

Khara Grieger, Ph.D.

Assistant Professor & Extension Specialist in Environmental Health and Risk Assessment
Department of Applied Ecology, North Carolina State University
Raleigh, NC 27695
kdgrieger@ncsu.edu

EDUCATION

- PhD, Environmental Engineering, 2011, Technical University of Denmark
- MSc, Environmental Engineering, 2006, Technical University of Denmark
- MS, Plant Biology, 2003, Michigan State University; Additional degree in Ecology, Evolutionary Biology and Behavior
- BS, Zoology, 1999, Michigan State University; Minor in Botany and Plant Pathology, Graduated with High Honors

RESEARCH AND MANAGEMENT POSITIONS

- 2020 – Present, **Assistant Professor & Extension Specialist** in Environmental Health & Risk Assessment, Department of Applied Ecology, NC State University, Raleigh, NC
 - Conducting research in fields of risk assessment and risk governance of emerging environmental and health risks, developing best practices, and connecting with stakeholders; focus on nanotechnology, nanomaterials, advanced materials, and biotechnologies
- 2019 – June 2020, **Senior Research Scholar**, Genetic Engineering and Society Center, NC State University, Raleigh, NC
 - Conducting research in science, technology, and society intersections of emerging issues and novel technologies
- 2011 – 2019, **Senior Environmental Research Scientist**, RTI International, Durham, NC
 - Conducting and leading projects in risk-based decision-making regarding emerging issues and novel technologies, including nanotechnology, nanomaterials, food safety and policy, with additional work in sustainable biogas production, geoengineering, and climate change
- 2017 – 2018, **Duke University Visiting Scholar**, Duke University-RTI International, Durham, NC
 - Program title: Developing Robust Strategies to Address Emerging Risks and Building Resilience
- 2010 – 2011, **Post-Doctorate Researcher**, Technical University of Denmark, Kgs. Lyngby, Denmark
 - Researcher and group lead on risk governance of emerging technologies
- 2006 – 2007, **Research Project Manager**, Technical University of Denmark, Kgs. Lyngby, Denmark
 - Managed large European partner consortium for European Framework Programme (FP) 7 project

PROFESSIONAL EXPERIENCE

- 2021 – Present, **AgBioFEWS Faculty Affiliate**, Interdisciplinary NSF Research Traineeship in Agricultural Biotechnology In Our Evolving Food, Energy, and Water Systems, NC State
- 2020 – Present, **External Advisory Board Member** for European Commission-funded project on risk governance of nanomaterials (RiskGONE); Advising project on diverse aspects of risk governance, risk analysis, and stakeholder involvement
- 2020 – Present, **External Expert** for European Commission-funded project on risk governance of nanofabrication ecosystems (SUSNANOFAB); Advising project on diverse aspects of risk, environmental and human health, as well as sustainability aspects related to nanofabrication
- 2019 – Present, **U.S. Co-Chair** for Risk Management & Control Community of Research (COR); EU-US consortia on nano-environmental, health, and safety research
- 2019 – Present, **Member of Research Triangle Nanotechnology Network (RTNN)**, NSF-funded nanotechnology innovation hub (Jones = PI)

Grieger CV

- 2019 – Present, **Executive Committee Member**, Genetic Engineering and Society Center, NSU
- 2019 – Present, **Member of the Center for Human Health and the Environment**, NCSU
- 2018 – Present, **Environmental Advisory Board Member**, Town of Cary, NC; Advising Town of Cary on environmental issues
- 2019 – 2020, **External Advisory Board Member** for European Commission-funded project focused on risk governance of nanomaterials (caliBRAtE); Advising project on diverse aspects of risk governance, risk analysis, and stakeholder perceptions
- 2014-2018, Member of American National Standards Institute-Accredited **US Technical Advisory Group to International Standards Organization (ISO) Technical Committee (TC) 229 – Nanotechnologies**; RTI technical lead on nanotechnology standards for regulatory and non-regulatory purposes

HONORS AND AWARDS

- 2021, Goodnight Early Career Innovator Award, NC State
- 2018, Research Triangle Nanotechnology Network (RTNN) Collaborative Award
- 2018, HOT paper selection for *Environmental Science: Nano*
- 2017, American Society of Civil Engineers State-of-the-Art Civil Engineering Award
- 2013-2017, Highly Published Author Award, RTI International
- 2014, 2017, Highly Cited Author Award, RTI International
- 2014, Professional Development Award, RTI International
- 2013, Early Career Award, RTI International
- 2011, Best Young Scientist Prize, Integ-Risk and Society for Risk Analysis
- 2010, Student Merit Award, Emerging Nanoscale Materials Specialty Group, Society for Risk Analysis
- 2010, Travel Scholarship, Society for Risk Analysis
- 2010, Travel Scholarship, Otto Mønsted's Fund
- 2009, Outstanding Student Paper Award Certificate, American Geophysical Union
- 2009, Student Award, Fourth International Conference on Environmental Effects of Nanoparticles

RESEARCH AND PROJECT SUPPORT

Current

- I. **Grieger PI** (NC State – Iowa State University) USDA/NIFA \$649,515
Interdisciplinary Approaches to Evaluate Societal Implications and Foster Sustainability of Genetic Engineering and Nanotechnology in Food and Agriculture
- II. **Grieger PI**, Kuzma Co-PI (NC State) USDA/NIFA \$499,856
Social Implications and Best Practices for Responsible Innovation of Nanotechnology in Food and Agriculture; 2019-2022
- III. **Grieger PI** (NC State – Duke University) SRA \$20,000
Society for Risk Analysis (SRA) Strategic Plan Initiative; 2019-2022
- III. **Grieger Co-PI and Knowledge Transfer Co-Director**, Jones PI (NC State) NSF \$25M
The Science and Technologies for Phosphorus Sustainability (STEPS) Center
- IV. **Grieger** and Kuzma **Co-PI** (NC State), Borsuk PI (Duke University), NSF/DRMS \$565,872
Quick Fixes to Collective-Risk Social Dilemmas
- V. **Grieger Co-PI**, Williams PI (NC State) NC State \$556,250
GRIP4PSI: Improving Crop Productivity and Value Through Heterogeneous Data Integration, Analytics, and Decision Support Platforms; 2020-2023
- VI. **Grieger Co-PI**, Kuiken PI (NC State) USDA/NIFA \$25K
Biotechnology Risk Assessment Grant Program (2020-2021)
- VII. **Grieger Co-PI**, Jones (PI) (NC State) (2021-2026)
Cultivating A Resilient Workforce By Integrating A Culturally Competent Community of Scholarship & Data Science in Food & Agricultural Research USDA/NIFA \$238,500

Grieger CV

Recent Unfunded Proposals (2020-2021)

- | | | |
|------|---|---------------------------|
| I. | Grieger Co-PI , Roberts, D PI (NC State)
AI Institute: DECision Intelligence in Supply Chains for ImproVED (DECISIVE)
Agriculture Outcomes | NSF/USDA \$10M |
| II. | Grieger Team-Member , Kuzma PI (NC State)
Changing Landscapes: Brave Spaces for Advancing Women in Agricultural Technology | Equality Can't Wait \$10M |
| III. | Grieger Co-PI , Duckworth PI (NC State)
Harnessing Nanofunctional Materials and the Plant-Soil-Microbe Continuum for
Environmental Remediation | NIH \$1.45M |
| IV. | Grieger Co-PI , Dean PI (NC State)
Rapid Innovation in SystEms Engineering and Agricultural Sustainability
(RiseEnAg): Enabling Convergent Solutions to Crop, Food-Borne Pathogens | USDA/NIFA \$9.9M |
| V. | Hesterberg PI, Grieger Collaborator (NC State)
GRIP4PSI: "Intelligent" Plant-Responsive Nutrient-Delivery Systems: The Next
Generation of Fertilizers | NC State \$650,000 |

