

Candidate for Councilor

Peg Coleman



Peg Coleman, MS², is a medical microbiologist, a microbial risk assessor, and a Fellow of the Society for Risk Analysis. Ms. Coleman has organized symposia and workshops or presented microbial risk work at SRA annual meetings nearly every year since becoming a member in 1995. She presented SRA webinars in 2017 and 2021 on topics related to the 'microbiome revolution'. Ms. Coleman has served as a Mentor for graduate students and new members in the SRA mentoring project. Her long career as a microbial risk assessor began with the US federal government (USDA/FSIS), and she consulted through

Syracuse Research Corporation and ICF before launching her own firm in 2010. Her primary interests are benefit-risk analysis and resilience of human superorganisms.

Highlights of SRA Service:

- Founding member and past officer of the Microbial Risk Assessment Specialty Group (MRASG)
- Past President and Secretary/Treasurer of the Dose-Response Specialty Group (DRSG)
- Founder of the Upstate NY SRA regional organization who has championed two collaborative projects with US and international SRA ROs
 - SRAonCampus project (2012)
 - Microbiota of Milks project (2017-present)
- 2017 SRA webinar, **Preparing to Deliberate Evidence on Benefits and Risks Posed by the Microbiota of Milks** (<https://www.sra.org/webinar/advancing-the-science-webinar-series-4th-installment-preparing-to-deliberate-evidence-on-benefits-and-risks-posed-by-the-microbiota-of-milks/>)
- 2021 SRA webinar with D. Warner North, **Resilience and the Human Superorganism: Give Us this Day our Daily Microbes** (<https://www.sra.org/webinar/resilience-and-the-human-superorganism-give-us-this-day-our-daily-microbes/>)
- SRA Fellow (2020)

Her transdisciplinary collaborations with SRA Past President D. Warner North and Cornell Emeritus Professor of Immunotoxicology and author Rodney Dietert are documented in a series of manuscripts on the microbiota of milks and resilience of the human superorganism in health and disease in the Open Access journal *Applied Microbiology*.

She has collaborated with gifted mathematical statisticians and other analysts throughout her long career and is an author on 55 technical reports and peer-reviewed manuscripts, most on microbial risk assessment and one manuscript each in chemical risk assessment and immunology.

Ms. Coleman served on the editorial board for *Risk Analysis* for many years and continues to provide peer reviews for this and other journals. Her first quantitative microbial risk assessment (QMRA) manuscripts were published in 1998, one in *Risk Analysis*. Subsequently, her publications in *Risk Analysis* expanded to include two book reviews, a guest editorial for a special collection on Interactions of Predictive Microbiology and Risk Assessment, and six technical QMRA manuscripts on airborne and foodborne pathogens.

In addition to service through SRA, Ms. Coleman also served as an invited expert for national and international organizations, including the Committee on Food Hygiene for the Codex Alimentarius Commission, the U.S. Interagency Risk Assessment Consortium, the International Life Sciences Institute (North America and Europe), the U.S. National Academies of Sciences, Engineering, and Medicine, and the Science Panel for the Alliance for Risk Assessment.

In addition to her primary interests in benefit-risk analysis and resilience of the human superorganism, Ms. Coleman seeks transdisciplinary collaborators to incorporate whole genome sequencing and metadata into risk assessments for chemical and microbial hazards, as well as for current epidemics of both infective and non-communicable diseases. If you are interested in contributing to development of case studies on the roles of natural and engineered microbiota of foods, feeds, and superorganisms, please contact her (peg@colemanscientific.org).

Recent Collaborative Manuscripts

2018: Coleman, M.; Elkins, C.; Gutting, B.; Mongodin, E.; Solano-Aguilar, G.; Walls, I. Microbiota and Dose Response: Evolving Paradigm of Health Triangle. *Risk Analysis*. 38, 2013–2028.

2021a: Coleman, M.E.; North, D.W., Dietert, R.R.; Stephenson, M.M. Examining Evidence of Benefits and Risks for Pasteurizing Donor Breastmilk. Accepted for publication in the December issue of *Applied Microbiology*.

2021b: Coleman, M.E.; Dietert, R.R.; North, D.W., Stephenson, M.M. Enhancing Human Superorganism Ecosystem Resilience by Holistically 'Managing Our Microbes'. Accepted for publication in the December issue of *Applied Microbiology*.

