours/week

Senior Analyst, Band IIB September 2012–May 2014
Health Care Team 40 hours/week

Senior Analyst, Band IIA April 2009–September 2012
Health Care Team 40 hours/week

Analyst, Band I (PDP) September 2007–April 2009
Health Care Team 40 hours/week

National Science Foundation Graduate Research Fellow June 2003–August 2007
State University of New York–ESF 20 hours/week
1 Forestry Drive, 320 Jahn Lab, Syracuse, NY 13210
Supervisor: Dr. Gregory L. Boyer (retired)

Planned and conducted research as part of a doctoral degree program and in support of a NOAA MERHAB grant for the detection and analysis of cyanobacterial toxins in the Lower Great Lakes.

Research Assistant
Research Foundation of SUNY, Syracuse, NY June 2003–May 2004
State University of New York–ESF 20 hours/week
1 Forestry Drive, 320 Jahn Lab, Syracuse, NY 13210
Supervisor: Dr. Gregory L. Boyer (retired)

Supported the analytical mission of the lab through field collection and analysis of water samples.

Teaching Assistant
Youngstown State University August 2001–May 2003
One University Place, Youngstown, OH 44555 20 hours/week
Supervisor: Dr. James H. Mike
Currently Dean, College of Natural and Health Sciences, University of Hawaii at Hilo

Taught and supervised 75 undergraduate chemistry students per semester while completing research and course work for a master's degree. Developed and validated an award-winning method for analysis of volatile organic compounds in a complex matrix; the resulting journal article won the 2006 Best Paper Award and the method was adopted as an industry standard.

Chemistry Teacher
Seneca Valley School District August 1989–June 2001
124 Seneca School Road, Harmony, PA 16037 40 hours/week
Supervisor: Dr. Denise Miller, (724) 452-6040

Directed team of teaching staff that conducted a performance assessment of entire science curriculum (kindergarten through 12th grade) for a school district with over 7,000 students, 9 buildings, and more than 600 teachers; led the performance assessment at the high school level. Reviewed curricula of similar districts in the area, determined areas for potential improvement, and presented the results and recommendations to the school board. Designed and implemented revised programs and new coursework to achieve quality goals. Mentored, supervised, and provided performance evaluations for early-career science instructors assigned to my classroom.

HONORS AND AWARDS

Arthur S. Flemming Award for Excellence in Government Leadership and Management, 2021

GAO Distinguished Service Award, 2022

GAO Meritorious Service Award, 2019

Numerous GAO Above & Beyond and Results Through Teamwork Awards, 2007-2023

National Science Foundation Graduate Research Fellowship, 2003–2007

John A. Meyer Graduate Fellowship, 2007

Conrad Schuerch Chemistry Graduate Scholarship, 2006

Best Paper Award 2006, *American Journal of Enology and Viticulture*

Best Student Poster 2005, International Association of Great Lakes Research

Phi Kappa Phi National Honor Society

Iota Sigma Pi National Honor Society for Women in Chemistry

PEER-REVIEWED JOURNAL PUBLICATIONS

Lingard Smith, S.; Raynes, D.B.; Howard, K.L. National leadership and cross-sector collaboration could help overcome differences in stakeholder definitions of sustainable chemistry. *Current Research in Green and Sustainable Chemistry*, **2022**, *5*, https://doi.org/10.1016/j.crgsc.2021.100222

Howard, K.L.; Boyer, G.L. Adduct simplification in the analysis of cyanobacterial toxins by matrix-assisted laser desorption/ionization mass spectrometry. *Rapid Communications in Mass Spectrometry*, **2007**, *21*, 699–706.

Howard, K.L.; Boyer, G.L. Quantitative analysis of cyanobacterial toxins by matrix-assisted laser desorption/ionization mass spectrometry. *Analytical Chemistry*, **2007**, *79*, 5980–5986.

Howard, K.L.; Mike, J.H.; Riesen, R. Validation of a Solid-Phase Microextraction Method for Headspace Analysis of Wine Aroma Components. *American Journal of Enology and Viticulture*, **2005,** *56*, 37–45.
*** 2006 Best Paper Award*

PROFESSIONAL MEMBERSHIPS

American Chemical Society and The National Honor Society of Phi Kappa Phi