Past Support

- | | | |
|-------|---|---------------------------|
| I. | Grieger Project Team Member, Jones PI (NC State)
Research Triangle Nanotechnology Network (RTNN); 2019-2021 | NSF \$5.5M |
| II. | Grieger Co-PI , Jones PI (NC State)
Game-Changing Research Incentive Program (GRIP); Water Sustainability
through Nanotechnology; 2017-2020 | RTI-NC State \$575,000 |
| III. | Grieger Co-PI , Parvathikar PI (RTI)
Sustainable Farming Practices via Biogas-Derived Chemicals, 2018-2019 | RTI \$85,000 |
| IV. | Grieger RTI Lead , Jensen PI (Danish National Research Centre for the
Working Environment) caLIBRATe: Risk governance for manufactured
nanomaterials and products | EU Commission €9.7M |
| V. | Grieger Governance Lead , Borsuk PI
Duke University Collaboratory Grant: Decisions, Risks, and Governance of
Geoengineering | Duke University, \$92,312 |
| VI. | Grieger PI and Technical Lead
Developing Robust Strategies to Address Emerging Risks and Building
Resilience; 2017-2018 | Duke University, \$51,947 |
| VII. | Grieger Project Manager and Technical Lead ; RTI
Decision Analysis Support for Implementing a Risk-Informed Decision
Making System in the FDA Foods and Veterinary Medicine Program; 2016-2018 | FDA/CVM |
| VIII. | Grieger Project Manager and Technical Lead ; RTI
Develop and Validate Risk Ranking Model (version 3); 2015-2017 | FDA/CFSAN |
| IX. | Grieger Project Manager and Technical Lead ; RTI
Development of a Risk-Ranking Tool for the Determination of High Risk Foods
Among U.S. Food and Drug Administration–Regulated Products; 2013-2015 | FDA/CFSAN |
| X. | Grieger Technical Lead ; RTI
Validation of Tier 2 Processes for Occupational Exposure Banding; 2014 | NIOSH |
| XI. | Grieger Project Manager ; RTI
Implement and Evaluate the High Risk Foods Model: For Recordkeeping and Product
Tracing; 2012-2013 | IFT |
| XII. | Grieger Project Manager ; RTI
Development of a Risk Ranking Tool for the Determination of High Risk Foods
among FDA-Regulated Products; 2012-2013 | FDA/CFSAN |

Grieger CV

- XIII. **Grieger Project Manager and Technical Lead; RTI** Army
Identify Army Materiel Incorporating Nanomaterials and Associated Soldier Health Risks; 2011-2012
- XIV. **Grieger Project Manager and Technical Lead; RTI** EPA
Conceptual Model Development - Comprehensive Environmental Assessment Web Interface; 2012
- XV. **Grieger Project Manager and Technical Lead; RTI** EPA
Nanomaterial Case Study Workshop Process: Identifying and Prioritizing Research for Multiwalled Carbon Nanotubes; 2011-2012
- XVI. **Grieger Technical Lead; Technical University of Denmark** EU Commission
- NanoImpactNet: European Network on Health and Environmental Impact of Nanomaterials; 2011
 - iNTeg-Risk: Early Recognition, Monitoring and Integrated Management of Emerging, New Technology Related Risks; 2011
 - PlasmaNice: Atmospheric Plasmas for Nanoscale Industrial Surface Processing; 2011
 - RiskBridge; 2007-2009

PUBLICATIONS

Journal Articles

1. Ruzante, J. M., Shumaker, E. T., Holt, S., Mayer, S., Kokotovich, A., Cuchiara, M., Binder, A. R., Kuzma, J., and **Grieger, K.** 2022. Eliciting Stakeholder Perceptions Using a Novel Online Engagement Platform: A Case Study on Nano-Agrifoods. *RTI Press* Publication No. OP- 0071-2201. Research Triangle Park, NC: RTI Press. <https://doi.org/10.3768/rtipress.2022.op.0071.2201>
2. Kokotovich, A., Kuzma, J., Cummings, C., **Grieger, K.** 2021. Responsible innovation definitions, practices, and motivations from nanotechnology researchers in food and agriculture. *NanoEthics*, <https://doi.org/10.1007/s11569-021-00404-9>.
3. **Grieger, K.**, Merck, A., Cuchiara, M., Binder, A., Kokotovich, A., Cummings, C., Kuzma, J. Responsible Innovation of Nano-Agrifoods: Insights and Views from U.S. Stakeholders. *NanoImpact*, 24 (October 2021), 100365: <https://doi.org/10.1016/j.impact.2021.100365>.
4. Zhi, Y., Call, D., **Grieger, K.**, Duckworth, O., Jones, J.L., Knappe, D. 2021. Influence of Natural Organic Matter and pH on Phosphate Removal by and Lanthanum Release from Lanthanum-Modified Bentonite. *Water Research*, 202: 117399 – <https://doi.org/10.1016/j.watres.2021.117399>.
5. Cummings, C.L., Kuzma, J., Kokotovich, A., Glas, D., **Grieger, K.** 2021. Barriers to responsible innovation of nanotechnology applications in food and agriculture: A study of US experts and developers. *NanoImpact*, 23: 100326.
6. Kuiken, T., Barrangou, R., **Grieger, K.** 2021 "(Broken) Promises of Sustainable Food and Ag through New Biotechnologies: The CRISPR Case. *The CRISPR Journal*, 4(1): 25-31.
7. Huang, Y., Li, W., Gao, J., Wang, F., Yang, W., Han, L., Lin, D., Min, B., Zhi, Y., **Grieger, K.**, Yao, J. 2021. Effect of microplastics on ecosystem function: Microbial nitrogen removal mediated by benthic macroinvertebrates. *Science of the Total Environment*, 754: 142133.
8. Doydora, S., Gatiboni, L., **Grieger, K.**, Hesterberg, D., Jones, J., McLamore, E., Peters, R., Sozzani, R., Van den Broeck, L., Duckworth O. 2020. Accessing Legacy Phosphorus in Soil. *Soil Systems*, 4(74): [doi:10.3390/soilsystems4040074](https://doi.org/10.3390/soilsystems4040074).
9. Kuzma, J., **Grieger, K.** 2020. Community-Led Governance for Gene-Edited Crops. *Science*, 370(6519): 916-918.
10. Zhi, Y., Zhang, C., Hjorth, R., Baun, A., Duckworth, O., Call, D., Knappe, D., Jones, J., **Grieger, K.** 2020. Emerging Lanthanum (III)-containing Materials for Phosphate Removal from Water: A Review towards Future Developments. *Environment International*, 145: 106115.
11. Saia, S., Nelson, N., Huseth, A., **Grieger, K.**, Reich, B. 2020. Transitioning Machine Learning from

Grieger CV

- Theory to Practice in Natural Resource Management. *Ecological Modelling*, 435: 109257.
12. Kuzma, J., **Grieger, K.**, Cummings, C.L., Brown, Z. S. 2020. Pandemics Call for Systems Approaches to Research and Funding. *Issues in Science and Technology*, May 4, 2020. Available: <https://issues.org/pandemics-call-for-systems-approaches/>
 13. **Grieger, K.**, Jones, J.L., Hansen, S.F., Hendren, C.O., Jensen, K.A., Kuzma, J., Baun, A. 2019. What are the Key Best Practices from Nanomaterial Risk Analysis That May Be Relevant for Other Emerging Technologies? *Nature Nanotechnology*, 14, 998–1001, doi:10.1038/s41565-019-0572-1.
 14. Porcari, A., Borsella, E., Benighaus, C., **Grieger, K.**, Isigonis, P., Chakravarty, S., Kines, P., Jensen, K.A. 2019. From Risk Perception to Risk Governance in Nanotechnology: A Multi-Stakeholder Study. *Journal of Nanoparticle Research*, 21(11), 1-19.
 15. **Grieger, K.**, Felgenhauer, T., Renn, O., Wiener, J., Borsuk. 2019. Emerging Risk Governance for Stratospheric Aerosol Injection as a Climate Management Technology. *Environmental System and Decisions*, 39(4), 371-382.
 16. Isigonis, P., Hristozov, D., Benighaus, C., Giubilato, E., **Grieger, K.**, Pizzol, L., Semenzin, E., Linkov, I., Zabeo, A., Marcomini, A. 2019. Risk Governance of Nanomaterials: Review of Criteria and Tools for Risk Communication, Evaluation, and Mitigation. *Nanomaterials*, 9(696), doi:10.3390/nano9050696
 17. Mortensen, N.P., Johnson, L., **Grieger, K.**, Fennell, T.R. 2019. Biological Interactions between Nanomaterials and Placental Development and Function Following Oral Exposure. *Reproductive Toxicology*, 90:150-165.
 18. **Grieger, K.**, Bossa, N., Levis, J., von Borries, K., Strader, P., Cuchicara, M., Hendren, C.O., Hansen, S.F., Jones, J. 2018. Application and Testing of Risk Screening Tools for Nanomaterial Risk Analysis. *Environmental Science: Nano*, 5:1844-1858.
 19. Hjorth, R., Holden, P.A., Hansen, S.F., Colman, B.P., **Grieger, K.**, Hendren, C.O. 2017. The Role of Alternative Testing Strategies in Environmental Risk Assessment of Engineered Nanomaterials. *Environmental Science: Nano*, 4:292-301.
 20. Ruzante, J., **Grieger, K.**, Woodward, K., Lambertini, E., Kowalcyk, B. 2017. The Use of Multi-Criteria Decision Analysis in Food Safety Risk-Benefit Assessment. *Food Protection Trends*, March: 132-139.
 21. Lebov, J., **Grieger K.**, Womack D., Zaccaro, D. Whitehead, N. Kowalcyk, B., Macdonald, P. 2017. A Framework for One Health Research. *One Health*, 3:44-50.
 22. **Grieger, K.**, Harrington, J., Mortensen, N. 2016. Prioritizing Research Needs for Analytical Techniques Suited for Engineered Nanomaterials in Food. *Trends in Food Science & Technology*, 50: 219-229.
 23. **Grieger, K.**, Hansen, S.F., Mortensen, N., Cates, S., Kowalcyk, B. 2016. International Implications of Labeling Foods containing Engineered Nanomaterials. *Journal of Food Protection*, 79(5): 830-842.
 24. Powers, C., **Grieger, K.**, Meacham, C., Lassiter, M., Gift, J., Lehmann, G., Hendren, C., Davis, M., Burgoon, L. 2016. Applying Comprehensive Environmental Assessment to Research Planning for Multiwalled Carbon Nanotubes: Refinements to Inform Future Stakeholder Engagement. *Integrated Environmental Assessment and Management*, 12(1): 96-108.
 25. **Grieger, K.**, Redmon, J., Money, E., Widder, M. Van der Schalie, W., Beaulieu, S., Womack, D. 2015. A Relative Ranking Approach for Nano-Enabled Applications to Improve Risk-Based Decision Making: A Case Study of Army Materiel. *Environment, Systems and Decisions*, 35(1):42-53.
 26. **Grieger, K.**, Sayes, C., Chen, E., Ensor, D., Jayanty, R.K.M. 2015. Safe Handling of Engineered Nanomaterials: Turning Knowledge into Practice. *RTI Press Publication No. OP-0022-1505*. Research Triangle Park, NC: RTI Press. <http://dx.doi.org/10.3768/rtipress.2015.op.0022.1505>
 27. Bates, M.E., **Grieger, K.D.**, Trump, B.D., Keisler, J.M., Plourde, K.J., Linkov, I. 2015. Emerging Technologies for Environmental Remediation: Integrating Data and Judgment. *Environmental Science & Technology*, 50(1): 349-358.
 28. Powers, C., **Grieger, K.**, Beaudrie, C., Hendren, C., Davis, M., Wang, A., Sayes, C. MacDonell, M., Gift, J. 2015. Data dialogues: critical connections for designing and implementing future nanomaterial research. *Environment, Systems and Decisions*, 35(1):76-87.
 29. **Grieger, K.**, Sayes, C., Hendren, C.O., Rothrock, G., Mansfield, C., Jayanty, R.K.M., Ensor, D. 2013.

