Gabriel Gruionu, M.S., Ph.D.
1800 N. Capitol, Ste. E316
Indianapolis, IN 46202
Phone: 317-274-0916
Email: ggruionu@iu.edu

EDUCATION:

POSTDOCTORAL

Institution	Specialty	Date Awarded
University of Arizona	Vascular Tissue Engineering	August 2006
Indiana University School of Medicine	Vascular Biology	July 2011
Harvard Medical School	Cancer Vascular Biology	April 2015

GRADUATE

Institution	Degree	Date Awarded
University of Missouri, Columbia, MO	M.S. (Biomedical Science)	December 1998
University of Arizona, Tucson, AZ	Ph.D. (Biomedical Engineering)	August 2004

UNDERGRADUATE

Institution	Degree	Date Awarded
University of Craiova, Craiova, Romania	B.S. in Mathematics	June 1994

APPOINTMENTS:

ACADEMIC (i.e. academic appointments, including academic administrative roles)

Institution	Rank/Title	Inclusive Dates
Harvard Medical School, Boston, MA	Instructor	2015-2017
Harvard Medical School, Boston, MA	Assistant Professor	2017-2019
Indiana University School of Medicine	Adjunct Assistant Professor	2020-2020
Indiana University School of Medicine	Assistant Research Professor in Medicine	2020-present

NON-ACADEMIC (i.e. administrative, hospital or corporate appointments, consultantships)

Institution/Entity	Title	Inclusive Dates
Private Tutoring Practice	Mathematics Tutor	1994-1995
W. L. Gore & Associates, Inc. Flagstaff, AZ	Product Specialist	2006-2009
Global Medical Product Development LLC, IN	Chief Executive Officer	2009-2011
Massachusetts General Hospital, Boston, MA	Assistant in Research	2015-2017
Massachusetts General Hospital, Boston, MA	Assistant Investigator	2017-2019
Felis Medical LLC, Arlington, MA	Chief Operating Officer	2017-2019
Academic Innovation Mgmt. Sys., Newton, MA	Manager	2017-2019
Restore Surgical LLC, Boston, MA	Chief Executive Office	2017-2021
Indiana University School of Medicine	Adjunct Assistant Scientist in Medicine	2020-present
Medical Softverse, LLC	Research Consultant	2023-present

INNOVATION MANAGEMENT EXPERIENCE:

Organization	Inclusive Dates
*Division of Cardiology and the Krannert Cardiovascular Research Institute, Indiana University School of Medicine. Role: Assistant Research Professor of Medicine.	2020-present

Experience:
- Successfully led the Fast-In Catheter project as Principal Investigator, receiving the prestigious Dr. Charles Fisch Cardiovascular Research Award ($60,000). This innovative peripheral intravenous catheter is engineered to facilitate easier venous access and expedite the infusion process for resuscitation fluids in critically ill cardiovascular patients.
- Demonstrated a high level of proficiency in identifying and securing funding opportunities, playing a pivotal role in the application process for grants from esteemed organizations such as the National Institutes of Health (NIH RO1, R21, SBIR, STTR), the National Science Foundation (NSF), Elevate Ventures, and the Department of Defense (DoD).
- Oversaw the comprehensive management of cardiovascular research proposals, encompassing a wide range of responsibilities from animal protocol development and benchtop experimentation to conducting animal studies, editing manuscripts, and managing research grants, ensuring the seamless progression of research initiatives within the division.

*Biocrossroads and IBRI AXIS mentoring program 2020-present
Role: Mentor
Experience:
- Provided focused science and business leadership solutions along a team of mentors to a Purdue University startup, Adipo Therapeutics with the result of successful seed fund raising ($1mill) and wining the Elevate Venture business pitch state competition ($250,000).

*IUSM CTSI Medical Device Think Tank/ Med Tech Project Development Team 2020-present
Role: mentor
- Enhanced expertise in the critical review and evaluation of business proposals within the medical device development sphere, showcasing a robust analytical skill set.
- Demonstrated a strong capability for advising and collaborating with a multifaceted group of stakeholders, including CTSI members, physicians, scientists, and university researchers. My contributions have been pivotal in bridging scientific research with practical medical device innovation, thereby accelerating the process of product development and market introduction. This role has underscored my proficiency in strategic planning and project management.
- My active participation in the Think Tank has been instrumental in refining my communication and interpersonal skills, enabling effective engagement with diverse groups, and fostering a collaborative environment conducive to innovation and progress in medical technology.

