Jerzy O. Szablowski, Ph.D.
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EDUCATION

2015-19 **California Institute of Technology (Caltech)**
Postdoctoral fellowship, Department of Chemical Engineering

Acoustically Targeted Chemogenetics (ATAC) for noninvasive control of brain circuitry
Advisor: Mikhail G. Shapiro

2009-15 **California Institute of Technology (Caltech)**
Ph.D. in Bioengineering, Field: Chemical Biology

Biological Activity of Pyrrole-Imidazole polyamide *in vivo*
Advisor: Peter B. Dervan

2005-09 **Massachusetts Institute of Technology (MIT)**
B.Sc. in Biological Engineering, minor in Biology

PROFESSIONAL EXPERIENCE

2025	Episteme Inc., scientific advisor, candidate review, San Francisco, CA
2024-	Imprint Bio, Co-founder and CEO, Houston, TX
2020-	Rice University, Assistant Professor, Bioengineering, and Rice Neuroengineering Initiative (RNI) core member
2015-19	Caltech, Shapiro Lab, Postdoctoral, Chemical Engineering
2010-15	Caltech, Dervan lab, Graduate Research Assistant, Bioengineering
2007-09	MIT, Synthetic Neurobiology Group (Pi: Edward Boyden; MIT Media Lab), Undergraduate Research Assistant
2005-07	MIT, Robert Langer and Alan Jasanoff labs; Caltech, Frances Arnold lab, Undergraduate Research Assistant

AWARDS AND HONORS

Selected awards

2026	BiTS Fellow, Rennesaince Philanthropy
2026	Sloan Research Fellowship (Chemistry)
2025	Hollyfield New Investigator Award for Macular Degeneration Research
2023	NIH Director's New Innovator Award (DP2)
2022	NIH NIBIB Trailblazer Award
2022	DARPA Young Faculty Award
2021	Packard Fellowship for Science and Engineering
2020	Outstanding Undergraduate Research Mentor Award, Rice University
2018	NARSAD Young Investigator, Brain and Behavior Research Foundation
2009	Henry and Grazyna Bauer Fellowship for graduate studies

Other awards

2024	Career Champion, Rice University
2023	Career Champion, Rice University
2019	Focused Ultrasound foundation, 2nd prize poster, FUS Neuromodulation Symposium 2019, University of Oxford
2018	World Molecular Imaging Congress travel award
2009	International Genetic Engineering Machines competition (iGEM), 3rd place worldwide, (*Synthetic Standard prize*), *Best New Application area* and *Best Experimental Measurement* awards.
2008	BE-BMES/Johnson&Johnson Prize for Excellence in Biomedical Research
2002	Finalist of Physics Olympiad for Secondary School students (Poland)

Selected Trainee awards

NSF GRFP (x3), NDSEG, and NSF NRT fellowships (x2), Goldwater scholarships (x2), BRAIN initiative trainee highlight awards (x2), JSPS postdoctoral fellowship, Knight-Hennessy fellowship, PhRMA foundation starter research grant, Sigma Xi aid in research grant, Outstanding PhD Thesis Award, Rice University Bioengineering (2025)

TEACHING EXPERIENCE

2025	Guest lecturer, ELEC 518, Principles of Biomedical Optics and Ultrasound, Rice University, Houston, TX, F25
2026-current	Lecturer, BioE 372: Biomechanics, Rice University, Houston, TX (current, ~45 students)
2020-current	Lecturer, BioE 422 / 522: Gene therapy, Rice University, Houston, TX (*Teaching evaluations, overall effectiveness: 1.3/5; 1=best, n=9 semesters taught)*
2022	Guest Lecturer, ELEC 682 Spotlight on Latest Neurotechnology, Rice University, Houston, TX
2021	Guest Lecturer, BME 6470-001 Studies in Neural Engineering, University of Utah, Salt Lake City, UT
2019	Lecturer, Bi 23: Current Advances in Gene Therapy, Caltech, Pasadena, CA

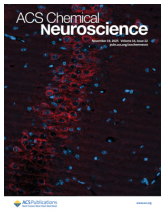
PUBLICATIONS (selected)

'#' denotes equal contribution, first author contributions underlined; *** corresponding author**; # co-first author; For most recent updates visit: https://www.szablowskilab.org/publications