- Multi-stakeholder collaboration is key to solving society's grand challenges: The case of responsible nanomaterial development. *EHS Today – December Issue*; Available: <http://ehstoday.com/training/finding-key-responsible-nanomaterial-development?page=1>.
30. Powers, C., **Grieger, K.**, Hendren, C., Meacham, C., Lassiter, M.G., Gurevich, G., Money, E., Lloyd, J., Beaulieu, S.M. 2014. A web-based tool to engage stakeholders in informing research planning for future decisions on emerging materials. *Science of the Total Environment*, 470-471:660-668.
 31. Hansen, S.F., Nielsen, K.N., Knudsen, N., **Grieger, K.**, Baun, A. 2013. Operationalization and application of “early warning signs” to screen nanomaterials for harmful properties. *Environmental Science: Processes & Impacts*, 15: 190-203.
 32. Hendren, C., Lowry, M., **Grieger, K.**, Money, E., Johnston, J., Wiesner, M., Beaulieu, S. 2013. Modeling Approaches for Characterizing and Evaluating Exposure to Engineered Nanomaterials: A Critical Review. *Environmental Science & Technology*, 47(3):1190-205.
 33. Renn, O., **Grieger, K.**, Øien, K., Andersen, H.B. 2013. Benefit-Risk Tradeoffs in Retrospect: How major stakeholders perceive the decision making process in the Goliat oil field development in the Barents Sea. *Journal of Risk Research*, 16(9):1163-1185.
 34. **Grieger, K.**, Wickson, F., Andersen, HB, Renn, O. 2012. Improving risk governance of emerging technologies through public engagement: the neglected case of nano-remediation? *International Journal of Emerging Technologies and Society*, 10:61-78.
 35. **Grieger, K.**, Laurent, A., Miseljic, M., Christensen, F., Baun, A. 2012. Analysis of current research addressing complementary use of life-cycle assessment and risk assessment for engineered nanomaterials: have lessons been learned from previous experience with chemicals? *Journal of Nanoparticle Research*, 14(7): 958-981.
 36. **Grieger, K.**, Linkov, I., Hansen, S.F., Baun, A. 2012. Environmental risk analysis for nanomaterials: Review and evaluation of frameworks. *Nanotoxicology*, 6(2):196-212.
 37. **Grieger, K.**, Hansen, S.F., Sørensen, P.B., Baun, A. 2011. Conceptual modeling for identification of worst case conditions in environmental risk assessment of nanomaterials using nZVI and C60 as case studies. *Science of the Total Environment*, 409: 4109-4124.
 38. **Grieger, K.** 2011. Understanding and assessing potential environmental risks of nanomaterials: Emerging tools for emerging risks - a PhD project. *Miljø og Sundhed*, 17(1): 43-46.
 39. **Grieger, K.** 2011. Assessing the Potential Risks of Nano-Materials – Emerging Tools for Emerging Risks. *European Safety and Reliability Association*, September: 4-5.
 40. **Grieger, K.**, Fjordbøge, A., Hartmann, N.B., Eriksson, E., Bjerg, P.L., Baun, A. 2010. Environmental benefits and risks of zero-valent iron nanoparticles (nZVI) for in situ remediation: risk mitigation or trade-off? *Journal of Contaminant Hydrology*, 118: 165-183.
 41. **Grieger, K.**, Baun, A., Owen, R. 2010. Redefining Risk Research Priorities for Nanomaterials. *Journal of Nanoparticle Research*, 2(2): 383–392.
 42. Wickson, F., **Grieger, K.**, Baun, A. 2010. Nature and Nanotechnology: Science, Ideology and Policy. *International Journal of Emerging Technologies and Society*, 8(1): 5-23
 43. **Grieger, K.**, Hansen, S.F., Baun, A. 2009. The known unknowns of nanomaterials: Describing and characterizing uncertainty within environmental, health and safety risks. *Nanotoxicology*, 3(3): 1-12.
 44. Baun, A., Hartmann, N.B., **Grieger, K.**, Hansen, S.F. 2009. Setting the limits for engineered nanoparticles in European surface waters. *Journal of Environmental Monitoring*, 11(10): 1774 - 1781.
 45. Kristensen, J., Vinding, K., **Grieger, K.**, Hansen, S.F. 2009. Adopting eco-innovation in Danish polymer industry working with nanotechnology: drivers, barriers and future strategies. *Nanotechnology Law & Business* 6(416) (Fall 2009): 416-440.
 46. Sørensen, P., Thomsen, M., Assmuth, T., **Grieger, K.**, Baun, A. 2009. Conscious worst case definition for risk assessment, part I: A knowledge mapping approach for defining most critical risk factors in integrative risk management of chemicals and nanomaterials. *Science of the Total Environment*, 408, 3852-3859.
 47. Baun, A., Hartmann, N.B., **Grieger, K.**, Kusk, K.O. 2008. Ecotoxicity of engineered nanoparticles to aquatic invertebrates – a brief review and recommendations for future toxicity testing. *Ecotoxicology*, 17

- (5), 387-395.
48. Baun, A., Hartmann, N.B., **Grieger, K.**, Hansen, S.F. 2010. Risikable nanomaterialer?- øget anvendelse af nanomaterialer sætter nye krav til riskovurdering. *Aktuel Naturvidenskab*, 3: 30-32.
 49. Baun, A., Hartmann, N.B., **Grieger, K.**, Hansen, S.F. 2009. Risikovurdering i nano-dimensioner: Øget anvendelse af nanomaterialer sætter nye krav til riskovurdering. *Dansk Kemi*, 90(3): 14-16.

