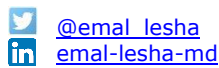


Emal Lesha, MD



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Training and Education

- Neurosurgery Resident – **University of Tennessee Health Sciences Center** (2020 – Present)
- Doctor of Medicine – **Tufts University School of Medicine** (2020)
- Bachelor of Science – **University of Massachusetts Boston** (2015)
Summa Cum Laude
Biology Major, Psychology Minor, Honors College

Clinical/Research Experience

- Medical Liaison – **GC Therapeutics** (2020 – Current)
 - Stem cell therapy for clinical disease
- Research Intern – **Adel Malek Lab, Tufts Medical Center** (2017 – 2020)
 - Analysis of pseudoaneurysm management and outcomes at TMC
 - Angular Remodeling of Intracranial Bifurcation Arteries due to Neuroform Atlas Stenting
 - Morphological analysis of MCA segments and bifurcations to determine factors of aneurysm formation
 - Identifying morphological characteristics leading to aneurysmal bifurcations of the PCoA
 - Association between tapering of A1 segment with aneurysm presence at the anterior communicating artery bifurcation
 - Effect of A1 segment dominance on angular morphology of the anterior communicating artery bifurcation in healthy and aneurysmal Patients
- Research Intern – **George Church Lab, Harvard Medical School** (2017)
 - Gene-editing of oligodendrocytes for immune-protection against Multiple Sclerosis (MS)
 - Transcription factor analysis for rapid differentiation of iPSCs to oligodendrocytes
 - Production of oligodendrocytes resistant to inflammatory damage in MS patients
 - Designing of knockout and knock-in constructs to engineer the induced pluripotent stem cells
 - Designing of immunologic assays to test the edited oligodendrocytes
- Research Associate – **eGenesis Inc** (2016-2017)
 - Immunoassay Development
 - Pig genome CRISPR KO screening library for antigen discovery
 - Human gene delivery in porcine primary cell lines for increased xenograft compatibility
- Research Fellow – **George Church Lab, Harvard Medical School** (2015-2016)
 - Pig genome CRISPR KO screening library for antigen discovery
 - Human gene delivery in porcine primary cell lines for increased xenograft compatibility
 - Genome wide porcine endogenous retrovirus knockout in porcine cell lines
 - gRNA library generation to knock-out antigen responsible genes in the pig genome
 - cDNA library generation knock-in to increase immune compatibility to the human immune system
 - T-cell engineering with CRISPR-Cas9 for cancer therapeutics
- Research Intern – **Genomes2People, Brigham and Women's Hospital** (2013 – 2017)
 - Alzheimer's Disease Neuroimaging Initiative (ADNI) – the impact of ADNI on Alzheimer's Disease research and Data Sharing in Science
- Research Intern – **Ali Khademhosseini Lab, Brigham and Women's Hospital** (2013 – 2015)
 - pH-sensing hydrogel fibers for epidermal applications
 - Robust Microfluidic Platform for Fabrication of Meter-long Hydrogel Microfibers
 - 3D Vascularization in Gelatin Methacrylate and the Role of Stiffness
 - Bioactive composite living fibers for organ weaving
- Unit Coordinator – **Orthopedics Department, Brigham and Women's Hospital** (2013 – 2016)
- Tufts Medical School–UMass Boston Enrichment Program (Winter 2013)
- Medical Student – **University of Medicine of Tirana, Albania** (2010 – 2011)