At Rice [Since 2020: 17 published, preprints, in review, and in revision; 12 corresponding, 4 co-corresponding, 1 contributing**]**

1. Lu J, Lee S, Wang M , Zheng K , Oh SH, Lee J, Soh S , Cao Y , Bao X , Nouraein S , **Szablowski JO***, Chen R*, Monitoring Gene Expression in Retina with synthetic serum markers, bioRxiv (2026): 2026-01, *submitted*
2. *Link S, Fan K, Adame J, Keen C, Frankfort BJ*, **Szablowski JO*,** Ultrasound-enhanced retinal delivery of engineered viral vectors, bioRxiv 2026.01.04.697446, in revision, IOVS*
3. Buitrago NS, Brau J, **Szablowski JO*,** Modeling synthetic serum markers kinetics for monitoring deep-tissue gene expression, bioRxiv 2025.11.17.688787, (2025)

4. Lee S[#], Mckenna S[#], Watanabe S, Chernov M, Li H, Raisley EK, **Szablowski JO***, Costa V*, Synthetic Serum Markers Enable Noninvasive Monitoring of Gene Expression in Primate Brains, (2026), *Neuron, in press*



5. Li H, Nourain S, Lee S, Link S, Raisley EK, **Szablowski JO***, Noninvasive Control of Seizure Threshold with Acoustically Targeted Chemogenetics, *ACS Chemical Neuroscience* (2025), 16, 22, 4327–4340*,*

6. Nouraein S, Lee S, Li H, Saenz V, Raisley EK, Costa VD, **Szablowski JO***. Erasable Synthetic Serum Markers. *PNAS, (2025) 122 (49) e2511741122,*

7. Harb M, Nouraein S, **Szablowski JO*,** Site-Specific Noninvasive Delivery of Retrograde Viral Vectors to the Brain, AiChE Bioeng Transl Med. 2026; 11(1):e70062. doi:10.1002/btm2.70062

8. Watanabe S, Lee S, Harb M, Nouraein S, Raisley E, Li H, Buitrago N, Pforr B, **Szablowski JO***, Monitoring in vivo transcription with synthetic serum markers, *(2026), Nature Communications, accepted* [the paper introduced “noninvasive qPCR”]

9. Seo JP, Trippett JS, Lee S, Huang Z, Nouraein S, Wang R, **Szablowski JO***. Acoustically-Targeted Measurement of Transgene Expression in the Brain, *Science Advances, 10, eadj7686, Science Advances* (2024)

10. Li HR, Harb M, Heath JE, Trippett JS, Shapiro MG*, **Szablowski JO***. Engineering viral vectors for acoustically targeted gene delivery. *Nature Communications*. Jun 10;15(1):4924. (2024)

11. **Szablowski JO***, Molecular Engineering Technology for Studying and Treating the brain, *Chemical Engineering Progress*, 5 (2024) [invited perspective]

12. Lee, S., Nouraein, S., Kwon, J.J., Huang, Z., Wojick, J.A., Xia, B., Corder, G. and **Szablowski, J.O.*,** Engineered serum markers for non-invasive monitoring of gene expression in the brain*. Nature Biotechnology 42.11 (2024) 1717-1725.* [the paper introduced RMAs]

13. Nouraein S, Lee S, Saenz VA, Del Mundo HC, Yiu J, **Szablowski JO*.** Acoustically targeted noninvasive gene therapy in large brain volumes. *Gene Therapy;* 31(3):85-94 (2024)

14. Huang Z., Mitrofan A, Nouraein S, Horak C, Seo JP, Harb M, Jin R, **Szablowski JO***, Site-specific Brain Therapeutics*, bioRxiv 2023.10.12.562069*

15. Chen, M., Kim, B., Jarvis, M., Fleury, S., Deng, S., Nouraein, S., Butler, S., Chambers, C., Hodges, H.C., **Szablowski, JO**. Suh, J., and Veiseh O., Targeted immunosuppression enhances repeated gene delivery., *Gene Therapy* (30):429–442 (2023)

16. Xia B, Sebesta C, Lee S, Nair V, Zhao X, Coffler S, Robinson JT*, **Szablowski JO***. Biohybrid approaches to interface with the nervous system: the best of both worlds. *Current Opinion in Biotech*. 2021 Dec 1;72:86-94.

