
Navigating the Benefits and Risks of Publishing Studies of In Silico Modeling and Computational Approaches of Biological Agents and Organisms – A Workshop

Biosketches of Speakers/Panelists

SESSION 1

Gigi Gronvall, PhD

Gigi Gronvall is a Professor in the Department of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health, and a Senior Scholar at the Johns Hopkins Center for Health Security. She is an immunologist by training. She has led national and international efforts to improve biosafety and biosecurity policies, focusing on the occupational health of laboratory workers. Dr. Gronvall is the author of *Synthetic Biology: Safety, Security, and Promise* (2016). In the book, she describes what can be done to minimize technical and social risks and maximize the benefits of synthetic biology, focusing on biosecurity, biosafety, ethics, and US national competitiveness—important sectors of national security. Dr. Gronvall is also the author of *Preparing for Bioterrorism: The Alfred P. Sloan Foundation's Leadership in Biosecurity*. She is currently a member of the International Security Advisory Board (ISAB) which advises the US State Department, and the National Institutes of Health (NIH) Novel and Exceptional Technology and Research Advisory Committee (NExTRAC). From 2009-2010, she served as the Science Advisor for the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism. Dr. Gronvall received a B.S. in biology from Indiana University, Bloomington and a Ph.D. from Johns Hopkins University.

Lynda M. Stuart, PhD

Lynda Stuart is the President and CEO of the Fund for Science and Technology. She previously served as the Executive Director of the Institute for Protein Design and acting Professor in Biochemistry at the University of Washington School of Medicine. As a physician scientist with over 20 years of experience in immunology, global health, and product development she directs translational research and corporate and foundation collaborations, transforming laboratory breakthroughs into real-world impact. As Deputy Director of the Gates Foundation from 2013 to 2022, Stuart oversaw the pre-clinical development of vaccines, including mRNA vaccines, and antibody therapies to address urgent global health challenges. In the wake of Ebola, she contributed to the conceptualization of “just-in-time” platform approaches for pandemic responses. From 2020 to 2022 she led the Foundation's COVID-19 discovery and translational vaccine response efforts. After leaving the Gates Foundation, Stuart spent one year as the Vice President of Infectious Disease at the mRNA company BioNTech. Stuart is a Fellow of the American Society for Clinical Investigation. She also currently serves on the Scientific Advisory Committee of CEPI (Coalition for Epidemic Preparedness and Innovation) and is a member of the Scientific Technical Expert Group for the International Pandemic Preparedness Secretariat supporting the 100 Days Mission. Stuart received a Ph.D. in immunology from the University of Edinburgh and M.D. from the University of London.

Sara Y. Del Valle, PhD

Sara Del Valle is the Chief Scientist for the Associate Laboratory Director for Global Security at Los Alamos National Laboratory (LANL). With over 20 years of experience, Dr. Del Valle has pioneered the development of mathematical, statistical, and computational models for infectious disease spread, as well as the integration of data analytics to address national security challenges. Her research focuses on leveraging heterogeneous data streams to enhance disease forecasting, developing large-scale agent-based models, and integrating human behavioral dynamics into predictive algorithms. Dr. Del Valle's contributions have earned her multiple accolades, including the DOE Secretary of Energy Appreciation Award, the Global Security Medal from LANL, and two R&D 100 Awards. She has served on multiple NASEM standing committees focused on biotechnology capabilities for national security and sits on the scientific advisory board for arXiv. Dr. Del Valle is also a LANL Fellow, recognized for her leadership and significant impact in strengthening global health response and preparedness.

SESSION 2

James Diggans, PhD

James Diggans is a distinguished scientist in bioinformatics and biosecurity, at Twist Bioscience, a DNA synthesis company based outside of San Francisco, and he is the current chair of the International Gene Synthesis Consortium. At Twist, he created and leads the company's biosecurity program, is a member of the government affairs and policy team and leads bioinformatics in the Advanced Development group on work including the storage of digital data in DNA. Dr. Diggans holds a Ph.D. from George Mason University in computational biology and bioinformatics and has worked in target discovery, molecular diagnostic development, and biodefense.

