

MOHAMMED REHMAN HAYAT

PHONE 765.650.8393 •MHAYAT@STANFORD.EDU

EDUCATION

University of Wisconsin-Madison, Madison, WI Bachelors of Science in Biomedical Engineering Bachelor of Science GPA- 3.70 Magna Cum Laude- Graduate with Honors in Engineering	Sept 2011- Aug 2015
University of Wisconsin-Madison, Madison, WI Masters of Science in Biomedical Engineering Master of Science GPA – 4.00	Sept 2015 – May 2016
University of Illinois College of Medicine Doctorate of Allopathic Medicine (M.D.) USMLE Step 1 Score: 244, USMLE Step 2 CK: 261 USMLE Step 2 CS: P, USMLE Step 3: P	August 2016 – April 2020
Stanford University Health Systems General Surgery Internship Post Graduate Year 1	August 2020 – August 2021
Stanford University Health Systems Interventional Radiology & Diagnostic Radiology Residency Post Graduate Year 2 - 6	August 2021 – August 2026

Leadership & Employment

University of Wisconsin-Madison Dr. Justin Williams, jwilliams@engr.wisc.edu University Graduate Teaching Assistant BME 550: Bio-MEMs (Biological Microelectromechanical Systems)	Aug 2015 – Jan 2016
University of Wisconsin-Madison Dr. Joseph Towles, towles@engr.wisc.edu University Teaching Assistant BME 315: Biomechanics	Jan 2016 – May 2016
University of Wisconsin-Madison Dr. Seth Blair & Dr. Antony Stretton, ssblair@wisc.edu & aostrett@wisc.edu University Teaching Assistant ZOOLOGY 151: Introductory Biology	Jan 2016 - May 2016
University of Illinois-Peoria Dr. Puspha Jacob Jennifer Zapf, pajoseph@uic.edu & jzapf@uic.edu University Peer Educator Pathology & Pharmacology Instructor	May 2018 – June 2020

RESEARCH FELLOWSHIPS

NASTH Research Fellowship, Scripps Research Institute, San Diego, CA
Dr. John Griffin, PhD: jgriffin@scripps.edu; Dr. Hiroshi Deguchi, MD, PhD: dhiroshi@scripps.edu
Awarded by North American Society on Thrombosis & Hemostasis (NASTH) www.nasth.org

Awarded annually to 3 medical students nationally
“Role of Myosin in Coagulation Cascade” 2017

Whitaker International Summer Fellow in Biomedical Engineering, Singapore
 Singapore Institute for Neurotechnology (SINAPSE), National University of Singapore (NUS)
 Dr. Toh Yi-Chin, biety@nus.edu.sg
Whitaker Summer Research Fellow for Micro-Tissue Engineering Lab in NUS
“Macromolecular Crowdedness in 2D & 3D Astrocyte Cultures” 2016

HONOR/AWARDS

Dean’s Engineering Undergraduate Scholarship- BME 2013
Dean’s List General for General Course- BS Degree- College of Letters and Science 2012
Dean’s Honor List for Biomedical Engineering- College of Engineering 2012-2015
Biomedical Engineering Scholastic Award 2015
Graduate with Honors in Biomedical Engineering 2015
Whitaker International Summer Research Fellowship 2016
North American Society of Thrombosis and Hemostasis Summer Research Fellow 2017
University of Illinois College of Medicine General Leadership Award 2018
Thrombosis and Hemostasis Society of North America Travel Award, 2018 2018

PUBLICATIONS & PAPERS

Publications:

Park, D.W., Schendel, A.A., Mikael, S., Brodnick, S.K., Richner, T.J., Ness, J.P., **Hayat, M.R.**, Atry, F., Frye, S.T., Pashaie, R. and Thongpang, S., 2014. Graphene-based carbon-layered electrode array technology for neural imaging and optogenetic applications. *Nature communications*, 5, p. ncomms6258. 2014