17. **Szablowski, Jerzy O***., and Manwal Harb. "Focused ultrasound induced blood-brain barrier opening for targeting brain structures and evaluating chemogenetic neuromodulation." *JoVE,* 166 (2020): e61352.

Before Rice

18. **Szablowski JO**[#], Bar-Zion A[#], Shapiro MG, Achieving spatial and molecular specificity with ultrasound-targeted biomolecular therapeutics, *Acc. Chem. Res.* 52, 9, 2427-2434 (2019)

19. **Szablowski JO**, Lue B, Lee-Gosselin A, Malounda D, Shapiro MG, Acoustically Targeted Chemogenetics for Noninvasive Control of Neural Circuits, *Nature Biomedical Engineering*, 2 (7), 475*,* (2018) [Cover article. Highlighted in News and Views, F1000 Prime]
20. Maresca D# , Lakshmanan A#, Abedi M, Bar-Zion A, Farhadi A, Lu GJ, **Szablowski JO**, Wu D, Yoo S, Shapiro MG, Biomolecular Ultrasound and Sonogenetics, *Annu. Rev. Chem. Biomol. Eng,* 9:229-252 (2018)

21. Lu GJ, Farhadi A, **Szablowski JO**, Barnes SR, Lakshmanan A, Bourdeau RW, Shapiro MG, Acoustomagnetic imaging with gas-filled protein nanostructures, *Nature materials* 17 (5), 456 (2018) [Cover article. Highlighted in News and Views.]
22. Piraner DI, Farhadi A, Davis HC, Wu D, Maresca D, **Szablowski JO**, Shapiro MG, Going Deeper: Biomolecular Tools for Acoustic and Magnetic Imaging and Control of Cellular Function, Biochemistry 56 (39), 5202-5209 (2018)
23. Mysore VS, **Szablowski JO**, Dervan PB, Frost PJ. A DNA-binding Molecule Targeting the Adaptive Hypoxic Response in Multiple Myeloma has Potent Anti-tumor Activity. *Mol Cancer Res.* 14 (3), 253-266 (2016)
24. **Szablowski JO**, Raskatov JA, Dervan PB. An HRE-binding Py-Im polyamide impairs hypoxic signaling in tumors. *Mol. Cancer Ther*. 15 (4), 608-617 (2016)
25. Raskatov JA, **Szablowski JO**, Dervan PB, "Tumor Xenograft Uptake of a Py Im Polyamide Varies as a Function of Cell Line Grafted", *J. Med. Chem.,* **57**:8471-8476 (2014)
26. Yang F, Nickols NG, Li BC, **Szablowski JO**, Hamilton SR, Meier JL, Wang C, Dervan PB. "Animal Toxicity of Hairpin Pyrrole-Imidazole Polyamides Varies with the Turn Unit", *J. Med. Chem.*, **56**:7449-7457, (2013).
27. Nickols NG**#**, **Szablowski JO#**, Hargrove AE, Li BC, Raskatov JA, Dervan PB. "Activity of a Py-Im Polyamide Targeted to the Estrogen response Element," *Mol. Cancer Ther.*, **12**:675-684, (2013). (Article selected as one of the 'AACR hot topics, 2013', available without subscription).
28. Vilanova C, Hueso A, Palanca C, Marco G, Pitarch M, Otero E, Crespo J, **Szablowski JO**, Rivera S, Domínguez-Escribà L, Navarro E, Montagud A, Fernández de Córdoba P, González A, Ariño J, Moya A, Urchueguía J& Porcar M, "Aequorin-expressing yeast emits light under electric control", *J Biotechnology*, 152(3):93-5, (2011)
29. Shapiro MG**#**, Westmeyer GG**#**, Romero P, **Szablowski JO**, Küster B, Shah A, Otey CR, Langer R, Arnold FH, & Jasanoff AP, "Directed evolution of an MRI contrast agent for noninvasive imaging of dopamine". *Nature Biotechnology*, 28:264–270 (2010)
30. Shapiro MG, **Szablowski JO**, Langer R, Jasanoff AP, "Protein nanoparticles engineered to sense kinase activity in MRI", *JACS*, 131(7):2484-2486, (2009)

GRANT SUPPORT

Total (approximate): **>**$10m total funding to the PI's lab

18 funded grants (5x NIH, 2x DARPA, 1x ARIA, 10 private funders)