Anthony Gitter, PhD

Anthony Gitter is an associate professor in the Department of Biostatistics and Medical Informatics and affiliate faculty in the Department of Computer Sciences at the University of Wisconsin-Madison as well as the Jeanne M. Rowe Chair at the Morgridge Institute for Research in the John W. and Jeanne M. Rowe Center for Research in Virology and Research Computing. He is an affiliate of the Data Science Institute and the Center for Genomic Science Innovation and a member of the UW Carbone Cancer Center Cancer Genetic and Epigenetic Mechanisms Scientific Program. Anthony's research group uses network modeling to connect genomic, transcriptomic, and proteomic data and provide a cohesive view of a biological process, with special emphasis on virology and oncology. In addition, they explore machine learning applications in biochemistry, such as computationally-guided chemical screening and protein engineering. He received his Ph.D. in Computer Science from Carnegie Mellon University and was a joint postdoc at Microsoft Research New England and the Massachusetts Institute of Technology.

Nicholas Sofroniew, PhD

Nicholas Sofroniew leads the Frontier Intelligence Team at EvolutionaryScale, collaborating with scientists to apply advanced AI models to complex biological problems. Previously, he was Director of Product and Technology at the Chan Zuckerberg Initiative (CZI), where he started AI efforts in cell biology and imaging. He was a Research Scientist at the Janelia Research Campus of the Howard Hughes Medical Institute (HHMI) and holds degrees in Mathematics (BA/MMath) and Neuroscience (PhD) from the University of Cambridge.

Jaime Yassif, PhD

Jaime Yassif serves as Vice President of NTI Global Biological Policy and Programs (NTI | bio). In this role she oversees NTI | bio's work to reduce global catastrophic biological risks, strengthen biosecurity and pandemic preparedness, and drive progress in advancing global health security. Prior to this, Dr. Yassif served as a Program Officer at the Open Philanthropy Project, where she led the initiative on Biosecurity and Pandemic Preparedness. In this role, she recommended and managed approximately \$40 million in biosecurity grants, which rebuilt the field and supported work in several key areas, including: development of new biosecurity programming at several leading think tanks; cultivation of new talent through biosecurity leadership development programs; initiation of new biosecurity work in China and India; establishment of the Global Health Security Index; development of the Clade X tabletop exercise; and the emergence of a new discussion about global catastrophic biological risks. Previously, Yassif was a Science and Technology Policy Advisor at the U.S. Department of Defense, where she focused on oversight of the Cooperative Threat Reduction Program and East Asia security issues. During this period, she also worked on the Global Health Security Agenda (GHSA) at the Department of Health and Human Services, where she helped lay the groundwork for the WHO Joint External Evaluations and the GHSA Steering Group. Yassif's previous experience includes work with Connecting Organizations for Regional Disease Surveillance, Chatham House, NTI, the Federation of American Scientists and the Tsinghua University Institute for International Studies. She holds a Biophysics Ph.D. from UC Berkeley, an MA in Science and Security from the King's College London War Studies Department, and a BA in Biology from Swarthmore College.

SESSION 6

Diane DiEuliis, PhD

Diane DiEuliis is a Distinguished Research fellow at National Defense University, where she researches the impacts of emerging technologies on biodefense, biosecurity and national defense. Her expertise covers biotechnology, the US bioeconomy, dual use life sciences research, neurotechnology, and behavioral, cognitive, and social issues (including ELSI). Dr. DiEuliis teaches in biotechnology and biodefense, and lectures in foundational professional military education. Prior to joining NDU, Dr. DiEuliis was the Deputy Director for Policy and Planning, in the Office of the Administration for Strategic Preparedness and Response (ASPR), U.S. Department of Health and Human Services. Dr. DiEuliis was the Assistant Director for Life Sciences and Behavioral and Social Sciences in the Office of Science and Technology Policy (OSTP) in the Executive Office of the President across two presidencies. During her tenure at the White House, she created policy in biosecurity, synthetic biology, biotechnology, behavioral science, scientific collections, and human subjects' research. Prior to working at OSTP, Dr. DiEuliis was a program director at the National Institutes of Health (NIH), where she managed a diverse portfolio of neuroscience research in neurodegenerative diseases. She is the author of over 80 publications.