*Community Outreach 2019-present
Role: volunteer
- Demonstrated expertise in forging substantial business partnerships with key venture capital investors, including Elevate Ventures, IU Ventures, Boomerang Ventures, and Mammoth Ventures, to support and enhance community initiatives.
- Engaged in collaborative efforts with the Director of the Indiana Economic Development Committee, focusing on elevating health innovation across the state, showcasing a commitment to advancing public health objectives.
- Established strategic liaisons with the Director of Indiana U.S. Commercial Service and the U.S. Department of Commerce/International Trade Administration, driving forward initiatives that enhance business collaboration between Indiana and Romania, with a particular emphasis on fostering international trade and investment opportunities.
- Fostered significant relationships with physicians to broaden healthcare access for Indiana residents and communities beyond, demonstrating a dedication to improving healthcare delivery and patient outcomes.
- Developed productive working relationships with the Executive Vice-Chancellor and Chief Academic Officer, aimed at identifying and pursuing innovation opportunities across all Indiana

University campuses, thereby contributing to the broader educational and economic development goals of the region.

*Medical Softverse LLC, 2022-present
Role: Consultant (part-time)
- Led the comprehensive product development lifecycle of an innovative AI-driven solution targeting pancreatic health, guiding the project from initial feasibility assessment to successful integration within hospital systems.
- Played a pivotal role in the strategic formulation and negotiation of a pre-submission proposal to the FDA, aimed at securing de novo regulatory clearance, demonstrating expertise in regulatory affairs and compliance.
- Successfully managed complex legal negotiations with potential investors, resulting in the acquisition of $500,000 in seed funding to propel product development efforts forward.
- Developed and presented persuasive business pitches, effectively securing interest and financial commitment for Series A funding rounds, showcasing strong business acumen and strategic fundraising capabilities.
- Authored and submitted several grant proposals, securing non-dilutive funding to support ongoing research and development activities, illustrating a proficiency in identifying and leveraging financial opportunities.
- Provided leadership and direction in the governance of the company, presiding over Board of Directors meetings, conducting monthly financial analyses and reporting, and managing the product development team, ensuring alignment with organizational goals and objectives.

*Division of Cardiology and the Krannert Cardiovascular Research Institute, 2020-2021
Indiana University School of Medicine
Role: Director of Intellectual Property Development,
- Leveraged leadership skills and stakeholder collaboration to earn the Elevate Venture Nexus Higher Education Award (2021-2022) as the Principal Investigator, directing the creation of a web-based platform designed to foster innovation within the cardiovascular health sector.
- Led the conceptualization and development of the Academic Innovation Management System (AIMS), a software tool aimed at promoting medical academic innovation, in partnership with faculty and students from the IU Computer Science and Kelley Business School.
- Committed to continuous learning, I participated in the Elevate Venture Origin Training Program, focusing on business pitch and executive summary crafting for entrepreneurs in 2020 and 2021, and competed in the Elevate Venture Nexus Regional Business Pitch competition.
- Authored a comprehensive proposal for a multimillion-dollar innovation center of excellence within the Division of Cardiology, engaging with industry leaders, investors, and key stakeholders to shape the vision and secure support.
- Forged strategic collaborations with a broad spectrum of professionals including clinicians, scientists, business experts, and computer science specialists, alongside innovation leaders from IU Health and Purdue University.
- Established and nurtured significant relationships with IUSM faculty and local capital investors such as Elevate Ventures, IU Venture Fund, Boomerang Ventures, Mammoth Investment, Alumni Ventures, in addition to key players in the local biotechnology sector including Cook Medical, MED Institute, Medical Murray, Freudenberg Medical, Eli Lilly, and Medtronic, furthering the Division's innovation and investment potential.

*Restore Surgical LLC, Arlington, MA. 2017-2021
Role: Manager, President and CEO.