Statement of Goals

I am honored to be nominated to serve on the SRA Council. As I begin my 31st year as an active member of SRA, I propose three goals to work towards with fellow SRA Council members if I am elected. My goals each relate to at least one of the main SRA Strategic Goals and prioritizations approved by the 2018 SRA Council listed below.

- **SRA Strategic Goal 1:** Enhancing risk science and the profession
 - a) Foster risk analysis as a science
 - b) Foster risk analysis as a profession
- **SRA Strategic Goal 2:** Influence and strengthen impact globally
 - a) Empower people with the science, knowledge and tools of risk analysis to better assess, manage, govern and communicate risk
 - b) Enable worldwide sharing of knowledge and learning
- **SRA Strategic Goal 3:** Expand the organizational capacity and efficiency of SRA
 - a) Increase memberships, member engagement and involvement
 - b) Improve the governance structure and efficiency

Peg Coleman's Three Goals

1. **Empower SRA's Regional Organizations (ROs) and Fund Collaborative Events:** As the founder of a very small RO in upstate NY in 2005, I am well aware of the challenges of providing interesting programs on risk analysis topics and networking opportunities for SRA members and non-members from multiple urban and rural communities in broad geographic regions.

A decade ago, the 2011 SRA Council had approved a New Initiatives Grant (now termed Strategic Initiatives Grants) totaling \$22,500 for ROs to host events on 6 campuses (SRAonCampus New Initiative Project). The motivations for the grant were consistent with all three current SRA Strategic Goals: increasing awareness about risk analysis and SRA on selected campuses around the world and recruiting new members among faculty, staff, and students. We sought to build 'critical mass' necessary to initiate and sustain vital ROs and expand SRA membership. Events held in Australia (University of Sydney), New England (Boston University), Nevada (University of Nevada, Reno), New Zealand (University of Auckland, Lincoln University), and upstate NY (Syracuse University) attracted approximately 430 non-SRA members. ROs leveraged the SRA Speakers Bureau to support costs for travel for SRA Fellows Scott Ferson, Bernard Goldstein, and Paul Slovic to the SRAonCampus events. SRA membership raffles drew substantial interest, and 20 memberships (student and full) were awarded after the events from New Initiative Grant funds and donations by Metro NY/NJ/CT RO. Overall, about 50 new members joined SRA shortly after the SRAonCampus events, and some are still active in SRA ROs today.

Upstate NY SRA has also hosted a webinar series in 2017 on the microbiota of milks using the SRA GoToMeeting platform through the SRA Education Committee. Video recordings of the webinar series, available in the archives on the SRA website, kicked off with a record-setting webinar by Cornell Emeritus Professor of Immunotoxicology and author Rodney Dietert on The Human Superorganism, and closed with a webinar on preparing to deliberate the evidence for benefits and risks for pasteurizing human donor breastmilk and bovine milk with my colleague D. Warner North, an SRA Past President. The first of a series of publications motivated by our learnings on this controversial topic was published with Rodney and Warner in the Open Access journal *Applied Microbiology* this year.

The SRA-RT RO in North Carolina was recently approved for a Strategic Initiative grant focused on a series of activities webinar speakers. The RO has used the NC State University Zoom account to host recent webinars by area speakers including Dustin Kapraun, David Banks, Christie Sayes, and Chris Cummings.

My experience as a medical microbiologist and microbial risk analyst includes decades of leadership in Quantitative Microbial Risk Assessment (QMRA). I was honored to be invited by SRA member Vincent Chigor of University of Nigeria Nsukka and SRA-Africa to introduce participants of the first QMRA-Africa workshop to SRA as a new SRA Fellow and leader in QMRA.

Extending my past collaborations with current leaders of SRA ROs, if elected, will likely enhance awareness of risk analysis with global impacts and expand SRA organizationally by coordinating between partnering ROs around the world over the next three years. One transdisciplinary topic that diverse ROs may choose to develop is Risk Analysis on COVID, going beyond current emphasis of many studies on epidemiology and positive/negative testing to integrate and deepen analysis more broadly and bring disparate scientific evidence into more cohesive and holistic perspectives for improving assessment and management of COVID risks for societies around the world.