Publications/Abstracts

- **Lesha E**, George H, Zaki MM, Smith CJ, Khoshakhlagh P, Ng AHM. A Survey of Transcription Factors in Cell Fate Control. *Transcription Factor Regulatory Networks*, 133-141
- Palmisciano P., Ferini G., Watanabe G., Ogasawara C., **Lesha E.**, et al. Gliomas Infiltrating the Corpus Callosum: A Systematic Review of the Literature (2022). **Cancers**.
- Lauric A, Silveira L, **Lesha E**, Breton JM, Malek AM. Aneurysm presence at the anterior communicating artery bifurcation is associated with caliber tapering of the A1 segment (2021). **Journal of Neurosurgery**.
- Zaki M†, **Lesha E**†.... Church G. *Cell therapy strategies for COVID-19: Current approaches and potential applications (2021)*. **Science Advances**.
- Rosato R, Comptdaer G, Mulligan R, **Lesha E**, Lauric A, Malek AM (2020). *Marked Bending of the Internal Carotid Artery in Patients with Posterior Communication Artery Aneurysms*. **J NeuroIntervent Surg**.
- **Lesha E**, Darouie Sh, Seyfoori A, Dolatshahi-Pirouz A, Akbari M (2020). *In vitro disease and organ model*. *Biomaterials for Organ and Tissue Regeneration*, **Elsevier**.
- Tamayol A, Akbari M, Serex L, Fallahi A, **Lesha E**, et al (2019). *Customizable composite fibers for engineering skeletal muscle models*. **ACS Biomaterials Science and Engineering** (Cover of February 10 Issue)
- Khoshakhalgh P, Ng A.... **Lesha E**, Church G. (2019), *From synthetic 3D hydrogels to genetically engineered self-assembled 3D tissues*. **New Frontiers in 3D Conference**, Boston 2019
- S Borna, B Teimoori, A Esmailzadeh, M Shariat, E Lesha (2019). *Association of cervical length and uterine artery Doppler with threatened preterm labor*. **Clinical and Experimental Obstetrics & Gynecology**.
- Lauric A, Silveira L, Esquer P, **Lesha E**, Malek A. (2018), *Aneurysm Presence at the Anterior Communicating Artery Bifurcation is Associated with Tapering of the A1 Segment*. **Congress of Neurological Surgeons**, Annual 2018
- Molaie A, Silveira L, Ibrahim S, **Lesha E**, Malek A. (2018), *Single-Center Experience With Endovascular Treatment Of 110 Intracranial Aneurysms Using the LVIS Braided Microstent Device*. **Congress of Neurological Surgeons**, Annual 2018
- Khoshakhalgh P, Ng A.... **Lesha E**, Church G. (2018) *Transcription Factor-Mediated Cell Engineering for Rapid Generation of Functional Oligodendrocytes*. **Centers of Excellence in Genomic Science**, 16th Annual Meeting, Chicago 2018
- Nouralizadeh A, Sharifiaghdas F.... **Lesha E**, et al. (2018), *Fluoroscopy-Free Ultrasonography-Guided Percutaneous Nephrolithotomy in Pediatric Patients: Report of a Single-Center Experience*. **World Journal of Urology**
- Niu D*, Wei H*, Lin L*, George H*.... **Lesha E**, et al. (2017), *Inactivation of porcine endogenous retrovirus in pigs using CRISPR-Cas9*. **Science** (Cover of September 22nd 2017 issue)
- Yang L, Briggs AW*, Chew WL*... **Lesha E**, et al. (2016), *Genome Editing with Targeted Deaminases*. **Nature Communications**
- Tamayol A*, Akbari M*, Zilberman Y*, Comotto M, **Lesha E**, et al. (2016), *Flexible pH-Sensing Hydrogel Fibers for Epidermal Applications*. **Advanced Healthcare Materials**
- Yang L*, Güell M*, Niu D*, George H*, **Lesha E**, et al. (2015), *Genome-wide inactivation of porcine endogenous retroviruses (PERVs)*. **Science** (Top 10 Immunology Articles of the Year)
- Ghasemi-Rad M, **Lesha E**, et al. (2015), *Primary Hyperparathyroidism: comparing between Solid and Cystic adenoma and the efficacy of US and SPECT in their diagnosis*. **Endocrine Practice**
- Guell M, Yang L, Shrock E, **Lesha E**, et al. (2015), *Discovery and implementation of novel pig genotypes using advanced genome technologies with increased survival in primates*. **Xenotransplantation**
- Ghasemi-rad M, Attaya H, **Lesha E**, et al., *Ankylosing spondylitis: A state of the art factual backbone*. **World Journal of Radiology**
- Mohammadi A, Shateri K, Behzadi F, Maleki-Miandoab T, **Lesha E**, et al. (2014), *Evaluation of the relationship between intima-media thickness and bone mineral density in postmenopausal women: a cross-sectional study*. **International Journal of Clinical and Experimental Medicine**
- Ghasemi-rad M, Nosair E, Vegh A, Mohammadi A, Akkad A, **Lesha E**, et al. (2014) *A handy review of carpal tunnel syndrome: From anatomy to diagnosis and treatment*. **World Journal of Radiology**
- Akbari M, Serex L, **Lesha E**, et al. (2014), *A Robust Microfluidic Platform for Fabrication of Meter-long Hydrogel Microfibers*. **MicroTAS International Conference**

