

Gabriel Gruionu, M.S., Ph.D.

Biomedical Engineer · Translational Scientist · US–Romania Innovation Bridge

Gabriel Gruionu is a biomedical engineer and translational scientist with over two decades of experience spanning vascular biology, cardiovascular device innovation, preclinical research, and AI-powered diagnostics. Born and educated in Romania — holding a B.S. in Mathematics from the University of Craiova — he pursued graduate and doctoral training in the United States, earning an M.S. in Biomedical Science from the University of Missouri and a Ph.D. in Biomedical Engineering from the University of Arizona. His career subsequently took him through faculty and leadership roles at Harvard Medical School and Massachusetts General Hospital, Indiana University School of Medicine, and W.L. Gore & Associates, accumulating more than 70 peer-reviewed publications, multiple issued patents, and a portfolio of funded translational research programs.

Throughout his career, Dr. Gruionu has maintained deep and sustained scientific collaboration with Romanian researchers and institutions. He served as Co-Principal Investigator on a Romanian National Research Council (CNCS) grant totaling \$300,000 for the development of mathematical and AI models of vascular changes following cancer therapy in colorectal carcinoma — work that generated multiple internationally published studies. He contributed as External Consultant to a €1.1 million EU EEA-funded navigation system for confocal laser bronchoscopy (NAVICAD), and as Co-PI on a €100,000 Romanian Ministry of Research grant for an innovative portable abdominal insufflation device for trauma. A €2 million European Union Competitiveness Operational Program grant, for which he served as Principal Investigator, advanced an imaging technology platform for minimally invasive medical procedures developed in collaboration with Romanian engineers and clinicians. These grants supported long-term collaborations with research groups at the University of Craiova and affiliated medical centers, resulting in more than 15 co-authored publications on topics including confocal laser endomicroscopy, AI-based cancer diagnostics, bronchoscopy navigation, and deep learning-assisted ultrasound image analysis.

Beyond joint research, Dr. Gruionu has contributed as an invited lecturer at the University of Montpellier on the regulatory evaluation of high-risk medical devices, and has presented internationally at conferences in Rome, Bucharest, Delft, Vienna, Barcelona, Berlin, and Dublin — frequently representing and amplifying Romanian science on a global stage. His work has appeared in journals including Nature Scientific Reports, PLoS ONE, Lab on a Chip, and Endoscopy, with Romanian co-authors prominent across this body of work. In recognition of his scientific leadership and innovation impact, he received the Excellence in Innovation Award from

Mass General Brigham (2016, 2018), the Dr. Charles Fisch Cardiovascular Research Award from Indiana University (2022), and currently serves on the Editorial Board of Nature Scientific Reports.

Contribution to the American Romanian Academy

Dr. Gruionu brings to ARA a demonstrated and ongoing commitment to building productive, project-based bridges between American and Romanian scientists. His track record is not one of symbolic connections but of funded, published, and commercially meaningful collaborations — grants won together, patents filed jointly, and discoveries translated into clinical prototypes on both sides of the Atlantic. Within ARA, he aims to serve as an active connector and accelerator: identifying members whose expertise is complementary, facilitating introductions that lead to grant partnerships and joint publications, and helping Romanian-origin scientists in the United States engage more deeply with the innovation ecosystem back home. What makes this vision especially actionable today is the emergence of AI-powered research and collaboration tools that Dr. Gruionu actively develops and deploys. Processes that once required years of conference attendance, informal networking, and slow correspondence to uncover shared scientific ground can now be accomplished in minutes — mapping overlapping expertise, identifying fundable intersections between research programs, and drafting the first outlines of a joint proposal before a first meeting has ended. Dr. Gruionu is committed to placing these capabilities in service of ARA's mission: accelerating the pace at which Romanian and American scientists discover each other, trust each other, and build together.