- Developed skills critical to the success of clinical director position: my ability to manage daily operations, oversee the budget, and handle contracts with vendors, investors, and service providers.
- I have also managed the entire product development cycle from ideation to patent filings, prototypes, and startup formation for medical devices such as a medical robot with electromagnetic surgical navigation software, a peripheral intravenous catheter, and a portable abdominal insufflator.
- Additionally, I have a proven track record of raising significant funds through research grant and capital investment funding for new product development.
- These skills and experiences make me well-suited to work collaboratively with cross-functional teams to drive clinical development initiatives, establish and maintain relationships with key stakeholders, and ensure compliance with all applicable regulatory guidelines.

*Surgery Department, Harvard Medical School (HMS) and Massachusetts General Hospital (MGH), 2017-2019
Boston, MA
Role: Director of Medical Innovation and Assistant Professor of Surgery
- Collaborated extensively with a diverse range of medical professionals, orchestrating multidisciplinary teams including over 20 vascular, adult, and pediatric cardiac surgeons, 50 emergency medicine clinicians, 15 trauma and general surgeons, and in excess of 100 cancer biologists, to foster innovation in medical practices and procedures.
- Pioneered the development of a comprehensive medical program and an innovative online academic innovation management platform, directly benefiting over 60 physicians. This initiative significantly enhanced trauma surgeon engagement in innovation projects by 40%.
- Curated and expanded a portfolio of over 40 new medical products spanning general surgery, emergency medicine, and oncology, showcasing a profound impact on healthcare delivery and patient care.
- Demonstrated exceptional business development acumen by crafting strategic business plans and securing funding for a variety of surgical devices, including peripheral intravascular catheters, heart rate monitors, medical robotics, hybrid imaging and surgical navigation software, tumor sensors, and tissue engineering constructs.
- Provided biotech entrepreneurship education to over 200 students and residents from prestigious institutions such as Harvard Medical School, Harvard School of Public Health, Harvard Business School, Boston University, Suffolk University, and Deloitte Consulting, leveraging a wealth of knowledge in biotechnology and entrepreneurship.
- Employed experiential learning and project-based teaching methodologies in medical device development, contributing significantly to the ideation and development of innovative medical products in collaboration with clinicians from MGH.

*Felis Medical Inc, Boston, MA. 2017-2019
Role: CEO
- Spearheaded the development of a pioneering cardiovascular medical device, showcasing my adeptness in product development, medical device innovation, and clinical research. This encompassed the full spectrum of the product lifecycle, from conceptualization through to market launch, with an unwavering commitment to enhancing patient care.
- Exhibited outstanding leadership and communication abilities by securing private investment from a consortium of clinician investors, steering Board of Directors meetings, and overseeing the company's day-to-day operations, ensuring strategic alignment and operational excellence.

- Demonstrated expertise in securing funding and protecting intellectual property, evidenced by my hands-on involvement in drafting and submitting National Institutes of Health (NIH) Small Business Innovation Research (SBIR) applications and navigating the intricacies of device patent filings.
- Led the intricate process of prototype development and the subsequent animal studies for the PIV catheter, affirming my capability to manage multifaceted projects and foster collaboration among interdisciplinary teams, thereby driving forward innovation and project success.

*Surgery Department, Harvard Medical School (HMS) and Massachusetts General Hospital (MGH), Boston, MA. 2015-2017

Role: Instructor in Surgery and Director of Medical Innovation,
- Cultivated and maintained robust relationships with prominent stakeholders within the medical innovation and research sectors, establishing a foundation for collaborative success and advancement in medical technologies.
- Applied lean innovation methodologies to construct a pioneering infrastructure for over 60 Surgery and Emergency Medicine physicians. This initiative showcased my capacity for strategic prioritization and efficient self-management within dynamic and evolving environments.
- Exhibited superior communication skills, both orally and in writing, as evidenced by the delivery of 5 plenary lectures and the provision of over 150 hours of personalized training on medical innovation and entrepreneurship to esteemed clinicians and residents at HMS. These engagements highlighted my ability to convey complex concepts clearly and effectively.
- Demonstrated expertise in the development and filing of 5 new medical device patent applications in collaboration with MGH co-inventors. This experience underlines my adeptness in synthesizing and communicating scientific/medical insights and the commercial potential of medical innovations to both internal stakeholders and the broader industry audience.