Medical Educational Activities

- **University of Tennessee Health Science Center**
 - College of Medicine Strategic Committee of Education (2023 – Current)
- **Journal of Neurosurgery Publishing Group**
 - Social Media Team (2020 – Current)
- **American Association of Neurological Surgeons**
 - The AANS/CNS Joint Section on Tumors – Social Media Team (2020)
- **Congress of Neurological Surgeons**
 - CNS Resident Committee (2020 – Present)
 - CNS Resident Research Forum – Founding Member
 - SANS Committee Member
 - Social Media Team
 - Conflict Of Interest Committee (2019 – 2021)
 - Conflict of Interest Compliance Review for CME Courses, Scientific Abstracts and Presentations for the CNS Conference
- **Admissions Committee**, Tufts University School of Medicine (2019-2020)
 - Tour interviewing applicants around the TUSM campus
 - Interview applicants and complete their interview evaluation
 - Discuss and vote for interview applicants in committee meetings
- **Neuroscience Curriculum Committee**, Tufts University School of Medicine (2019)
 - Development of the new curriculum at Tufts University School of Medicine
 - Responsible for the Neurology, Neuroanatomy, Psychiatry, Addiction Medicine Courses
- **House of Delegates, Massachusetts Medical Society**
 - HOD Delegate (2017 – 2020)
 - Norfolk South Executive Committee Member (2018 – Present)
 - Committee on Publications (2018 – 2020)
 - Directs the New England Journal of Medicine
 - Accreditation Review Committee (2017 – 2018)
 - Oversees and serves as a statewide resource for hospitals, specialty societies, and health care organizations offering Continuing Medical Education (CME)
- **American Medical Association, Medical Student Section**
 - Committee of Scientific Issues – **Advisor** (2019), **Chair** (2018), **Vice-Chair** (2017)
 - CSI member selection from applying candidates
 - Abstract review and selection for the AMA Research Symposium
 - Establishment of a scientific policy guide for the AMA-Medical Student Section
 - Establishment of interview series with scientists and physicians

Other Experiences

- International Donor Engagement Manager – **Mother and Child Hospital Foundation** (2018 – 2020)
 - Explore funding opportunities in US and Europe to support the organization's goals and projects
 - Explore collaborations with health professionals, organizations, global health outreach programs, and pharmaceutical companies
- Advisory Board Member – Massachusetts Albanian American Association Besa (2019 – 2021)
- Treasurer and Board Member – Albanians Fighting Cancer USA (2019 – Present)
- Team Member – Albanian Scholarship Effort (2019 – 2020)
- Medical Student Liaison – **New England Journal of Medicine Resident 360** (2018 – 2020)
 - Recommending, writing and monitoring topics for discussions related to medical student and resident education and enrichment
 - Identifying appropriate experts and moderators to serve as panelists in discussions
- Speaker Coach – **TEDx Tirana** (2018 - 2020)
- Research Scholar – **TEDMED** (2018)
 - Evaluate the scientific impact and potential of Speaker nominations for the TEDMED 2018 "Chaos + Clarity" Conference.
 - Evaluate the scientific impact and potential of Biotech companies for TEDMED Hive