2. **Expand Collaborations between SRA's Specialty Groups (SGs):** As one of the founders of the Microbial Risk Analysis SG (MRA-SG) in the late 1990s, I continue to invest my professional expertise in transdisciplinary collaborations across diverse SRA SGs. In both 2015 and 2020, I organized symposia at the annual SRA conferences with sponsorship of both MRA-SG and the Dose Response SG (DR-SG), the former culminating in a manuscript entitled Microbiota and Dose-Response: Evolving Paradigm of Health Triangle in *Risk Analysis*. Last

year, I collaborated as Secretary/Treasurer of DR-SG with SRA colleagues Jade Mitchell (Michigan State University) and Mark Weir (Ohio State University), currently officers of MRA-SG, on a symposium on Data and Models for Dose-Response Relationships for SARS-CoV-2. This year, I am aligned with the newly forming Justice, Equity and Risk SG (JER-SG) and partnering with Lizzi Quin, an officer of the Economics and Benefits Analysis (EBA-SG) on a round table panel symposium on Distributional Equities.

In addition to the need for expanding collaborations between SRA SGs, a former colleague with the US Food and Drug Administration, economist and risk analyst Richard Williams, has been encouraging me to seek more partners to launch a new SRA SG focused on the microbiota and resilience to infectious and non-communicable diseases. Granted, aspects of this topic might be considered under the Applied Risk Management SG, Decision Analysis and Risk SG, DR-SG, MRA-SG, EBA-SG, JER-SG, Resilience Analysis SG, and Risk Communication SG. What Richard argues is that the 'Microbiome Revolution' transcends all of these disciplines and merits a stronger presence for SRA members seeking to deepen the evidence basis for improvements in assessing, managing, governing and communicating risk more holistically, integrating 21st century science and developing novel paradigms based on this scientific evidence. Another recent manuscript with Warner and Rodney relates opportunities for 'managing our microbes' for hospital acquired (nosocomial) and foodborne diseases, as well as using Fecal Microbiome Transplants for improving both gut and neurological symptoms for autistic children. I will commit my energies, if elected to the SRA Council in this election, to championing this new SG with Richard and other SRA colleagues over the next 3 years.

3. Support Exercises of Analytic-Deliberative Process on Controversial Societal Problems. My recent work within and beyond SRA has focused on controversial societal issues: benefits and risks of pasteurizing mammalian milks. Consider this quote by Buckminster Fuller: "in order to change an existing paradigm you do not struggle to try and change the problematic model. You create a new model and make the old one obsolete. That, in essence is the higher service to which we are all being called." I believe that SRA Councilors have such a higher calling, to promote cycles of analysis and deliberation (analytic-deliberative process) as described in the 1996 'orange book' from the US National Research Council.

My recent collaborative manuscripts cite work by Warner North, a decision analyst who served on the committee that developed this book, that acknowledges that paradigm shifts are difficult. Our collaborator Rodney Dietert points to the 'Microbiome Revolution' and the need to replace outdated 20th century thinking about microbes as germs that will kill us with more nuanced understand of microbes as predominantly our partners in health. One of our papers presents an evidence map, patterned after work by another SRA colleague Peter Wiedemann, for benefits and risks of pasteurizing donor breastmilk for NICU infants whose mothers cannot provide raw breastmilk (mother's own milk) to sick and pre-term infants.

Human milk banks around the world who pasteurize donor milk may believe that pasteurization minimizes risks to infants. However, multiple clinical studies conducted in NICUs around the world demonstrate loss of benefits for pasteurized donor milk. As a candidate for SRA Councilor, I look forward to future opportunities to assist in support of exercises of analytic-deliberative process in international workshops that develop shared understandings of recent bodies of scientific evidence that challenge outdated notions about health and disease. Without such international workshops on analysis and deliberation, development of evidence-based policies for donor milk appears impossible, and vulnerable NICU infant lose benefits of the natural microbiota of raw breastmilk.

If elected, I look forward to learning from my SRA colleagues about your priorities for international exercises of analytic-deliberative process necessary to advance knowledge and learning about 21st century science, including roles of microbes as our partners in health.

Thank you for considering me as a candidate for the SRA Council this year. I am eager to serve.