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# ERVA Executive Committee Bios

**Dorota A. Grejner-Brzezinska**

ERVA Principal Investigator

Lowber B. Strange Endowed Chair in Engineering

Vice President for Knowledge Enterprise (interim)

The Ohio State University

*“The solutions to the most complex research, technological and societal challenges cannot be accomplished entirely within one academic discipline; they require contributions from neighboring disciplines as well. ERVA is a new, independent, diverse and collaborative platform that will enable just that.”*

*“ERVA demonstrates engineering leadership but also shows the necessity for multi-disciplinary and multi-sector partnerships. It will illuminate the role that engineering plays not only in technological progress, but also in the overall advancement of society.”*

*“ERVA is an incredible, once-in-a-lifetime opportunity to be a part of something truly transformative. It enables the engineering community to unify under the common theme of working together to address the society’s greatest challenges.”*

Dorota A. Grejner-Brzezinska possesses an extensive research, service, and administrative resume to serve as principal investigator for ERVA.

She arrived at The Ohio State University more than 20 years ago as a Fulbright Scholar from Poland, intent on studying geodetic science and engineering, focused on the size and shape of the Earth and the estimation of spatial coordinates — two keys to creating reliable global positioning systems. She went on to earn a doctorate degree and become a faculty member in the College of Engineering. Her early research helped build more reliable GPS navigation, adding to the body of work that would eventually allow for navigation systems to be built into today’s smartphones. In recent years, she and her research teams have built navigation systems that rely on artificial intelligence and image-based navigation rather than satellite systems alone, allowing for autonomous vehicle navigation and for navigation and positioning in confined environments, where GPS signals are not available.

Grejner-Brzezinska possesses significant administrative and leadership expertise both within and beyond academia. At OSU, she served as chair of the Department of Civil, Environmental and Geodetic Engineering, associate dean of research in the College of Engineering, and recently was named senior associate vice president for research — corporate and government partnerships. These strategic leadership roles require the ability to frame the overall research innovation agenda and support the management of strategic research partnerships. They also demand expertise in framing tactical projects and activities, support for expansion of the College of Engineering and university-wide innovation and partnership portfolio, and engagement with the venture capital and startup ecosystem.

Previously, she was president of the Institute of Navigation, which is the world’s premier non-profit professional organization dedicated to advancing positioning, navigation, and timing. ION’s international membership includes individual professionals, corporations, consulting firms, private scientific and technical institutions and universities, and civil and military government agencies. Grejner-Brzezinska also served as president of the International Association of Geodesy Commission 4 — Positioning and Applications, an international professional organization focused on the science and engineering of reference systems establishment using modern space-based method, on monitoring the gravity field, rotation and deformation of the Earth, and on positioning and navigation solutions for interdisciplinary use.

In 2016, she completed the Executive Leadership in Academic Technology and Engineering program at Drexel University. In 2019 she was elected to the National Academy of Engineering — the first woman from OSU to be named to this prestigious body. She is appointed to the President’s Council of Advisors on Science and Technology as well as the National Space-Based Positioning, Navigation, and Timing Advisory Board. These roles require research leadership and visioning, strategic planning, the ability to convene council, executive committee and membership meetings of multi-disciplinary work groups and task forces; and the ability to lead planning of technical meetings and technical scope.

**Tony Boccanfuso**

ERVA Co-Principal Investigator

President and CEO

UIDP

*“The big challenges we face as a nation require interdisciplinary approaches and engineering R&D to develop effective solutions. ERVA will serve as an intellectual lodestar to identify opportunities for maximum impact and to catalyze the use-inspired research we need for new products and services that improve the human condition.”*

Since 2007, Tony Boccanfuso has led UIDP, a solutions-oriented membership organization comprised of top-tier innovation firms and world-class research universities. He derives tremendous satisfaction in leading UIDP as it pursues its goal of strengthening partnerships between the academic and corporate sectors while helping its members achieve meaningful impact on a broad array of university-industry collaboration matters, ranging from contracting to commercialization and workforce development. Members use UIDP learnings to improve and advance their external engagement strategy. He believes that academic-corporate engagement improves the lives of ordinary people and the human condition through the development of transformational products, new medicines and creation of new information and approaches that lead to better decision-making.