Current Research Support

1. Sloan Research Fellowship, 2026 ($75,000 direct, 2026-2028)
2. NIH Director's New Innovator Award, DP2EB035905, Monitoring neuronal activity with a blood test - Released Markers of Activity (RMA), 09/01/2023-08/31/2028, 100% PI, ($2,347,500 total)
3. NIH NIDA, 1R01DA064139, *Use of focused ultrasound stimulated blood brain barrier opening for CNS HIV/SIV reservoir reduction*, Co-I, (07/01/2025-06/31/2030, $1,551,599 total)

4. Packard Fellowship, David and Lucile Packard Foundation ($875,000 total), 11/01/21-10/31/26
5. NIH NIDA, 1R21DA062242, *Device-free, long-term monitoring of opioid circuit activity in individual mice exposed to morphine,* 50% MPI (4/01/2025 - 3/31/2027, $215,188)
6. Bright Focus Foundation, Macular Degeneration Research award, Realtime monitoring of the expression of AMD risk genes TLE2 and FRZB in retinal pigment epithelium in vivo, PI, (07/01/2025-06/31/2028, $409,000)
7. Advanced Research and Invention Agency (ARIA), *Ultrasound-targeted On-demand Cell-autonomous Gene Therapy for Neurological Diseases*, (02/01/2025-01/31/2028), Co-PI, £1,903,184 [~$2,574,513] for our work, includes $842k funds for CRO)
8. Focused Ultrasound Foundation research grant, *Development of viral vectors optimized for noninvasive, site-specific gene delivery to the brain*, PI, (09/01/2024-02/28/2026, $128,899 total)
9. Rice Synthetic Biology Institute (RSBI) seed funding. *Recording gene expression history with a blood test, Co-PI,* (05/11/2024-05/10/2025, $29,264 to PI)

Completed Research Support (past three years)

1. The G. Harold & Leila Y. Mathers Foundation research grant, ID #MF-2012-01228, *Noninvasive neuromodulation as a widely applicable therapy for brain disorders;* (total direct cost: $418,520; 100% PI), 4/15/2021 - 6/30/2025
2. NARSAD Young Investigator grant, *Acoustically Taregeted Chemogenetics,* Brain and Behavior Research Foundation, *(Total direct: $70,000),* 01/2019-01/2021
3. John S. Dunn Foundation Collaborative Research Award, *Region-specific and Brain-wide Gene Therapy for Neurodevelopmental Disorders*, (Total direct: $100,000, 50% PI), 09/01/2020 – 08/31/2022
4. DARPA-SN-21-05-KEY-PA-006, DARPA BTO Keystone Study, LOI stage, *High-speed biophysical and biochemical monitoring to discover early markers of unconventional brain injury,* (Co-I with Luan (PI), Villapol, Robinson, Xie, Kemere; $421,177 to the PI)
5. Welch Foundation Research Grant, Welch Foundation, *Engineering a new class of site-specific therapeutics for brain disorders*, (Total direct cost: $240,000; 100% PI), 06/01/2020-05/31/2023
6. MJ Fox Foundation, MJFF-020154, Improved Outcome Measures, *Development of PD biomarkers using focused ultrasound-based noninvasive biopsy*, (2 years; $447,510, Contact PI; $327,123 to the PI), 08/01/2021-07/31/2023,
7. DARPA-RA-21-03-01-YFA1-FP-003, *Therapeutics for rapid cold adaptation - beyond the natural human capability*, 11/1/2022 – 10/31/2025, 70% PI, $500,000 total
8. NIH NEI, R21EY032596, *Acoustically targeted, high-resolution, site-specific, transretinal delivery of macromolecules*, 09-30-2022 –08-31-2025, Co-PI (50%)($434,598 total)
9. NIH NIBIB Trailblazer Award, R21EB033059, *Noninvasive site-specific measurement of gene expression in deep tissues with secreted reporters*, , 09/13/2022-05/31/2025, (100% PI), ($585,920 total)

Pending (in review):