Brodnick, S.K., **Hayat, M.R.**, Kapur, S., Richner, T.J., Nonte, M.W., Eliceiri, K.W., Krugner-Higby, L., Williams, J.C. and Poore, S.O., 2014, August. A chronic window imaging device for the investigation of in vivo peripheral nerves. In *Engineering in Medicine and Biology Society (EMBC), 2014 36th Annual International Conference of the IEEE* (pp. 1985-1988). IEEE. 2014

Hayat, M.R., Mollah, F.S. and Kishore, K., 2019. Intracameral Air and Fibrin Glue for the Management of Late Bleb Leak following Glaucoma Surgery. *Case Reports in Ophthalmology*, 10(1), pp.47-52. 2019

Deguchi H, Guo Z, **Hayat M**, Pflimlin E, Lear S, Shen W, Griffin JH., “*Molecular interaction site on procoagulant myosin for factor Xa-dependent prothrombin activation.*” *J Biol Chem*. 2019 Oct 11;294(41):15176-15181. doi: 10.1074/jbc.AC119.010236. Epub 2019 Sep 3. 2019

Brodnick SK, Ness JP, Richner TJ, Thongpang S, Novello J, Hayat M, Cheng KP, Krugner-Higby L, Suminski AJ, Ludwig KA, Williams JC. “*μECoG Recordings Through a Thinned Skull.*” *Front Neurosci*. 2019 Oct 1;13:1017. 2019

Deguchi H, Shukla M, **Hayat M**, Torkamani A, Elias DJ, Griffin JH., “*Novel exomic rare variants associated with venous thrombosis.*”. *Br J Haematol*. 2020 Sep;190(5):783-786. doi: 10.1111/bjh.16613. Epub 2020 Mar 30. 2020

Putra I, Shen X, Anwar KN, Rabiee B, Samaeekia R, Almazyad E, Giri P, Jabbehdari S, **Hayat MR**, Elhusseiny AM, Ghassemi M, “*Preclinical Evaluation of the Safety and Efficacy of Cryopreserved Bone Marrow Mesenchymal Stromal Cells for Corneal Repair.*”. *Transl Vis Sci Technol*. 2021 Aug 12;10 2021

Publications in Progress:

- M.R. Hayat.**, D. Holt, J. Shah, M. Zagardo. "ADEM with features of Acute Hemorrhagic Leukoencephalitis." *American College of Radiology Case in Point*.
Contact: Dr. Michael Zagardo, MD: zagardo@uic.edu **2019**
- Hayat, M.**, Deguchi, H., Wyseure, T., Mosnier, L.O. and Griffin, J.H., 2018, September. "Skeletal Muscle Myosin Has Pro-Hemostatic Activity In Vivo." *American Journal of Hematology*. (Vol. 93, No. 9, pp. E25-E25). **(In Progress)**
Contact: Dr. John Griffin, PhD: jgriffin@scripps.edu: **2018**

Abstracts & Conference Presentations:

- M. R. Hayat**, S. K. Brodnick, S. Kapur, K. Eliceiri, L. Krugner-Higby, S. Poore, J.C. Williams, "Chronic in vivo Imaging of Sciatic Nerve via a Peripheral Nerve Window" Neuroscience at Wisconsin, Annual meeting, Madison, Wisconsin, USA, 2015 **2015**
- J. C. Williams, D.-W. Park, A. A. Schendel, S. Mikael, S. K. Brodnick, T. J. Richner, J. P. Ness, J. Novello, **M. R. Hayat**, F. Atry, S. T. Frye, R. Pashaie, S. Thongpang, Z. Ma, "Transparent Graphene Neural Electrodes for Integrated Electrophysiology, Imaging and Optogenetics," Biomedical Engineering Society (BMES) Annual meeting, Tampa, Florida, USA, Oct. 7-10, 2015 **2015**
- M.R. Hayat.**, H. Deguchi, T. Wyseure, L.O. Mosnier, J.H. Griffin. "Skeletal Muscle Myosin has Pro-Hemostatic Activity *In Vivo*." THSNA 2018. *San Diego, California, USA, March 8-10, 2018* **2018**
- J. Shah, D. Holt, **M.R. Hayat.**, Jeffrey DeSanto. "Anatomy and Pathology of the Craniocervical Junction." Annual OSF Research Day. *Peoria, Illinois, USA, May 15th, 2019* **2019**
- M.R. Hayat.**, T.F. Massoud, N.A. Telischak. "Complications of Mechanical Thrombectomies for Large Vessel Occlusions and Ischemic Stroke: An Educational Review". American Society of Neuroradiology, March 13, 2023. Charleston, SC. **2023**
- M.R. Hayat.**, J.A. Martinez, J.T. Wen., D.A. Spain, G. Hwang., "Hybrid Emergency Interventional Room Systems and Their Effect on Patient Outcomes". Society of Interventional Radiology, March 23, 2023. Phoenix, AZ. **2023**