Book Chapters

1. Baun, A., Hansen, S.F. **Grieger, K.**, Environmental risk assessment of emerging contaminants – the case of nanomaterials. 2022. In: *Advances in Toxicology and Risk Assessment of Nanomaterials and Emerging Contaminants*. Springer Nature. *In press- expected May 2022*.
2. **Grieger, K.**, Isigonis, P., Franken, R., Wigger, H., Bossa, N., Janer, G., Rycroft, T., Kennedy, A., Hansen, S.F. 2021. Chapter 5: Risk Screening Tools for Engineering Nanomaterials. In: *Ethics in Nanotechnology: Social Sciences and Philosophical Aspects*, edited by Marcel Van de Voorde and Gunjan Jeswani, Berlin, Boston: De Gruyter, 2021, pp. 89-108. <https://doi.org/10.1515/9783110719932-005>.
3. Hansen, S.F., **Grieger, K.**, Baun, A. 2020. Chapter 39: Nanomaterials: Regulation and Risk Assessment. In: *Managing Human and Social Systems*; Brian D. Fath, Sven E. Jørgensen, Megan Cole (Eds), CRC Press, 2nd edition, Boca Raton.
4. **Grieger, K.**, Carpenter, A.W., Klaessig, F., Lefevre, E., Gunsch, C., Soratana, K., Landis, A.E., Wickson, F., Hristozov, D., Hjorth, R., Linkov, I. 2019. Chapter 9: Sustainable Environmental Remediation using nZVI by Managing Lifecycle Benefit-Risk Tradeoffs. In: *Nanoscale Zerovalent Iron Particles for Environmental Restoration: From Fundamental Science to Field Scale Engineering Applications*, Gregory Lowry and Tanapon Phenrat (Eds), Springer.
5. Eisenberg, D., **Grieger, K.**, Hristozov, D., Bates, M., and Linkov, I. 2015. Risk Assessment, Life Cycle Assessment, and Decision Methods for Nanomaterials. *Nanomaterials in the Environment*: pp. 383-419. doi: 10.1061/9780784414088.ch15; *Awarded American Society of Civil Engineers State-of-the-Art Civil Engineering Award* (2017).
6. **Grieger, K.**, Hansen, S.F., and Baun, A. Nanoparticles: Uncertainty Risk Analysis. In: *Encyclopedia of Environmental Management*; S.E. Jorgensen, ed. Taylor & Francis: New York, 2013; Vol. III, 1742–1751.
7. Hansen, S.F., **Grieger, K.**, and Baun, A. Nanomaterials: Regulation and Risk Assessment. In: *Encyclopedia of Environmental Management*; S.E. Jorgensen, ed. Taylor & Francis: New York, 2013; Vol. III, 1722–1732.
8. Elder, A., Lynch, I., **Grieger, K.**, Chan-Remillard, S., Gatti, A., Gnewuch, H., Kenawy, E., Korenstein, R., Kuhlbusch, T., Linker, F., Matias, S., Monteiro-Riviere, N., Pinto, V.R.S., Rudnitsky, R., Savolainen, K. & Shvedova, A. 2009. Human health risks of engineered nanomaterials: Critical knowledge gaps in nanomaterials risk assessment. In: *Nanotechnology. Risks and Benefits*, Linkov, I. & Steevens, J. (eds.), Springer, Dordrecht, NL, 3-29.
9. Owen, R., Crane, M., **Grieger, K.**, Handy, R., Linkov, I. & Depledge, M. 2009. Strategic approaches for the management of environmental risk uncertainties posed by nanomaterials. In: Linkov, I. & Steevens, J. (eds.), *Nanotechnology. Risks and Benefits*, pp. 369-384. Springer, Dordrecht, NL.
10. **Grieger, K.**, Hansen, S.F., Baun, A. 2009. Limitations of current risk assessment of nanomaterials and uncertainty analysis related to nanomaterials. In: Craye, M. (eds), *Governance of Nanotechnologies : Learning from Past Experiences with Risks and Innovative Technologies*, pp. 45-54. Report for FP 6 Co-ordination action: Risk-Bridge - Building Robust, Integrative Inter-Disciplinary Governance Models for Emerging and Existing Risks Riskfield 5 – Nanotechnologies.
11. Hansen, S.F., **Grieger, K.**, Baun, A. 2009. Limitations of current regulation of nanomaterials. In: Craye, M. (eds), *Governance of Nanotechnologies : Learning from Past Experiences with Risks and Innovative Technologies*, pp. 54-58. Report for FP 6 Co-ordination action: Risk-Bridge - Building Robust, Integrative Inter-Disciplinary Governance Models for Emerging and Existing Risks Riskfield 5 – Nanotechnologies.

Grieger CV

Technical Reports, Theses, and Other Publications

1. **Grieger, K.**, Riza, M., Horgan, M., Merck, A. 2022. Society for Risk Analysis Strategic Initiative Funding: Final Report. Prepared for the Society for Risk Analysis, grant no. 2020-1006, SRA internal account code 879-265.
2. Barnhill-Dilling, K., Horgan, M., **Grieger, K.** 2022. Stakeholder Engagement in Risk Sciences – Guiding Report. Prepared for the Society for Risk Analysis, grant no. 2020-1006, SRA internal account code 879-265.
3. Jensen, K.A., Porcari, A., Pizzol, L., Kelly, S., Bakker, M., Spurgeon, D., **Grieger, K.**, Chakravarty, S. 2020. *Deliverable 8.1: Complete list of requirements for a nano-specific risk governance framework.* caLIBRAte European project, Horizon 2020 research and innovation program, grant no. 686239.
4. **Grieger, K.D.** 2019. Behind the Paper: Best Practices from Nano-Risk Analysis Relevant for Other Emerging Technologies. *Nature Nanotechnology*, November 7, 2019.
<https://devicematerialscommunity.nature.com/posts/55315-best-practices-from-nano-risk-analysis-relevant-for-other-emerging-technologies>
5. **Grieger, K.D.**, Kuiken, T. 2019. *Lessons Learned for Risk Governance of Synthetic Biology, Nanomaterials, and Other Emerging Technologies in a Post-2020 World.* Blog prepared for Genetic Engineering and Society Center, NC State. <https://research.ncsu.edu/ges/2019/12/lessons-learned-risk-governance-synbio-nano-post2020-world/>.
6. **Grieger, K.D.**, Ruzante, J., Lillys, T., Lambertini, T., Linkov, I. 2018. *Decision Analysis Support for Implementing a Risk-Informed Decision-Making System in the FDA Foods and Veterinary Medicine Program: Final Report.* Prepared for FDA.
7. **Grieger, K.D.**, Aceituno, A., Andrews, L., Womack, D., Li, M., Havellar, A. 2017. *Develop and Validate Risk Ranking Model v3 to Inform RRM-PT List: Final Report.* Prepared for FDA.
8. Jovanovic, A.; Ahmad, M.; Quintero, F.A.; Porcari, A.; Borsella, E.; Hristozov, D.; **Grieger, K.D.**; Jensen, K. *Comprehensive analysis of available tools and methodologies for Horizon Scanning.* 2017, Deliverable 1.2 caLIBRAte research project.
9. **Grieger, K.D.**, Kowalcyk, B., Ruzante, J., Havelaar, A. 2016. *Task 2 Deliverable: Review Public Comments and Provide Recommendations Relevant for Animal Feed/Pet Food in RRM-PT.* Prepared for FDA.
10. **Grieger, K.D.**, Kowalcyk, B., Sifleet, S., Aceituno, A. 2016. *Task 4 Deliverable: Identify, Collect Data, and Perform Expert Elicitation for New Food-Hazard Pairs involving Human Food.* Prepared for FDA.
11. **Grieger, K.D.**, Kowalcyk, B., Li, M., Havelaar, A. 2016. *Task 5 Deliverable: Evaluate Options to Aggregate Risk Scores in RRM-PT.* Prepared for FDA.
12. **Grieger, K.**, Hjorth, R., Rice, J., Kumar, N., & Bang, J. (2015). Nano-remediation: tiny particles cleaning up big environmental problems. <http://cmsdata.iucn.org/downloads/nanoremediation.pdf>
13. **Grieger, K. D.**, Tulloch, M.L., Kowalcyk, B., Sifleet, S. 2015. *Update and Validate Risk Ranking Model to Inform High Risk Foods List. High-Risk Foods (HRF) Model: Final Report.* Prepared for FDA.
14. **Grieger, K. D.** 2014. *Investigating the invisible.* Biodiversity, Ecosystems, Science. Gland, Switzerland: The International Union for Conservation of Nature. <https://portals.iucn.org/blog/>
15. Zhang, J., Bhatt, T., Newsome, R., Fisher, W., **Grieger, K. D.**, Anderson, M. E., Mokhtari, A. H., Woodward, K. P., Tulloch, M. L., & Beaulieu, S. M. 2013. *Implement and Evaluate the High Risk Foods (HRF) Model: For Recordkeeping and Product Tracing -Final Report.* Prepared for FDA.
16. **Grieger, K. D.**, Tulloch, M. L., Anderson, M. E., Pierson, K. A., Mokhtari, A. H., & Beaulieu, S. M. 2013. *Development of a Risk Ranking Tool for the Determination of High Risk Foods among FDA-regulated Products - Final Report.* Prepared for FDA.
17. Redmon, J. H., Money, E. S., Tulloch, M. L., **Grieger, K. D.**, Lloyd, J. M., Sayes, C. M., Hendren, C. O., Womack, D. S., & Beaulieu, S. M. 2013. *Identifying army materiel incorporating engineered nanomaterials and associated health risks.* Prepared for U.S. Army Center for Environmental Health Research.