Kenneth Oye, PhD

Kenneth Oye is a Professor of Political Science (School of Humanities Arts and Social Sciences) and Data Systems and Society (School of Engineering) and Director of the Program on Emerging Technologies (PoET), with work on international relations, political economy and technology policy. His work in international relations includes Cooperation under Anarchy, Economic Discrimination and Political Exchange, and four "Eagle" monographs on American foreign policy, with advisory work for the Petersen Institute, UNIDO and US Treasury, Commerce and EXIM and the MIT Seminar XXI Program. His current work in technology policy centers on adaptive management of risks associated with synthetic biology and pharmaceuticals and on equity in health policy, with recent papers in *nature*, *Science*, *Clinical Pharmacology and Therapeutics* and advisory work with the UN BWC and WHO, NIH NExTRAC, and PCAST. Professor Oye is the recipient of the Martore Award for Exceptional Educational Contributions (2018) and the Technology Policy Program Faculty Appreciation Award (2003, 2018) in the School of Engineering and the Levitan Award for Excellence in Teaching (2011) and

the Graduate Council Teaching Award in the School of Humanities, Arts and Social Sciences. Before coming to MIT, Professor Oye taught at Harvard University, the University of California, Princeton University and Swarthmore College. He holds a BA in Economics and Political Science from Swarthmore College with Highest Honors and a Ph.D in Political Science from Harvard University with the Chase Dissertation Prize.

SESSION 7

Steinn Sigurðsson, PhD

Steinn Sigurðsson is a Professor in the Department of Astronomy & Astrophysics at the Pennsylvania State University. He received his PhD in physics in 1991 from the California Institute of Technology, was a Research Fellow the University of California at Santa Cruz and a Marie Curie Fellow at Cambridge University. He does research in theoretical astrophysics. Steinn is a member of the Center for Exoplanets and Habitable Worlds at Penn State; the Institute for Gravitation and the Cosmos at Penn State; and the Penn State Astrobiology Research Center. Steinn is a Science Editor of the AAS Journals, a Member of the Board of the Aspen Center for Physics, and the Scientific Director of arXiv at Cornell University.

Sean Ekins, PhD

Sean Ekins graduated from the University of Aberdeen; receiving his M.Sc., Ph.D. in Clinical Pharmacology and D.Sc in Science. Sean was a postdoctoral fellow at Lilly Research Laboratories. He has worked previously as a senior scientist at Pfizer and Lilly Research Laboratories, Associate Director of Computational Drug Discovery at Concurrent Pharmaceuticals, Inc., Vice President of Computational Biology at GeneGo, CSO at Collaborative Drug Discovery and CEO and Co-Founder at Phoenix Nest. Sean has co-authored >375 peer reviewed scientific papers, over 40 book chapters and numerous patents as well as edited/ co-edited six books. He has recently published his first book titled Winning Grants. His latest edited book is “An Introduction to Generative Drug Discovery”. He has received extensive support from NIH, DOD and DTRA for machine learning, drug discovery, rare and neglected disease and computational toxicology projects, raising > \$25M.

Nandi Leslie, PhD

Nandi Leslie serves as a Principal Technical Fellow at RTX. She has held additional RTX roles, including the Chief Data Scientist, Chief Engineer for Raytheon Research and Development (R&D), and Technical Director for Cybersecurity. Her R&D interests are focused on machine learning (ML), artificial intelligence (AI), cybersecurity, and autonomy. Since 2020, Leslie has also served as an adjunct professor at Johns Hopkins University in the Applied and Computational Mathematics Program. Leslie received the BEYA Award for Outstanding Technical Contribution in Industry in 2020. She serves as a member of the Princeton University Board of Trustee, and she has served on a number of boards and committees, including the President's National Security Telecommunications Advisory Committee, Strategy for Increasing Trust in the Information and Communications Technology and Services; Howard University's Center of Excellence in AI and ML Advisory Board; and the Society of Industrial and Applied Mathematics Committee on Programs and Conferences. Leslie received a B.S. in mathematics from Howard University and an M.A. and Ph.D. in applied and computational mathematics from Princeton University. She previously served on the planning committee for the National Academies workshop on AI and Justified Confidence.