Engineering Papers & Presentations:

- "Cervical Cancer Smartphone Application"**
Paper given at the biannual Biomedical Engineering Design Competitions **Dec 2012**
- "Device for Safe Extraction of Cerebral Shunt Catheters"**
Paper given at the biannual Biomedical Engineering Design Competitions **Dec 2013**
- "Overfill Prevention Kit for Suction Machines in Black Lion Hospital"**
Paper given at the biannual Biomedical Engineering Design Competitions **May 2014**

UNDERGRADUATE BIOMEDICAL ENGINEERING DESIGN PROJECTS

- Cervical Cancer Diagnostic Smartphone Application, Research Designer** **2012**
Design won **Qualcomm Wireless Innovation Prize** in April, 2013
Website: http://bmedesign.engr.wisc.edu/projects/f12/cervical_cancer/
Contact: Dr. Philip Bain, Philip.Bain@deancare.com
- Anemia Diagnostic Smartphone Application, Research Designer** **2013**
Contact: Dr. Philip Bain, Philip.Bain@deancare.com
- Bipolar Electrical Cauterizing Cerebral Shunt Cathode, Research Designer** **2013**
Website: https://bmedesign.engr.wisc.edu/projects/f13/shunt_extraction/
Contact: Dr. Joshua Medow, medow@neurosurgery.wisc.edu
- Pressure System for Manual Cortex Aspirator (Cataract Surgery), Lead Designer** **2014- 2015**
Created **pressure system and regulator** for manual cortex aspirator
Website: https://bmedesign.engr.wisc.edu/projects/s15/cataract_surgery/
Contact: Dr. Stephen K. Sauer, sksauer@wisc.edu

LEADERSHIP & VOLUNTEERING

Agrace Hospice and Palliative Care, Inpatient Unit Volunteer	Oct 2013- Jan 2015
Indiana Heart Hospital, Inpatient Volunteer	May 2012 – Aug 2014
Biomedical Engineering Society, Member	Aug 2011 – Dec 2013
Cordoba Student Run Health Clinic, Member	Aug 2017 – May 2020
Ophthalmology Student Interest Group, Treasurer	Aug 2018 – May 2020
Interventional Radiology Student Interest Group, Treasurer	May 2017 – May 2020
Diagnostic Radiology Student Interest Group, President	May 2017 – May 2020
Longitudinal USMLE Step Prep Instructor, Coordinator	Aug 2018 – May 2020
Committee for Student Promotions at UIC College of Medicine, Board Member	Aug 2018 – May 2020
American Society of Emergency Radiology, Member	May 2018 – Present
Society of Interventional Radiology, Member	Jul 2019 – Present
American Society of Radiology, Member	Jul 2021 – Present
American Society of Neuroradiology, Member	Jul 2021 – Present
South Bay Angio Club, Member	Jan 2023 – Present

LANGUAGES

English- Native Language
Urdu- Family Native Language
French & Arabic- Intermediate fluent