Grieger CV

18. **Grieger, K. D.**, Hendren, C., Smith, K. N., Scruggs, M. D., & Beaulieu, S. M. 2012. *Nanomaterial Case Study Workshop Process: Identifying and Prioritizing Research for Multiwalled Carbon Nanotubes*. Summary Report-Final. Deliverable for US EPA. Available: <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=244011#Download>
19. Renn, O., Benighaus, C., Schweizer, P.J., Webler, T., Jovanovic, A., Lim, R., Schneider, R., Klimek, P., **Grieger, K.**, Andersen H.B. 2011. *D2.3.7 – Modeling the Perception of Emerging Risks*. Deliverable for iNTeg-Risk: Early Recognition, Monitoring and Integrated Management of Emerging, New Technology Related, Risks.
20. Kozine, I., **Grieger, K.D.** 2011. *Task 2.5.2. RP: Uncertainty handling (unknown phenomena)*. Deliverable for iNTeg-Risk: Early Recognition, Monitoring and Integrated Management of Emerging, New Technology Related, Risks.
21. Duijm, N.J., **Grieger, K.D.**, Markert, F. 2011. *Deliverable D8.4 Occupational safety assessment*. Deliverable for PlasmaNice: Plasmas for Nanoscale Industrial Surface Processing.
22. **Grieger, K.** 2010. *Understanding and assessing environmental risks of nanomaterials: Emerging tools for emerging risks*. PhD thesis, Department of Environmental Engineering, Technical University of Denmark.
23. **Grieger, K.**, Gundersen, A.T. 2010. *DTU Environment Green Account Report 2009*. Department of Environmental Engineering, Technical University of Denmark
24. Eilersen, A.M., Gundersen, A.T., Christensen, N., (**Grieger, K.** prepared English version). 2009. *DTU Environment Green Account Report 2008*. Technical University of Denmark, Kongens Lyngby, Denmark.
25. **Grieger, K.** 2006. *Pesticide regulations in drinking water versus other beverages: A case of an unjustified discrepancy*. MSc thesis, Department of Environmental Engineering, Technical University of Denmark.
26. **Grieger, K.** and Murphy, P. 2003. *Spatial and temporal patterns in the spread of Austrian pine in four Lake Michigan sand dune habitats*. Final report, including brochures, pamphlets, and public information booklets, were submitted to the State of Michigan, Department of Natural Resources.
27. **Grieger, K.** 2003. *Spatial and temporal patterns of Pinus nigra (Austrian pine) spread in four Lake Michigan sand dune habitats*. Thesis for the Degree of M.S., Michigan State University, East Lansing, MI.

Peer-Reviewed Published Conference Abstracts

1. **Grieger, K.** Cummings, C., Merck, A., Kuzma, J. 2021. Stakeholder Perceptions of Nanotechnology in Food and Agriculture and Adherence to Responsible Innovation. Society for Risk Analysis (virtual meeting).
2. Byrley, P., **Grieger, K.**, Cummings, C. 2021. Creation of the SRA Research Triangle Regional Organization: Opportunities and Challenges. Society for Risk Analysis (virtual meeting).
3. Merck, A., **Grieger, K.**, Cuchiara, M., Kuzma, K. 2021. What Role for Regulation in Responsible Innovation of Nano-Agrifoods? Views from U.S. Stakeholders. Society for Risk Analysis (virtual meeting).
4. Felgenhauer, T., **Grieger, K.**, Wiener, J., Kuzma, K., Borsuk, M. 2021. Implications of Solar Geoengineering for Strategic Behavior and Climate Governance. Society for Risk Analysis (virtual meeting).
5. **Grieger, K.** 2021. Responsible Innovation of Nanotech in Food and Ag Sectors: Perspectives from Researchers and Stakeholders. 10th Sustainable Nanotechnology Organization (SNO) conference (virtual meeting).
6. Malsch, I., **Grieger, K.**, Isigonis, P., Bouman, E., Afantitis, A., Melagraki, G., Dusinska, M. 2021. Demonstration of RiskGONE Ethical Impact Assessment online tools by analysing the case of ZnO nanoparticles to combat citrus greening. Ethical Impacts of Nano in Agrifoods.
7. Knappe, D., Yue, C., Call, D.F., Duckworth, O., **Grieger, K.**, Jones, J. 2021. Effects of Dissolved Organic Matter and pH on Orthophosphate Removal by Lanthanum-modified Bentonite. American Chemical Society (virtual meeting).

Grieger CV

8. Horgan, M., Hsain, A., **Grieger, K.**, Jones, J. 2021. Risk Screening As an Efficient Approach for Responsible Development of lead-Free HfO₂-Based Piezoelectric Materials, ISAF-ISIF-PFM (virtual meeting).
9. **Grieger, K.** 2020. Updating Best Practices for Responsible Innovation of Nanotechnology in Food and Agriculture. Society for Risk Analysis (virtual meeting).
10. **Grieger, K.** 2020. Treating eutrophication with advanced materials: Key considerations for the responsible development of lanthanum-based materials? Society for Risk Analysis (virtual meeting).
11. **Grieger, K.** 2019. Transferring Knowledge from the Field of Nanomaterial Risk Analysis for Other Emerging Technologies. Society for Risk Analysis, Arlington, VA.
12. **Grieger, K.**, Kuzma, J. 2019. Responsible Innovation of Nanotechnology in Food and Agriculture Sectors. Society for Risk Analysis, Arlington, VA.
13. **Grieger, K.** 2019. Transferring Best Practices from Nano-Risk Analysis to Other Emerging Technologies. NanoSafetyCluster Conference, Copenhagen, DK.
14. **Grieger, K.** 2018. Application and testing of risk screening tools for nanomaterial risk analysis. Society for Risk Analysis, New Orleans, LA.
15. **Grieger, K.** 2018. Governance strategies for emerging risks of solar radiation management. Society for Risk Analysis, New Orleans, LA.
16. **Grieger, K.** 2018. Sustainable development of engineering nanomaterials. Carolina Science Symposium, North Carolina State University, Raleigh, NC.
17. **Grieger, K.** 2018. Application and testing of risk screening tools for nanomaterial risk analysis. 13th International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, Durham, NC.
18. **Grieger, K.** 2018. NEXUS 2018: Water, Food, Energy and Climate, Chapel Hill, NC.
19. **Grieger, K.** 2017. Moving from risk assessment to risk governance and decision support for nanomaterials: Lessons learned from select case studies. Society of Risk Analysis, Arlington, VA.
20. **Grieger, K.** 2017. Nanomaterials in Select Consumer and Military Applications. Genetics and Environmental Mutagenesis Society Spring Meeting, Environmental Protection Agency (EPA) headquarters, Research Triangle Park, NC.
21. **Grieger, K.**, Berube, D., Jones, J. 2017. Ensuring Sustainable Development of Water Treatment Technologies. Water Resources Research Institute (WRI), Raleigh NC.
22. **Grieger, K.** 2015. A qualitative risk-benefit assessment for nanomaterials in food. Society of Risk Analysis, Arlington, VA.
23. **Grieger, K.** 2015. A Risk Ranking Approach for Nano-Enabled Applications for the US Army. Sustainable Nanotechnology Conference, Venice, Italy.
24. **Grieger, K.** 2014. Sustainable development and use of nZVI for environmental remediation. 9th International Conference on Environmental Effects of Nanoparticles and Nanomaterials, Columbia, SC.
25. **Grieger, K.**, Laurent, A., Miseljic, M., Christensen, F., Baun, A. 2013. Complementary use of life cycle assessment and risk assessment for engineered nanomaterials: Lessons learned from chemicals? Society of Risk Analysis, Baltimore, MD.
26. Bates, M., **Grieger, K. D.**, Trump, B., & Linkov, I. 2013. Nanoparticles and Health Case studies II. Environmental Health 2013 Science and Policy to Protect Future Generations, Boston, MA.
27. **Grieger, K.**, Linkov, I., Hansen, S.F., Baun, A. 2011. Assessing the environmental risks of nanomaterials: Critical review of risk analysis frameworks. Society of Environmental Toxicology and Chemistry (SETAC), 14-17 November 2011, Boston, USA.
28. **Grieger, K.**, Andersen, H.B. 2011. Emerging nanotechnologies and risk perception. Integ-Risk and Society of Risk Analysis (SRA) conference, 6-8 June 2011, Stuttgart, Germany.
29. **Grieger, K.**, Markert, F. 2011. Practical applications of life cycle assessment and risk analysis: Lessons learned from PlasmaNice. Safety issues of Nanomaterials along their life cycle, 04-05 May 2011, Barcelona, Spain.