1. NIH NIBIB, R01EB040624, PI, Monitoring gene expression in deep tissues with wearable devices, PI, (12/01/2026 – 11/30/2031, $3,722,005.00)
2. NIH NEI, R01EY038474A1, *Detection and noninvasive monitoring of early stage RGC gene expression changes in glaucoma,* MPI (06/01/2026 – 05/30/2031, $1,003,115 to PI)
3. NIH NINDS, R01NS146775, *Acoustically-Guided Gene Therapies for Brain and Spinal Cord Pain Modulation*, MPI, (06/01/2026 - 05/30/2031, $1,487,600 to PI)
4. CIRM, *Novel Minimally Invasive Approach to Monitoring Gene and Cell Therapy in the Eye,* Co-I, (10/01/2026 - 9/30/2029, $598,162 to PI)
5. Keck Foundation, Mechanism Agnostic Drug Discovery, PI, invited full proposal (05/2026)

6. Welch Foundation Research grant, Programmable receptors activated by sequence-specific DNA molecules, PI ($351,000, 06/01/2026-05/30/2029)
7. ARIA Scalable Neurotechnologies, Scalable, device- and surgery- free access to specific brain regions, concept paper submitted, PI, (09/2026-08/2029, $4,900,000)

Funding to trainees

PhD Students:

1. NIH, NEI F30, Schuyler Link (2024-2026)
2. NSF, GRFP, Manwal Harb (2021-2024)
3. NSF, NRT, Nicolas Buitrago (2022-2023)
4. NSF, NRT, Manwal Harb (2020-2021)
5. NSF, GRFP, Emma Raisely (2024-2027)

Summer pre-Ph.D. students

1. NSF, GRFP, Tsvetelina Baryakova (2021) (wrote the fellowship based on our lab's work)

Postdoctoral

6. Japanese Society for the Promotion of Science (JSPS) Postdoctoral Fellowship, Sho Watanabe (2024-2026)

Undergraduate

7. Sigma Xi grant in aid, Ryan Wang (2023)
8. DOD, NDSEG, Ryan Wang (2024)
9. NSF, GRFP, Ryan Wang (2024)

SELECTED ORAL PRESENTATIONS

1. Szablowski JO, *Noninvasive Neuroengineering*, Terasaki Institute seminar series, Aug. 12th, 2026, invited talk
2. Szablowski JO, *Platform Therapeutics*, Foresight Institute Vision Weekend United Kingdom, June 5-7th, 2026 (upcoming), invited talk
3. Szablowski JO, *Noninvasive Neuroengineering*, Princeton University, O'Donnel Bioengineering Institute, April 30th, 2026 (upcoming), invited talk
4. Szablowski JO, *Noninvasive Neuroengineering*, Kings College London, Neurotechnology Society, London, UK, March 18th, 2026, invited talk
5. Szablowski JO, Noninvasive Neuroengineering, University College London, Queen's Institute of Neurology, London, UK, March 17th, 2026, invited talk
6. Szablowski JO, *Noninvasive Neuroengineering for in vivo interfacing with the living brain*, Center for Neuroregeneration, Houston Methodist, Jan 27th, 2026, invited talk
7. Szablowski JO, *Noninvasive Neuroengineering*, The Epilepsy Exchange Meeting at the Texas Medical Center (EpiEx), January 8th, 2026, invited talk
8. Szablowski JO, Noninvasive Neuroengineering, ISBUS 2025, Caltech, Pasadena, CA, Dec. 2025 (upcoming), **Keynote speaker**
9. Szablowski JO, Noninvasive Neuroengineering, Purdue University, Dept. of Biomedical Engineering, October 14th, 2025, invited talk
10. Szablowski JO, *Control and Monitoring of Intact Tissues with Noninvasive Neuroengineering,* Bioorganic Chemistry GRC June 9-14th, 2025, **invited plenary speaker**
11. Szablowski JO, *Monitoring and Controlling the brain with noninvasive neuroengineering,* Preclinical