Department of Radiation Oncology, MGH/HMS 2011-2015

Role: Postdoctoral Scientist.
- Demonstrated a profound capacity for innovation in cancer diagnosis and treatment technology, culminating in the invention and successful patenting of two novel technologies.
- Executed detailed feasibility studies for groundbreaking cancer technologies, including tumor sensors and devices for both cell culture and in vivo cancer drug screening. Leveraged my proficiency in advanced cellular and medical imaging, physiology, tissue culture, tissue engineering, and surgical procedures on animals to assess the viability and potential impact of these innovations comprehensively.
- Employed a variety of genetically engineered animal models for cancer research to ascertain the efficacy and safety of these new technologies. My adeptness at conducting thorough research, coupled with my skill in analyzing intricate data sets, positions me as a prime candidate for leadership roles in innovation, such as the Head of Front End Innovation.

Vascular Surgery Division, Department of Surgery, Indiana University School of Medicine, Indianapolis, IN. 2009-2011

Role: Postdoctoral Research Associate,
- Spearheaded the creation of an innovation-focused community of practice for over 50 surgeons at the Indiana University School of Medicine (IUSM), significantly enhancing innovation engagement among the surgical faculty.
- Leveraged expertise in advanced animal surgery, molecular biology, and physiology to conduct pioneering pre-clinical studies aimed at enhancing cardiovascular health in aging populations. This work culminated in the publication of a peer-reviewed article and the presentation of three scientific conference abstracts, evidencing my capability in producing impactful research.

- Demonstrated exceptional ability to convey complex scientific concepts to varied audiences, design and execute rigorous research protocols, and foster effective collaboration within multidisciplinary teams to meet and exceed research goals.

Gore Medical Division, New Venture and Cardiac Surgery 2006-2009
Business Units, W. L. Gore & Associates, Inc. Flagstaff, AZ.
Role: Product Specialist,

- Demonstrated expertise in the research and development of a diverse range of medical products, including congenital heart defect patches, carotid endarterectomy patches, chordae tendineae sutures, and vascular grafts for Blalock-Taussig shunts. This comprehensive product management resulted in notable sales revenue growth.
- Proficient in conducting risk analysis and managing Design Failure Mode and Effects Analysis (dFMEA) history files for complex medical products in compliance with medical device quality control systems, ensuring product safety and reliability.
- Successfully restructured revenue streams for cardiac surgical products, identified and leveraged new sales opportunities, and managed inventory efficiently to avoid backorders while ensuring timely delivery to international hospital accounts.
- Demonstrated exceptional communication and leadership skills by organizing and leading technical product training and marketing presentations, which expanded the customer base by engaging 20 additional physicians. Additionally, developed and delivered comprehensive human anatomy and product training programs for the company's sales force and physician clients.
- Led the business and preliminary launch planning for new products, including the introduction of the Propaten™ Pediatric Shunt, through effective collaboration with cross-functional teams including Marketing, Regulatory, and Engineering departments.
- Exhibited a proven capability to assess new product opportunities and enhance existing offerings, notably through the development of a biologically active, heparin-bound Propaten™ surface for BT pediatric shunts, contributing significantly to the expansion of the new venture portfolio.

PROFESSIONAL ORGANIZATION MEMBERSHIPS:

Organization	Inclusive Dates
American Heart Association	2024-present
Microcirculatory Society	1995-2015
Biomedical Engineering Society	1999-2019

SCIENTIFIC REVIEWER:

Nature Scientific Reports, Editorial Board Member	2024-present
American Institute of Biological Science, grant reviewer	2024-present
Surgical Innovation, reviewer	2020-present

PROFESSIONAL HONORS AND AWARDS:

RESEARCH

Award Name	Granted By	Date Awarded
Excellence in Innovation	MGB Healthcare Innovation	2016
Excellence in Innovation	MBG Healthcare Innovation	2018

PROFESSIONAL DEVELOPMENT: List courses, workshops or training programs attended to enhance your performance in any area of academic work.

Course/Workshop Title	Provider	Date
Leadership Development for Physicians and Scientists	Harvard Medical School	2017

TEACHING:

TEACHING ASSIGNMENTS: List the course number, brief title, format (i.e. lecture, lab, clinic, online); your role (course director, lecturer), year and term, enrollment and other information that specifically pertains to your discipline (i.e. contact hours, hours of lab instruction, time instructing students on wards or clinics, course-related advising.) Mean teaching evaluation scores may be included.