Grieger CV

30. **Grieger, K.**, Linkov, I., Hansen, S.F., Baun, A. 2011. Critical analysis of frameworks and approaches to assess the environmental risks of nanomaterials. NanoImpact Net, 14-17 February 2011, Lausanne, Switzerland.
31. **Grieger, K.**, Hansen, S.F., Linkov, I., Baun, A. 2010. A Review of Frameworks and Approaches for Assessing Environmental Risks of Nanomaterials. Society for Risk Analysis, 5-8 December 2010, Salt Lake City, USA.
32. **Grieger, K.**, Grieger, K., Baun, A., Owen, R. 2010. Assessing the Environmental Risks of Nanomaterials: A Comparison of Risk Assessment Frameworks. Environmental Decisions: Risks and Uncertainties, 25-29 April 2010, Monte Verita, Switzerland
33. **Grieger, K.**, Baun, A., Owen, R. 2010. Redefining risk research priorities for nanomaterials. NanoImpact Net, 09-12 March 2010, Lausanne, Switzerland.
34. **Grieger, K.**, Fjordbøge, A., Hartmann, N.B., Eriksson, E., Bjerg, P.L., Baun, A. 2009. Environmental benefits and risks of zero-valent iron nanoparticles (nZVI) for in situ remediation: risk mitigation or trade-off? American Geophysics Union (AGU), 14-18 December, San Francisco, USA.
35. **Grieger, K.**, Baun, A., Owen, R. 2009. Redefining risk research priorities for nanomaterials. Environmental Effects of Nanoparticles and Nanomaterials, 06-09 September 2009, Vienna, Austria.
36. Hansen, S.B., Clausen, A., **Grieger, K.**, Baun, A. 2009. Environmental risks and benefits of cerium oxide nanoparticles. Environmental Effects of Nanoparticles and Nanomaterials, 06-09 September 2009, Vienna, Austria.
37. **Grieger, K.**, Baun, A., Owen, R. 2009. Nanomaterial risk research needs: Time to re-evaluate? International Workshop "Nanotechnology Governance Compared", 17-18 June 2009, Vienna, Austria.
38. **Grieger, K.**, Hansen, S.F., Baun, A. 2009. Quality assurance for risk assessment of nanomaterials. NanoImpact Net conference, 24-25 March 2009, Lausanne, Switzerland.
39. **Grieger, K.**, Hansen, S.F., Baun, A. 2008. Analyzing uncertainty within environmental, health, and safety risks of nanomaterials. Symposium for US Environmental Protection Agency, 11 December 2008, Research Triangle Park, NC, USA.
40. **Grieger, K.**, Hansen, S.F., Baun, A. 2008. Analyzing uncertainty within environmental, health, and safety risks of nanomaterials. Society for Risk Analysis, 7-10 December 2008, Boston, USA.
41. Baun, A., Hartmann, N., **Grieger, K.**, Foss Hansen, S. Engineered nanoparticles - environmental contaminants and carriers? NanoDTU Day, December 2008, Technical University of Denmark.
42. **Grieger, K.**, Hansen, S.F., Baun, A. 2008. Identifying and mapping parameters influencing EHS risks of nanomaterials: Comparing research gaps, recommendations and government funding. NanoRisk 2008, 21-24 October 2008, Paris, France.
43. **Grieger, K.**, Hansen, S.F., Baun, A. 2008. Uncertainty and Sensitivity Analysis of Environmental and Health Risks of Nanomaterials: Ensuring that EHS Research Prioritization and Efforts Transform into Short-term Decision-making Processes. Risk Trace, 27-30 May 2008, Faro, Portugal.
44. **Grieger, K.**, Hansen, S.F., Baun, A. 2008. The known "knowns" and known "unknowns": Mapping uncertainty in regard to the potential human and environmental health risks of manufactured nanoparticles. NanoEco: Nanoparticles in the Environment- Implications and Applications, 2-7 March 2008, Ascona, Switzerland.
45. Mikkelsen, P.S., **Grieger, K.**, Ledin, A., Rasmussen, B., Revitt, M., Scholes, L., Verdonck, F., Benedetti, L., Castillo, L., Lecloux, A., Kompare, B., Banovec, P., Bessat, C., Trouve, J., Sörme, L., Jonsson, A. & Vanrolleghem, P. 2007. SCOREPP - Source Control Options for Reducing Emissions of Priority Pollutants. Abstract MO PC7-7. SETAC Europe 17th Annual Meeting "Multiple stressors for the environment and human health - present and future challenges and perspectives", 20-24 May 2007, Porto, Portugal.
46. **Grieger, K.** and Trapp, S. 2006. Pesticide residues in drinking water versus other beverages: a case of an unjustified discrepancy? Ethics and the politics of food- Preprints of the 6th Congress of the European Society for Agricultural and Food Ethics, EurSAFE 2006, June 22-24 2006, Oslo, Norway.

Grieger CV

47. **Grieger, K.** and Trapp, S. 2006. Setting standards: water versus wine. Controversies and solutions in environmental sciences, SETAC Europe 16th annual meeting, May 7-11 2006, The Hague, Netherlands.

Conference and Seminar Presentations

1. Society for Risk Analysis Annual Meeting (virtual format). Session Chair (Perceptions and Risks of Advanced Materials and Technologies) and Oral Presentation, Poster Presentation, 2021.
2. Symposium on Environmental Governance and Ecological Restoration (virtual format), College of Environment and Ecology, ChongQing University, China. Oral Presentation, 2021.
3. 10th Sustainable Nanotechnology Organization (SNO) Conference. Oral Presentation, 2021.
4. NC State University, Department of Biological and Agricultural Engineering; Seminar Presentation, 2021.
5. Gordon Research Conference (GRC) Connects: Nanoscale Science and Engineering for Agriculture and Food Systems. Keynote Speaker, Oral Presentation, 2021.
6. EngageINFEWs - Lightning Talks. NSF-Research Coordination Network. Oral Presentation, 2021.
7. Center for Human Health and the Environment. Seminar Series. Oral Presentation, 2021.
8. Society for Risk Analysis Annual Meeting (virtual format). Oral Presentations (4), 2020.
9. US FDA, Office of Food Additive Safety (OFAS) Seminar Series. Oral Presentation, 2020.
10. NC State, Sea Grant, WRII seminar series. Oral Presentation, 2020.
11. US-EU Nano-EHS Communities of Research (COR) Workshop: Bridging Insights and Perspectives. Oral Presentation, 2020.
12. European Commission, Joint Research Centre, Workshop on Safe and Sustainable Smart Nanomaterials. Oral Presentation, 2020.
13. North Carolina A&T State University, Joint School of Nanoscience & Nanoengineering, Seminar Series. Oral Presentation, 2020.
14. Society for Risk Analysis Annual Meeting, Arlington, VA. Oral Presentations (2), 2019.
15. NanoSafetyCluster Conference, Copenhagen, DK. Oral Presentation, 2019.
16. Baylor University, Environmental Science Department Seminar Presentation, Waco, TX, USA. Oral Presentation, 2019.
17. Genetic Engineering and Society Seminar Presentation, North Carolina State University, Raleigh, NC, USA. Oral Presentation, 2019.
18. Society for Risk Analysis, Annual Meeting, New Orleans, LA, USA. Oral Presentations (N=2), 2018.
19. Carolina Science Symposium, North Carolina State University, Raleigh, NC, USA. Oral Presentation, 2018.
20. 13th International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, Durham, NC, USA. Oral Presentation, 2018.
21. NEXUS 2018: Water, Food, Energy and Climate, Chapel Hill, NC, USA. Poster Presentation, 2018.
22. Society for Risk Analysis, Annual Meeting, Arlington, VA, USA. Oral Presentation, 2017.
23. International Society of Exposure Science, Research Triangle Park, NC, USA. Oral Presentation, 2017.
24. Genetics and Environmental Mutagenesis Society, RTP, NC, USA. Oral Presentation, 2017.
25. Water Resources Research Institute, Raleigh, NC, USA. Oral Presentation, 2017.
26. Society for Risk Analysis Annual Meeting, Arlington, VA, USA. Oral Presentation, 2015.
27. Sustainable Nanotechnology Conference, Venice, Italy, Poster Presentation, 2015.
28. 9th International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, Columbia, SC, Oral Presentation, 2014.
29. Society for Risk Analysis Annual Meeting, Baltimore, MD, USA. Oral Presentation, 2013
30. Society of Environmental Toxicology and Chemistry, Boston, USA. Oral Presentation, 2011
31. Integ-Risk: Early Recognition, Monitoring and Integrated Management of Emerging, New Technology Related Risks and Society of Risk Analysis, Stuttgart, Germany. Oral Presentation and Session Chair (received student award), 2011
32. Safety Issues of Nanomaterials along their Life Cycle, Barcelona, Spain. Poster Presentation, 2011
33. NanoImpact Net, EU FP7 project, Lausanne, Switzerland. Poster Presentation, 2011