Imaging Conference (PIC), April 11th, 2025, **invited plenary speaker**

12. Szablowski JO, *Bioengineering Tools for Noninvasive Control and Monitoring of the Brain*, American Academy of Neurology, April 9th, 2025, **Invited plenary speaker**
13. Szablowski JO, Noninvasive Neuroengineering, Paris Sante campus, Institute of Medical Physics Paris, France, March 21st, 2025, invited talk
14. Szablowski JO, *Synthetic Biology for Brain Disease Research,* The Scientist magazine Webinar, March 6th, 2025, invited speaker
15. Szablowski JO, *Control and Monitoring of Intact Tissues with Noninvasive Neuroengineering*, MIT Brain and Cognitive Sciences Neurotechnology Symposium, 11/20/2024, invited talk
16. Szablowski JO, *Control and Monitoring of Intact Tissues with Noninvasive Neuroengineering,* Broad Institute of MIT and Harvard, 05/23/2024, invited talk
17. Szablowski JO, *Monitoring gene expression in the brain with synthetic serum markers*, Acoustical Society of America, 05/13/2024, Ottawa, ON, invited talk
18. Szablowski JO, *Noninvasive monitoring of transgene expression in the brain,* American Institute for Ultrasound in Medicine (AIUM), April 10th, 2024, Austin, TX, invited talk
19. Szablowski JO, *Control and Monitoring of Cells in Intact Tissues through Noninvasive Neuroengineering*, Boston University, Neurophotonic Center and the Center for Systems Neuroscience, Boston, MA, April, 2024, invited talk
20. Szablowski JO, *Molecular Engineering in Gene Delivery with Focused Ultrasound*, Focused Ultrasound Gene Therapy Symposium (November 16-17th, 2023, Washington DC), invited talk
21. Szablowski JO, *Control and Monitoring of Cells in Intact Tissues through Noninvasive Neuroengineering*, Woodward Departmental Colloquium, Dept. of Chemistry and Chemical Biology, Harvard University, Boston, MA, November 2nd, 2023, invited talk
22. Szablowski JO, *Control and Monitoring of Intact tissues with Noninvasive Neuroengineering,* University of Washington, Biological Structure Seminar series, Center of Excellence in Neurobiology of Addiction, Pain, and Emotion, October 13th 2023, invited talk
23. Szablowski JO, *Noninvasive Monitoring Brain Physiology*, AAPM (July 23-27, 2023, Houston), invited talk
24. Szablowski JO, *Noninvasive Monitoring of Brain Physiology*, SEED (2023, Los Angeles), June 2nd, **invited plenary talk**
25. Szablowski JO, *Noninvasive Neuroengineering*, NeuroNano, SBMT (Feb 2023), invited talk
26. Szablowski JO, *Noninvasive Neuroengineering*, UT Health Houston, Dept. of Neuroscience, Oct. 5th, 2022, invited talk
27. Szablowski JO, *Noninvasive Neuroengineering*, D-CFAR Research Forum, October 10th, 2022, invited talk
28. Szablowski JO, *Noninvasive Neuroengineering*, NeuroNano, Columbia University, 07/21/2022, invited talk
29. Szablowski JO, *Noninvasive Neuroengineering*, VIB Neurotechnologies (KU Leuven, Belgium), 28/09/2022, invited talk
30. Szablowski JO, *Neuroengineering*, Brain Bee 2021, educational talk for high school students (*03/2021*).
31. Jerzy Szablowski, Audrey Lee-Gosselin, Brian Lue, Dina Malounda, Mikhail Shapiro, *Acoustically Targeted Chemogenetics for a Noninvasive Spatially, Temporally, and Cell-specific Control of Neural Circuits*., BMES 2018 Annual Meeting, 10/19/2018, oral presentation,
32. Szablowski JO, *Noninvasive Gene Therapy for Brain Disorders - Acoustically Targeted Chemogenetics,* University of Utah, Imaging Elevated Symposium, 10/16/2018, award symposium talk

33. Szablowski JO, Acoustically Targeted Chemogenetics for noninvasive neuromodulation, at "*Methods and applications of ultrasound in molecular imaging and drug delivery*" workshop at *WMIC 2018, 09/12/2018,* educational talk
34. Szablowski JO, Lue B, Lee-Gosselin A, Malounda D, Shapiro MG, Acoustically Targeted Chemogenetics for noninvasive control of neural circuits, *International Society of Therapeutic Ultrasound Annual Meeting*, 05/15/2018
35. Szablowski JO, Acoustically Targeted Chemogenetics, "Neurolunch" Seminar Series, 12/12/2017
36. Szablowski JO, An HRE-binding Py-Im Polyamide Impairs Adaptation of Tumors to Hypoxia, 04/02/2015, *Center for the Chemistry of Cellular Signaling Seminar*
37. Szablowski JO, Bioengineering and Biological Engineering, 23.09.2010, 14th Science Festival in Warsaw, educational talk for general audience
38. Szablowski JO, Protein Engineering or how to make your own enzymes, 23.09.2010, 14th Science Festival in Warsaw, educational talk for general audience