Boccanfuso has significant research and commercialization experience managing a variety of administrative, programmatic, and strategy initiatives for academic, government, and private sector firms including the National Science Foundation, the National Institutes of Health and PricewaterhouseCoopers. He holds a doctorate in inorganic chemistry.

His wife, Laura Boccanfuso, is a computer scientist and the founder/chief executive officer of Van Robotics, an educational technology start-up. They have three children: Carolina, a registered nurse; and Michael and Ana, both college students.

**Barry W. Johnson**

ERVA Co-Principal Investigator

L. A. Lacy Distinguished Professor of Engineering

University of Virginia

*“ERVA will achieve its goals through the engagement of a diverse, inclusive, and multidisciplinary engineering and science community to ensure that the best ideas are identified, regardless of their source.”*

Barry W. Johnson earned his bachelor’s, master’s, and doctoral degrees in electrical engineering from the University of Virginia, where he currently serves as the L. A. Lacy Distinguished Professor of Engineering. He previously served as UVA’s senior associate dean in the School of Engineering and Applied Science, where one of his responsibilities was strategic partnerships. In this role, he served as the founding director of the Commonwealth Center for Advanced Manufacturing, a research partnership involving five universities, 28 companies, and NASA.

Prior to joining the University of Virginia, Johnson worked as a research engineer for Harris Corporation in its government aerospace systems division.

In 2001, he founded Privaris, Inc., a biometrics security company. While on leave from the University of Virginia from 2002 to 2006, he served as the company’s chairman and CEO; he continued to serve as chairman until the company’s sale was completed in 2017.

From March 2015 to January 2019, Johnson served an assignment at the National Science Foundation as the director of the division of industrial innovation and partnerships. The IIP division is responsible for several NSF programs, including Industry University Cooperative Research Centers, Innovation Corps (I-Corps™), Partnerships for Innovation, Grant Opportunities for Academic Liaison with Industry, Small Business Innovation Research, and Small Business Technology Transfer. During his time at NSF, he also served as acting assistant director responsible for the directorate for engineering.

Johnson is a fellow of the Institute of Electrical and Electronics Engineers for his contributions to fault-tolerant computing. He is also a fellow of the National Academy of Inventors for his contributions to invention and innovation in computer system safety and security, including biometric-based identity verification. His major awards include the 1992 C. Holmes MacDonald Outstanding Young Electrical Engineering Professor Award from Eta Kappa Nu, the 1991 Frederick Emmons Terman Award from the American Society for Engineering Education, a 1992 Alan Berman Research Publications Award from the Department of the Navy, a 1990 Outstanding Faculty Award from the State Council of Higher Education in Virginia, a 1997 David A. Harrison Outstanding Faculty Award from the University of Virginia, the 2011 Outstanding Faculty Award from the University of Virginia Engineering Foundation, and the 2019 Distinguished Service Award of the National Science Foundation. He is the author of two books, nine book chapters and more than 150 journal and conference articles. He is also an inventor on 40 issued patents and more than 20 applications pending.

**Charles Johnson-Bey**

ERVA Co-Principal Investigator

Senior Vice President

Booz Allen Hamilton

*“The idea that manifests into the exact solution the U.S. needs will likely come from a voice that does not have a seat at the table today. This is the reason why ERVA has representation from all 50 states and three U.S. territories.”*

Charles Johnson-Bey graduated from the prestigious Baltimore Polytechnic Institute engineering high school in Baltimore, Maryland. He earned a bachelor’s degree in electrical and computer engineering from the Johns Hopkins University and both a master’s and doctoral degrees in electrical engineering from the University of Delaware.

Johnson-Bey has demonstrated experience in leading global innovation to reflect evolving markets and technology dynamics. He uniquely leverages the intersection of technology, strategy, and business to create and capture value, lead change and drive execution. His expertise spans academia as well as the commercial and defense industries.

As a senior vice president for Booz Allen Hamilton, his responsibilities are to develop and to execute innovative technology strategies that position the company as a leader in the development of next-generation solutions that are recognizable and branded in the market. He inspires leaders and promotes innovation, collaboration and sharing of intellectual capital that empowers people to change the world.