Grieger CV

34. Society for Risk Analysis Annual Meeting, Salt Lake City, UT, USA. Oral Presentation (received student and travel awards), 2010
35. Environmental Decisions: Risks and Uncertainty, Acona, Switzerland. Oral Presentation, 2010
36. NanoImpact Net, EU FP7 Project, Lausanne, Switzerland. Oral and Poster Presentations, 2010
37. American Geophysics Union, San Francisco, USA. Oral Presentation (received student award on presentation), 2009
38. Nanotechnology Risk Governance, Vienna, Austria. Poster Presentation, 2009
39. NanoImpact Net, EU FP7 project, Lausanne, Switzerland. Oral Presentation, 2009
40. US Environmental Protection Agency, Research Triangle Park, NC, USA. Oral Presentation, 2008
41. The Society for Risk Analysis Annual Meeting, Boston, MA, USA. Poster Presentation, 2008
42. NanoRisk 2008: Determining occupational, environmental, and health impacts, Paris, France. Oral Presentation, 2008
43. Third Workshop of the RISKBRIDGE FP 6 Coordination Action: Building bridges in risk governance, Gorizia, Italy. Assisted with Oral Presentation, 2008
44. Nanomaterials: Environmental Risks and Benefits and Emerging Consumer Products, Faro, Portugal. Poster Presentation, 2008
45. Nanoparticles in the Environment- Implications and Applications, Ascona, Switzerland. Oral Presentation, 2008
46. Second International Advanced Course Public Communication & Applied Ethics of Nanotechnology - Learning from the GM debate, Oxford, UK. Oral Presentations, 2007
47. Second Workshop of the RISKBRIDGE FP 6 Coordination Action: Exploring the Interface between Science and Policy making, Bentivoglio, Italy. Oral Presentation, 2007
48. Society Environmental Toxicology and Chemistry, Porto, Portugal. Poster Presentation, 2007
49. Sixth Congress of the European Society for Agricultural and Food Ethics, Oslo, Norway. Session Chair and Poster Presentation, 2006
50. Society of Environmental Toxicology and Chemistry, The Hague, Netherlands. Poster Presentation, 2006
51. Use of Precautionary Principle in Nordic Countries, Oslo, Norway, 2005
52. Annual conference of Michigan Academy of Science, Arts, and Letters, Holland, Michigan. Oral Presentation, 2003

EXTENSION ACTIVITIES AND OUTCOMES

- Society for Risk Analysis annual meeting (virtual) – session chair. December 2021.
- STEPS Center Open House (virtual). November 2021.
- NC State Extension *Annual Conference*. [Oral](#) and [poster](#) presentations. October 2021.
- Town of Cary, Environmental Advisory Board; *My Tree, Our Tree* event. October 2021.
- *North Carolina Sweetpotato Field Day*, Horticultural Crops Research Station, Clinton, NC. Poster presentations on NC State-funded GRIP4PSI, Sweet-APPS project. October 2021.
- NC State Extension *Needs Assessment on Environmental Health & Risk Priorities*. Final Report, September 2021.
- NC State Extension *Webinar on Needs Assessment*. May 2021.
- NC State Extension *Master Gardener Webinar on Glyphosate*, with Joe Neal. July 2020.
- Town of Cary, Environmental Advisory Board Member; collaborating with Town on Environmental and Sustainability topics. 2018 – present (2021).

ADVISING, MENTORING, AND TEACHING

Advising & Mentoring

NC State University

- *Supervisory Roles for NC State postdocs and employees*
 - Primary Faculty Advisor for Dr. Ashton Merck, Postdoctoral Fellow 2021 – present

Grieger CV

- Primary Faculty Advisor for Ms. Madison Horgan, Interdisciplinary Risk Researchers and Engagement Specialist 2021 – present
 - Primary Faculty Advisor for Dr. Christopher Cummings, Senior Research Scholar 2020 – 2021
 - Co-mentor for Postdoctoral Research Scholar, Dr. Adam Kokotovich 2019 – 2021
 - Co-mentor for Postdoctoral Research Scholar, Dr. Cecile Zhi 2019 – 2020
 - Supervisor for Mr. David Glas, Risk Communication expert 2020 – 2021
 - Supervisor for Ms. Rebecca Michael, Stakeholder engagement expert 2020 – 2021
 - Supervisor for Mr. Anthony Dimeglio, Regulatory risk expert 2020 – 2021
 - *Supervisory Roles for NC State graduate and undergraduate students*
 - Faculty advisor for PhD student, Mr. Nick Loschin 2021 – present
 - Faculty advisory for MS student, Ms. Mumtahina Riza 2021 – present
 - Faculty advisor for undergraduate research project, Ms. Cheyana Bassham Spring 2021
 - Co-mentor for undergraduate student, Ms. Madison Horgan 2020 – 2021
 - Graduate student committee member, Ms. Sandy Ramsey 2021 - present
 - *Graduate Student Representative, GSR for Mr. Corey Ship* March 2021
- RTI International 2014-2018
- Mentor to two junior staff and students 2017
- Technical University of Denmark
- External supervisor for special student project 2010-2011
 - Supervisor for two undergraduate student bachelor research projects 2010-2011
- Michigan State University 2002-2003
- Supervisor for four undergraduate student bachelor research projects 2002-2003
- ### Teaching & Guest Lectures
- North Carolina State University
- Guest Faculty to review student presentations, Environmental Toxicology (AEC 715) 2021
 - Guest Faculty Visitor on Career Development, Field Ecology (AEC 460) 2021
 - Guest Lecturer, Principles of Collaboration and Team Science (CVM) 2020, 2021
 - Guest Lecturer, NC Sea Grant, WRII project team meeting 2020
 - Guest Lecturer, Department of Material Science and Engineering 2020
 - Guest Lecturer, Department of Civil and Environmental Engineering 2013, 2016
 - Guest Lecturer, College of Natural Resources 2017, 2019
- Duke University
- Guest lecture, Senior Sustainability Engagement Certificate Capstone Project Seminar 2019
 - Bass Connections: Decisions on Complex Interdisciplinary Problems of Health and Environmental Risk 2017-2018
 - Course Involvement through Duke Scholars Program
 - Introduction to Environmental Health course June 2015, 2016
 - Lecturer, course manager
 - One-week intensive course with Duke's One Health Training Program
 - Course associated with Duke's Global Health Institute
- Meredith College 2014-2014
- Adjunct Professor, course lecturer and manager
 - Environmental Science (lectures, lab, excursions, course management)
 - Plant Biology (lectures, course management)
- Technical University of Denmark 2005-2011
- Teaching Assistant (lectures, course management)

Grieger CV

- Environmental Management and Ethics
- Nanotechnology and Environment
- Guest lectures
 - Introduction to Nanotechnology
 - Mapping Controversies

Michigan State University

1999-2003

- Teaching Assistant (lectures, course management)
 - Ecology, Ecology Laboratory, Introductory Plant Biology Laboratory, Plant Ecology, Plants of Michigan, Tropical Biology

MEDIA AND SERVICE WEBINARS

- 2021, NC State Faculty Member to Co-Lead Knowledge Transfer Efforts for New \$25M Phosphorus Research Center, CALS News, October: <https://cals.ncsu.edu/news/nc-state-faculty-member-to-co-lead-knowledge-transfer-efforts-for-new-25-million-phosphorus-research-center/>
- 2021, GRC Connects: Nanoscale Science and Engineering for Agriculture. Oral Presentation. <https://www.youtube.com/watch?v=pG6-gFTK0GY>
- 2021, Extension Webinar: Exploring NC State Extension Needs in Environmental Health and Risk. Oral Presentation. <https://ncsu.zoom.us/rec/share/OBliNeo9jTtAOaI3jx2LbDKhHK-PDQ-UV7KI-IhVI0RW8HxfXrBdNDbAZ-tzh-cJ.VCHCTYJodSi7CgMy?startTime=1621612344000>
- 2021, Center for Human Health and the Environment, NC State. Seminar Series and Career Exposures. Oral Presentation.
- 2020-2021, News and media on Kuzma & Grieger *Science* (2020) article:
 - Progressive Farmer (<https://www.dtnpf.com/agriculture/web/ag/crops/article/2021/02/19/gene-altered-attitudes>)
 - Science Daily (<https://www.sciencedaily.com/releases/2020/11/201119141714.htm>)
 - Seed World (<https://seedworld.com/researchers-recommend-more-transparency-for-gene-edited-crops/>)
 - Lab Manager (<https://www.labmanager.com/news/researchers-recommend-more-transparency-for-gene-edited-crops-24441>)
 - Laboratory Equipment (<https://www.laboratoryequipment.com/570686-Researchers-More-Transparency-Needed-for-Gene-edited-Crops/>)
 - NC State (<https://news.ncsu.edu/2020/11/gene-editing-transparency/>)
 - WRAL TechWire (<https://www.wraltechwire.com/2020/11/23/gene-editing-of-crops-requires-greater-transparency-ncsu-researchers-say/>)
- 2020, NC State, Department of Applied Ecology, Meet the New Faculty of 2020! (<https://cals.ncsu.edu/applied-ecology/news/video-meet-the-new-faculty-of-2020/>)
- 2020, US FDA, Office of Food Additive Safety (OFAS) Seminar Series. Oral Presentation.
- 2020, US-EU Nano-EHS Communities of Research Workshop: Bridging Insights and Perspectives. Oral Presentation on Evaluating Governance Frameworks to Make Risk-Based Decisions of Nanomaterials: <http://tvworldwide.com/events/nanotech/200824/default.cfm?id=17738&type=flv&test=0&live=0>
- 2020, The Measure of Everyday Life: The Unseen World of Food Nanotechnology. Podcast interview, released September 2, 2020: <https://measureradio.libsyn.com/the-unseen-world-of-food-nanotechnology>
- 2020, The Secondary Risk Society: Risk & Decision-Making in the 21st Century, co-sponsored by the Society for Risk Analysis, GES Center, and RTI International. Webinar host, August 14, 2020: <https://mediasite.wolfware.ncsu.edu/online/Channel/ges-center/watch/743ae52992814a108d563e878217648a1d>
- 2020, NC State Extension Continuing Ed Webinar: Glyphosate: Can we separate fact and fiction? And, how do we control weeds without it? Panelist, July 7, 2020.
- 2020, GES Center Webinar on Perspectives on the new USDA rules for GM crops, Panelist, June 5, 2020: <https://mediasite.wolfware.ncsu.edu/online/Play/dfb1f865e8e84f108a29c915b94116cc1d>