UNDERGRADUATE
Boston University Department of Biomedical Engineering

Course #	Short Title	Format	Role	Term	Enrollment
ENG BE 428	Introduction to Medical Devices	2.5hr Lecture	Lecturer	Fall 2014 Fall 2015 Fall 2016	20

*Harvard School of Public Health

Course #	Short Title	Format	Role	Term	Enrollment
EPI 945	Practicum	Project	Instructor	Fall 2016	5

*Suffolk University MBA
GRADUATE

Course #	Short Title	Format	Role	Term	Enrollment
MBA 730	Innovative Thinking	Lecture/Project	Lecturer	Fall 2015 Spring 2017,Fall 2018, Fall 2019	30+

*Harvard College
UNDERGRADUATE

Course #	Short Title	Format	Role	Term	Enrollment
Consulting on Business and the Environment		Project	Consultant	Spring 2019	5

*Harvard Business School
GRADUATE

Course #	Short Title	Format	Role	Term	Enrollment
HBS 6017	Lab to Market	Lecture/Project	Lecturer	Fall 2018	30+

MENTORING: List mentoring activities that pertain to your discipline such as thesis or advisory committees, students on research rotations, postdoctoral fellows and visiting scholars, advisor to graduating students, mentor for peer and self-assessment review, faculty mentoring committees. Name the individual, identify your role and provide inclusive dates.

Individual	Level	Role	Inclusive Dates
Mara Lenco	Undergraduate	Research Mentor	2014-2015
*Erika Gonzalez	Graduate	Research Mentor	2017-2019
*Medical Device Think Tank Faculty		Innovation Mentor	2021-present
*MIT AXIS Mentoring Program Entrepreneurs		Mentor	2021-present

TEACHING ADMINISTRATION AND CURRICULUM DEVELOPMENT: List activities focused on enhancing the teaching and learning environment.

*Innovation Teaching Curriculum Development for Faculty and Medical Residents at Harvard Medical School.

RESEARCH/CREATIVE ACTIVITY:

GRANTS/FELLOWSHIPS IN RESEARCH:

ACTIVE RESEARCH GRANTS/FELLOWSHIPS

Granting Agency	Role	% Effort	Dates

*Applied Research Institute Inc. Principal Investigator 10% 07/01/2024-06/30/2025
Innovation Voucher Grant Program Total costs: $100,000
Title: Hemodialysis Cannulation Standardized Training Evaluative Research: Proof of Concept Test and Pricing Research.
The goal is to develop and test a dialysis and vascular access device with a VR component.

*Elevate Ventures Principal Investigator 7.5% 9/01/2021- 08/31/2023
Amount Total Costs - $50,000
Title: Cardiovascular Health Innovation Ecosystem for Equal-Access and Accelerated Translation of MedicalDiscoveries to Clinical Solutions.
The goal of this project is to develop a web platform to help clinicians take innovative ideas to commercialization.

*Dr. Charles Fisch Principal Investigator 12.5% 9/01/2021- 08/31/2023
Cardiovascular
Research Award
Amount Total Costs - $60,000
Title: The Fast-In Catheter, A Novel Peripheral Intravenous Catheter for Easier Vein Access and Faster Infusion of Resuscitation Fluids in Critically Ill Cardiovascular Patients
The goal of the project is to develop a new peripheral intravenous catheter for faster resuscitation of critically ill patients with less trauma and easier venous access.

*1 OT2 OD028183-01S1 Co-investigator 10% 07/01/2020 – 06/30/2023
NIH SPARC program
Amount: Total Costs for IU Subcontract $207,267
Title: High resolution, noninvasive measurement, and functional classification of vagal nerve response patterns in relation to gastroparesis symptom management using gastric electrical stimulation therapy.

COMPLETED RESEARCH GRANTS/FELLOWSHIPS

Granting Agency	Role	% Effort	Dates

American Heart Association Principal Investigator 50% 2000-2002
Amount Total Costs - $18,000
Title: Biomathematical modeling of vascular changes during ischemic revascularization
The goal of the project was to develop and test a mathematical model of microvascular networks remodeling during ischemia.
National Research Council (CNCS), Romania Co-PI 5% 09/01/2011-08/31/2016

Amount Total Costs - $300,000
Title: Clinical and Biomathematical Modeling of Vascular Changes Following Chemotherapy and/or Anti-Angiogenic Therapy in Advanced Colorectal Carcinoma.
The goal was to develop a mathematical and AI model of vascular changes with chemotherapy.