SESSION 8

Jim Brase, PhD

James Brase is the Deputy Associate Director for Computing at Lawrence Livermore National Laboratory (LLNL). As the Director of LLNL's Center for Predictive Bioresilience he oversees LLNL research and

development in early warning of emerging biothreats, rapid development of medical countermeasures, and other applications of integrated high-performance computing, machine learning, and biotechnologies. Brase was a leader of the Advancing Therapeutic Opportunities in Medicine (ATOM) public-private partnership for small-molecule computational drug discovery and has worked with multiple partners to establish the Generative Unconstrained Intelligent Drug Engineering (GUIDE) program for accelerated design of therapeutic antibodies. In his previous position as LLNL's Deputy Program Director for Intelligence, he led efforts in intelligence and cybersecurity research and development and applications to nuclear nonproliferation. Brase received an M.S. in electrical and computer engineering from the University of California, Davis.

Jennifer Gibson

Jennifer Gibson joined Dryad as Executive Director in October 2021. Since 2005, she has worked with scientists, funders, publishers, libraries, developers and others to explore fresh paths toward accelerating discovery through open research communication and open-technology innovation. Prior to Dryad, Jennifer was Head of Open Research Communication for eLife, a non-profit and research funder-backed initiative to transform science publishing. She is a former Chair of the Board of Directors for OASPA (2020-2022) and a former member of the board for FORCE11 (2018-2020).

Michael J. Imperiale, PhD

Michael Imperiale is the Arthur F. Thurnau Professor Emeritus in the Department of Microbiology and Immunology at the University of Michigan. He previously served as Associate Vice President for Research – Research Policy and Compliance from 2017 to 2022 and as an Editor of the Journal of Virology, PLoS Pathogens, and mBio. He is currently Founding Editor-in-Chief of mSphere. Imperiale's research interests focused on the study of DNA tumor viruses. He was an inaugural member of the National Science Advisory Board for Biosecurity from 2005 to 2014; served on the Planetary Protection Subcommittee at NASA; and was a member of the Board of Directors of the Van Andel Institute Graduate School. In 2009, he was the recipient of the University of Michigan Distinguished Faculty Achievement Award and in 2016 he received the Rackham Distinguished Graduate Mentor Award. He was elected as a Fellow of the American Academy of Microbiology in 2010 and as a Fellow of the American Association for the Advancement of Science in 2011. Imperiale received a Ph.D. in biological sciences from Columbia University. He previously served as the chair of the National Academies Committee on Strategies for Identifying and Addressing Potential Biodefense Vulnerabilities Posed by Synthetic Biology and as a member of the Committee on Science, Technology, and Law. Imperiale published an article in OECD Library in 2022 titled, "Integrity and security in the global research ecosystem," in which he and his co-authors describe policy initiatives to safeguard national and economic security and briefly summarized initiatives relevant to artificial intelligence.

Girish Patangay

Girish Patangay is a technology executive with extensive experience building and leading AI, engineering and data infrastructure and product teams that support large-scale scientific and educational initiatives. At the Chan Zuckerberg Initiative (CZI), he leads teams within Central Technology, where he helps drive the technical strategy behind CZI's Science and Education programs—enabling scalable cloud infrastructure, AI/ML platforms, and secure data systems. Prior to CZI, Girish spent over a decade at Facebook (Meta), where he led teams building core infrastructure, developer tools, and the Portal AR/VR platform. He is passionate about applying technology to accelerate scientific discovery and improve societal outcomes. Girish also volunteers as a Board Member and technical advisor for a rare disease foundation, The Association for Frontotemporal Degeneration. Girish holds a BS in Computer Science from the University of California, Santa Barbara.