Johnson-Bey has more than 25 years of engineering experience that include emerging technologies in information warfare, cyber resilience, digital signal processing, system architecture, prototyping and hardware. He has worked for Lockheed Martin Corporation, Motorola Corporate Research Labs, and Corning Inc./Science and Technology Division. He was an electrical engineering professor at Morgan State University.

Johnson-Bey received the 2018 Black Engineer of the Year Award for Career Achievement-Industry. He serves on several boards, including The Whiting School of Engineering Advisory Board at The Johns Hopkins University and the Electrical and Computer Engineering Advisory Boards at both The Johns Hopkins University and the University of Delaware. He is also on the Cybersecurity Institute Advisory Board for the Community College of Baltimore County.

He lives in Perry Hall, Maryland with his wife of 28 years and their three children.

**Edl Schamiloglu**

ERVA Co-Principal Investigator

Distinguished Professor of Electrical and Computer Engineering and Associate Dean for Research and Innovation - School of Engineering

University of New Mexico

*“Theodore von Kármán, 1962 National Medal of Science recipient, is quoted as having said, ‘Scientists study the world as it is, engineers create the world that never has been.’ ERVA is an opportunity for the community to imagine the world that never has been.”*

Edl Schamiloglu earned his bachelor’s degree from the Applied Physics and Applied Mathematics Department at Columbia University, his master’s degree in plasma physics from Columbia University, and his doctoral degree in engineering, with a minor in mathematics, from Cornell University. He joined the University of New Mexico as an assistant professor in 1988 and is currently the distinguished professor of electrical and computer engineering and associate dean for research and innovation in the School of Engineering. He is also the special assistant to the provost for laboratory relations.

Schamiloglu has lectured at the U.S. Particle Accelerator School (Harvard University) and at the Massachusetts Institute of Technology. With R.J. Barker, he coedited *Advances in High Power Microwave Sources and Technologies* (IEEE Press/Wiley, New York, NY, 2001), and, with J. Benford and J. Swegle, he coauthored *High Power Microwaves, 3rd Ed.* (CRC Press, Boca Raton, FL, 2016). He is currently coediting *Advances in High Power Microwave Sources and Technologies using Metamaterials* (with J.W. Luginsland, J.A. Marshall, and A. Nachman), which will be published in 2021 by IEEE Press/Wiley, New York, NY. He has coauthored more than 165 refereed journal papers, more than 265 reviewed conference papers and he holds 8 patents. His publications have been cited more than 7,500 times. His h-index is 37 and his i10-index is 134. He has been primary investigator for more than $50 million in contracts and grants at UNM. He is a fellow of the IEEE and a fellow of the American Physical Society. He has received numerous awards, most recently the 2019 Inaugural IEEE NPSS Magne “Kris” Kristiansen Award for outstanding contributions in experimental nuclear and plasma science.

***About ERVA***

*The Engineering Research Visioning Alliance (ERVA) is a neutral convener that helps define future engineering research directions. Funded by the National Science Foundation (NSF) Directorate for Engineering, ERVA is a diverse, inclusive and engaged partnership that enables an array of voices to impact national research priorities. The five-year initiative convenes, catalyzes and enables the engineering community to identify nascent opportunities and priorities for engineering-led innovative, high-impact, cross-domain research that addresses national, global and societal needs. Learn more at* [*www.ERVAcommunity.org*](http://www.ERVAcommunity.org)*.*

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***About the National Science Foundation (NSF)***

*The U.S.* [*National Science Foundation*](https://www.nsf.gov/) *propels the nation forward by advancing fundamental research in all fields of science and engineering. NSF supports research and people by providing facilities, instruments and funding to support their ingenuity and sustain the U.S. as a global leader in research and innovation. With a fiscal year 2021 budget of $8.5 billion, NSF funds reach all 50 states through grants to nearly 2,000 colleges, universities and institutions. Each year, NSF receives more than 40,000 competitive proposals and makes about 11,000 new awards. Those awards include support for cooperative research with industry, Arctic and Antarctic research and operations, and U.S. participation in international scientific efforts.*

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