EU EEA Financial Mechanism 2009-2014 External Consultant 09/01/2014-08/30/2017
Amount Total Costs: €1,100,000
Title: Navigation system for confocal laser endomicroscopy to improve optical biopsy of peripheral lesions in the lungs (NAVICAD).
Major goal is to build and commercialize a hybrid navigation system for bronchoscopy.

*Executive Agency for Higher Education, Research, Development, and Innovation Funding (UEFISCDI), Romania Co-Principal Investigator 09/01/2015-08/31/2017
Amount Total Costs - $500,000
Title: Innovative Medical System for Tumor Solid-Stress Monitoring to Improve Cancer Treatment
Major goal was to build and commercialize the prototype of the sensor to measure the solid stress in tumors at the time of biopsy collection.

*Boston-Biomedical Innovation Center Principal Investigator 07/01/2016-06/30/2017
Amount Total Costs - $84,000
Title: Rapid Perfusion Catheter
The major goal was to build and test feasibility for a peripheral IV catheter for rapid perfusion.

*Ministry of Research and Education Romania Co-PI 09/01/2017-08/31/2019
Amount Total Costs: €100,000
Title: Innovative portable insufflation device to stop uncontrolled abdominal bleeding in military and civilian trauma (PAID).
Goal was to build an abdominal insufflator for controlling the uncompressible abdominal bleeding until the patient is transported to the hospital.

*European Union, Competitiveness Operational Program 2014-2020 Principal Investigator 10/01/2016-09/30/2020
Amount Total Costs: €2,000,000
Title: Improving the research and development capacity for imaging and advanced technology for minimal invasive medical procedures.
The goal was to develop an imaging technology platform for minimally invasive medical procedures.

SUBMITTED BUT NOT FUNDED RESEARCH GRANTS/FELLOWSHIPS

Granting Agency	**Role**	**% Effort**	**Dates**
*NIH STTR	PI	25%	2017-2018

Amount: $250,000
Title: Quick Infusion Catheter

* NIH STTR	PI	25%	2018-2019

Amount: Total costs: $250,000
Quick Infusion Catheter (scored 39).

* NIH STTR PI 2018-2019
Amount: Total costs: $275,000
Portable device to insufflate the abdominal cavity with CO2 to control internal bleeding.
(scored 52).

*Biomedical Research Grant, IU PI 20% 2021-2022
Amount: $50,000.
Title: Endovascular Robotic Catheter Navigation using Electromagnetic Image Guidance for Cardiovascular Interventions (CV-Robot)

*NIH NHLBI R01 PI 75% 2021-2026
Amount Total Costs: $2,500,000
Title: Endovascular Robotic Catheter Navigation using Electromagnetic Image Guidance for Cardiovascular Interventions (CV-Robot).

*Biomedical Research Grant PI 20% 2022-2023
Amount Total Costs: $50,000
Title: Development of a Predictive Computational Model for Intramyocardial Hemorrhage in Reperfused Myocardial Infarction.

*Elevate Venture Nexus Competition PI 20% 2022-2023
Amount Total Costs: $20,000
Title: Academic Innovation Management System.

*Ralph W. and Grace M. Showalter Research Trust Fund 10%. 2024-2025
Amount Total Costs: $75,000
Title: Advancing Cardiac Health: Topological Biomarkers and Computational Analytics in Coronary Circulation for Intramyocardial Hemorrhage Prediction in Post-Reperfused Myocardial Infarction
(not funded)

*American Heart Association 2024-2027
Amount Total costs: $297,163
Title: Coronary Topological Biomarkers and Computational Model for Intramyocardial Hemorrhage Risk Prediction.
(under revision)

INVITED PRESENTATIONS – RESEARCH
LOCAL

Title	Organization	Date

From structural adaptation to structural engineering of microvascular network	Department of Cellular and Integrative Physiology and Indiana Center for Vascular Biology and Medicine Seminar Series, Indiana University Purdue University.	2009
Medical Product Industry R&D: Engineering for cardiovascular applications	Department Seminar Series. IUPUI BMES student chapter. Indiana University Purdue University.	2009
Vascular remodeling: From basic science and mathematical modeling to tissue engineering and translational/tech transfer research	Biomedical Engineering Department. Indiana University Purdue University.	2009