Grieger CV

- 2020, Society for Risk Analysis Podcast on “COVID-19 Impacts on Risk Research,” Panelist, Released May 28:
https://hwcdn.libsyn.com/p/6/f/c/6fc5852237b9c67e/SRA_Podcast_Episode_4.m4a?c_id=74151341&cs_id=74151341&expiration=1590690445&hwt=4b54d1359b41f4ea2ff835ba49ec23f4
- 2020, Joint School of Nanoscience & Nanoengineering, at North Carolina A&T State University, Webinar: Ensuring Responsible Innovation of Engineered Nanomaterials:
<https://www.youtube.com/watch?v=ZjqQG9WNvMU&feature=youtu.be>), March 9, 2020.
- 2020, Society for Risk Analysis and Genetic Engineering and Society Center Colloquium on “Careers in Risk Science,” Panel moderator:
<https://mediasite.wolfware.ncsu.edu/online/Play/bff379c57b564b2cb2933a009b8822451d?catalog=436ff975eab64dc5a5646e7812c6877521>
- 2019, Genetic Engineering and Society Colloquium Seminar on Governance Strategies for Emerging Risks of Solar Radiation Management: <https://www.youtube.com/watch?v=YYGEuu4Ks4Q>
- 2018, Featured in RTI University Collaboration Office, Universities and Research Institutions video: www.rti.org/universities-and-research-institutions and www.youtube.com/watch?v=AM3Ihk8TSCA

SERVICE

- Engagement Committee Member, Society for Risk Analysis- Research Triangle Regional Organization, 2022 to date.
- Chair for Society for Risk Analysis for Session on Perceptions and Risks of Advanced Materials and Technologies, virtual meeting December 2021.
- Advisory Council Member, Society for Risk Analysis- Advanced Materials and Technologies Specialty Group, 2021 to date.
- Graduate School Representative for PhD defense, Dept. Marine, Earth, Atmospheric Sciences, NC State, March 2021
- Diversity, Equity, and Inclusion (DEI) Committee Member, Dept. Applied Ecology, NC State, 2020 to date
- Advisory Board Member, European Commission-funded project, SusNanoFab, 2021 to date
- Advisory Board Member, European Commission-funded project, RiskGONE, 2020 to date
- Environmental Advisory Board Member, Town of Cary, NC, 2018 to date
- Society for Risk Analysis, Annual Meeting, Career Path Breakout: Environmental Engineering and Public Health, 2020
- USDA/NIFA grant proposal review panel member, 2020
- Advisory Board Member, European Commission-funded project caLIBRAte, 2019 to 2020
- Advisory Board Member, NC State University Analytical Instrumentation Facility (AIF), 2019 to 2020
- Co-Chair for Risk Management & Control Community of Research (COR), EU-US consortia on nano-environmental, health, and safety research; Aix-en-Provence (FR) 2019, Virtual meeting (2020)
- Review Editor in *Medicine and Public Health*, part of the journal(s) *Frontiers in Big Data and Artificial Intelligence*, 2018 to 2019
- Co-Chair of Symposium NanoSafetyCluster Conference, Copenhagen, DK, 2019
- Sponsor for RTI University Scholar, Dr. James Levis, NC State University, 2018
- Co-Chair of Symposium, From Nanotechnology Risk Management to Innovative Governance: Developing Reliable and Trustable Framework and Tools, Society of Risk Analysis Annual Meeting, 2017
- Member and RTI representative, American National Standards Institute (ANSI)-Accredited U.S. Technical Advisory Group (TAG) ISO/TC 229 Nanotechnologies, Member of Working Group 3 (Health, Safety and Environment) and Working Group 5 (Consumer and Societal Implications), 2014-2018
- Leader of Nanotechnology Workforce, International Union for Conservation of Nature (IUCN), Lausanne, Switzerland, 2014-2017

Grieger CV

- Co-Chair of Symposium, Strategic Research Planning for MWCNTs, Society of Risk Analysis, Annual Meeting 2013, Baltimore, MD, USA
- RTI Mentor, RTI International, Environmental & Health Science Unit, Research Triangle Park, NC, 2013 to date
- Founder and Coordinator of Intra-Departmental Research Group, Emerging Risks Research Group, Department of Management Engineering, Technical University of Denmark, 2011
- Conference Session Chair, Integ-Risk and Society of Risk Analysis (SRA) Conference, Stuttgart, Germany, 2011
- Departmental Green Account Project Manager, Department of Environmental Engineering, Technical University of Denmark, 2009-2010
- Founder and Project Leader, Carbon-Reduction Initiative group, Department of Environmental Engineering, Technical University of Denmark, 2007-2010
- Reporteur, World Health Organization: Enhanced policy advice on environment and health in Europe (PAVEL), Bonn, Germany, 2008
- Reporteur, Nanomaterials: Environmental Risks and Benefits and Emerging Consumer Products (NATO workshop), Faro, Portugal, 2008
- Conference Session Chair, Foundational Issues in Philosophy and Ethics, 6th Congress of the European Society for Agricultural and Food Ethics, Oslo, 2006
- English Editor, for over 70 scientific journal articles, documents, theses, 2005-2011
- Volunteer for United Nations Volunteers and NetAid, assigned to The Gaia Movement Trust, 2006
- Intern, Société Ingénierie et Technique, France, 2004
- Treasurer, Graduate Student Organization, Botany and Plant Pathology Department/ Plant Biology Department, Michigan State University, 2001 – 2003
- Departmental Steward, Graduate Employees Union, Michigan State University, 2000 – 2003

JOURNAL AND PROPOSAL SERVICE

Reviewer of Manuscripts and Book Chapters:

- *ACS Book, Symposium Series Chapter*
- *Advances in Water Resources*
- *BMJ*
- *Chemical Papers*
- *Chemosphere*
- *Critical Reviews in Toxicology*
- *Elsevier books*
- *Environment International*
- *Environmental Modeling & Software*
- *Environmental Pollution*
- *Environmental Science: Nano*
- *Environmental Science & Technology*
- *Environmental Systems and Decisions*
- *Environmental Science and Pollution Research*
- *Food Research International*
- *Journal of Environmental Management*
- *Journal of Nanoparticle Research*
- *Journal of Occupational Medicine and Toxicology*
- *NanoImpact*
- *Nature Nanotechnology*
- *Nano Today*
- *npj Science of Food*
- *Risk Analysis*
- *RTI Press*
- *Science of the Total Environment*
- *Science, Technology, and Human Values*
- *Sustainability – Guest Editor (2020)*
- *Science, Technology, & Human Values*

Reviewer of Research Proposals:

- USDA/NIFA grant proposals and panel member, 2020
- NC State, Center for Human Health and the Environment, 2020 Pilot Award
- NC State, Undergraduate Research Awards, 2020
- ETH Zurich Research Commission
- Israel Science Foundation
- Mitacs Elevate Proposal, Canada, 2022

Grieger CV

PROFESSIONAL COURSEWORK & TRAINING

- 2021-2022: NC State Faculty LEAD Program (Leadership Development)
- 2021: NC Water Resources Association Forum; A Hotter, Wetter, More Humid NC; 1 PDH credit hour
- 2021: Center for the Improvement of Mentored Experiences in Research (CIMER) Mentoring Training
- 2020: Community Engagement Fundamentals Community of Practice through Campus Compact
- 2019: Introduction to NVivo, NC State University
- 2017: International Society of Exposure Science Annual Meeting
 - Assessing Exposure to Chemicals in Consumer Products for Alternatives Assessment, Life Cycle Assessment, and High-throughput Risk Screening – the Product Intake Fraction Framework Theory and Practical Examples

PROFESSIONAL MEMBERSHIP

- Society for Risk Analysis, 2008-present
- American National Standards Institute, U.S. TAG to ISO/TC 229, Nanotechnologies, 2013-2018
- Society of Environmental Toxicology and Chemistry, 2005-2011
- American Geophysical Union, 2009-2010
- European Society for Agriculture and Food Ethics, 2006-2008
- Ecology, Evolutionary Biology and Behavior, Michigan State University, 1999-2003
- Phi Kappa Phi Honor Society, 1998-1999