REGIONAL

Title	Organization	Date
Structural Engineering of Normal and Tumor Microvascular Networks/ Department Seminar Series.	Edwin L. Steele Laboratory for Tumor Biology, Massachusetts General Hospital and Harvard Medical School.	2012
Untangling the tumor vasculature	Edwin L. Steele Laboratory for Tumor Biology, Massachusetts General Hospital and Harvard Medical School, Boston MA.	2013
Vascular remodeling: From basic science and mathematical modeling to tissue engineering and translational/tech transfer research	Biomedical Engineering Department. Indiana University Purdue University.	2009
Medical Product Industry R&D: Engineering for Cardiovascular Applications	Department of Mechanical Engineering, Wentworth Institute of Technology, Boston, MA.	2013
The Medical Innovation Network: Who We Need to Get the Job Done	Biomedical Engineering Society Boston Industry Chapter and Boston University Biomedical Engineering Department, Boston University	2013
Academic medical innovation	Biomedical Engineering Society Boston Industry Chapter	2014
Medical Product Industry R&D: Engineering for Cardiovascular Applications	Biomedical Engineering Department, Boston University	2013-2015

NATIONAL

Title	Organization	Date
GORE Cardiac Surgical Products - Engineering for Cardiovascular Applications	Biomedical Engineering Society Annual Meeting. Sponsored by W.L. Gore & Associates, Inc.	2008

Life after academia/conference presentation	Biomedical Engineering Society Annual Meeting.	2008
Show me the product/money: Sponsoring requests to industry/conference presentation.	Biomedical Engineering Society Annual Meeting	2009
In Vivo Imaging of Microvascular Network Development in a Tissue Engineered Construct	Biomedical Engineering Society Annual Meeting	2010
The Medical Innovation Network: Who We Need to Get the Job Done	Biomedical Engineering Society Annual Meeting.	2010
Structural Adaptation of Tumor Vasculature Induced by Micro-laser Ablation	Biomedical Engineering Society Annual Meeting.	2012
Structural Adaptation of Tumor Vasculature Induced by Micro-laser Ablation	Biomedical Engineering Society Annual Meeting	2012
Medical Product Industry R&D: Engineering for Cardiovascular Applications	Biomedical Engineering Department, Boston University	2013-2015
*Medical Device Development for Biomedical Engineers- Engineering for Clinical Applications	Biomedical Engineering Department, Cornell University.	2017
*Implantable tissue isolation chambers for in vivo tumor dynamics analysis	Biomedical Engineering Society Annual Meeting	2017

INTERNATIONAL

Title	Organization	Date
*Specificities of the Assessment of High-Risk Medical Devices. Invited lecture as part of the University Diploma - Methodologies of Medical Devices' Clinical Evaluation	University of Montpellier, France	2021

INTELLECTUAL PROPERTY

2011	Gruionu L, Saftoiu A, Gruionu G, Ioncica A, Burtea D.: "System for imaging and guiding in endoscopy procedures", Romanian Patent A-01433/22-12-2011.
	Great potential to improve cancer diagnostic and treatment
*2018	Gruionu G, Gruionu L, Velmahos G. "Device for abdominal wall lifting and needle insertion" US 2016/0008075A1 awarded on 05/21/2018.
	Potential to influence the laparoscopy procedures worldwide.

*2018 Gruionu G, Gruionu LG, Munn L, Jain RK. “System and method for measuring solid stress in tissues” US 2016/0089043 A1. Awarded August 2018.

Potential to revolutionize the cancer diagnostic and treatment.

*2018 Gruionu G, Gruionu L., Lee J. “System, method, and apparatus for selectively accessing an interior lumen of a patient vessel”, WO 2017/079415 Al, filed on April, 2018 (US and Japan).

*2022 Gruionu L, Gruionu G. “Systems and methods for automatic guidance of medical catheters and endoscopes”, US 11,395,708 B2. Jul. 26, 2022.

PUBLICATIONS:

RESEARCH/CREATIVE ACTIVITY (* In current rank; † As mentor; ^ As corresponding author).

Articles

1. **Gruionu G**, Constantinescu GM, Laughlin MH. An anatomical study of the arteries feeding the triceps brachii muscle of swine Anatomia Histologia Embryologia 29 (1): 31-36 Mar 2000.
2. Shepherd BR, Chen HY, Smith CM, **Gruionu G**, Williams SK, Hoying JB. Rapid perfusion and network remodeling in a microvascular construct after implantation. Arteriosclerosis Thrombosis and Vascular Biology. 24(5):898-904, May 2004.
3. **Gruionu G**, Hoying JB, Pries AR and Secomb TW. Structural remodeling of mouse gracilis artery after chronic alteration in blood supply. Am J Physiol Heart Circ Physiol 288: H2047-H2054, 2005.
4. **Gruionu G**, Hoying JB, Gruionu LG, Laughlin MH and Secomb TW. Structural adaptation increases predicted perfusion capacity after vessel obstruction in arteriolar arcade network of pig skeletal muscle. Am J Physiol Heart Circ Physiol 288: H2778-H2784, 2005.
5. Gruionu LG, **Gruionu G**, Pastrama S, Iliescu N, Avramescu T. Contact studies between total knee replacement components developed using explicit finite elements analysis. Med Image Comput Comput Assist Interv.12(Pt 2):316-22, 2009.
6. **Gruionu G**, Stone AL, Schwartz MA, Hoying JB, and Williams SK. Encapsulation of ePTFE in prevascularized collagen leads to peri-implant vascularization with reduced inflammation. J Biomed Mater Res A. 95(3):811-8. 2010.
7. Kirkpatrick ND, Chung E, Cook DC, Han X, **Gruionu G**, Liao S, Munn LL, Padera TP, Fukumura D, Jain RK. Videorate resonant scanning multiphoton microscopy: An emerging technique for intravital imaging of the tumor microenvironment. IntraVital. 1(1): 60-68. 2012.
8. Cârţână T, Săftoiu A, Gruionu LG, Gheonea DI, Pirici D, Georgescu CV, Ciocâlteu A, **Gruionu G**. Confocal Laser Endomicroscopy for the Morphometric Evaluation of Microvessels in Human Colorectal Cancer Using Targeted Anti-CD31 Antibodies. PLoS One. 2012;7(12).
9. **Gruionu G**, Hoying JB, Pries AR, Secomb TW. Structural remodeling of the mouse gracilis artery: coordinated changes in diameter and medial area maintain circumferential stress. Microcirculation. 2012 Oct;19(7):610-8.
10. Ciocalteu AM, Saftoiu A, Cartana T, Gruionu LG, Pirici D, Georgescu CV, **Gruionu G**. Feasibily Study for the Evaluation of Morphopatological Pattern of Neoangiogenesis in Human Colorectal Cancer Using Confocal Laser Microscopy and Targeted Anti- Cd105 Antibodies. Gastrointestinal Endoscopy, 2013;77 (5):AB534, ISSN 0016-5107.
11. Ciocâlteu A, Săftoiu A, Cârţână T, Gruionu LG, Pirici D, Georgescu CV, Gheonea DI,

Gruionu G. Evaluation of New Morphometric Parameters of Neoangiogenesis in Human Colorectal Cancer Using Confocal Laser Endomicroscopy (CLE) and Targeted Panendothelial Markers PLoS One. 2014; 3(9), e91084.

12. Cartana T, Brink L, Streba CT, Pirici D, Gheonea DI, Cherciu IF, Karstensen JG, Saftoiu A, Vilmann P, **Gruionu G**. Low Mechanical Index Contrast-Enhanced Endoscopic Ultrasound for Quantitative Assessment of Tumour Perfusion in Colorectal Cancer Patients: Preliminary Study. Gastrointestinal Endoscopy, 2014; 79(5): AB405, ISSN 0016-5107.
13. *†Cârțână ET, Streata I, Nicoli E, Uscatu D, Ciocalteu AM, Cherciu IF, Gheonea DI, Georgescu CV, Ioana MI, **Gruionu G**, Saftoiu A. Evaluation of Tumour Angiogenesis in Colorectal Cancer Based on Quantitative Contrast-Enhanced Endoscopic Ultrasonography and Molecular Analysis. Digestive Disease Week, Washington, DC. Gastrointest Endosc 2015;81:AB175.

Role: manuscript editing, data analysis review, mentoring.

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(Date) (Signature of Candidate)