SELECTED POSTER PRESENTATIONS

1. Szablowski JO, London ZN, *Controlling the Brain with Acoustically-Delivered Molecules,* NeuroBytes, American Academy of Neurology course, March 7th, 2025
2. Szablowski JO, Li R, Heath J, Shapiro M, *P370.05: A viral vector engineered for improved spatially-specific noninvasive gene delivery to the brain.,* SFN Global Connectome *(01/11/2021)*
3. Szablowski JO, Li R, Heath J, Shapiro M, *A viral vector engineered for improved focused ultrasound BBB opening gene delivery.,* FUS Foundation annual meeting *(11/2020)*
4. Szablowski JO, Lue B, Lee-Gosselin A, Malounda D, Shapiro MG, *Acoustically Targeted Chemogenetics for noninvasive neuromodulation*, *WMIC 2018*, *09/15/2018*

PATENTS

1. Szablowski JO, Buitrago NS, *Mechanism Agnostic Directed Evolution of Protein Therapeutics*, US US20250277209A1, pending
2. Szablowski JO, Huang Z, *Site Specific Brain Therapeutics*, US20250195629A1, pending
3. Szablowski JO, Seo JP, *Noninvasive Site-Specific Measurement of Transgene Expression in the Brain,* US20240385175A1, pending
4. Szablowski JO, Lee S, *Noninvasive monitoring of gene expression in the brain using synthetic serum markers*, US20250327753A1, pending
5. Szablowski JO, Li H, Heath JE, Shapiro MG, *Viral Vectors Engineered for Enhanced Ultrasound-Mediated Delivery to the Brain*, US20230047753A1, pending
6. Szablowski JO, Shapiro MG, *Methods And Systems For Noninvasive Control Of Brain Cells And Related Vectors And Compositions*, WO US US11400168B2, **Granted 2022-08-02**
7. Lu G, Farhadi A, Szablowski JO, Shapiro MG, *Gas Filled Structures and related compositions, methods and systems for magnetic resonance imaging*, US20230158171A1, pending
8. Szablowski JO, *User-adjustable knee orthosis for patellar instability and related disorders*, CIT File No.: CIT 12-216, Provisional Filed: 8/7/2012

STUDENTS SUPERVISED

Postdoctoral

Name	Year(s) Supervised	Record of Placement
Zhimin Huang	2020-2024	Assistant Professor, University of Pittsburgh, Neurosurgery

Sho Watanabe	2023-current	Current, Japan Society for the Promotion of Science (JSPS) Fellow
Kritika Sood	2026-current	Current

Graduate

Current Graduate Students	Degree Sought
Xia Boao	Ph.D. Bioengineering
Yuanmuhuang Long	Ph.D. Bioengineering
Sarah Van Winkle	MD/Ph.D. Bioengineering
Nouraein Shirin	Ph.D. Systems, Synthetic, and Physical Biology
Link Schuyler	MD/Ph.D. Bioengineering
Buitrago Nicolas	Ph.D. Systems, Synthetic, and Physical Biology
Wen Ruoxin	Ph.D. Systems, Synthetic, and Physical Biology
Isaac Ive	Ph.D. Systems, Synthetic, and Physical Biology
Honghao Li	Ph.D. Bioengineering
Emma Raisley	Ph.D. Bioengineering
Selin Aras	MBE Bioengineering
Mihika Ramprasad	MBE Bioengineering

Graduate Alumni

Year	Name	Degree(s) Conferred	Record of Placement
2025	Manwal Harb	Ph.D. (Defense: 05/01/2025) Bioengineering	CEO, MusiQ Bio, UTSW spin off (from 08/2025)
2025	Joon Pyung Seo	Ph.D. (Defense: 04/23/2025) Applied Physics	Postdoctoral Fellow, Ajou University, South Korea
2024	Sangsin Lee	Ph.D. Bioengineering	Stanford University, Alice Ting lab, Wu Tsai institute interdisciplinary fellowship
2025	Josefina Brau	MBE Bioengineering	Applied Data Engineer, CellChorus
2025	Zigang Wu	MBE Bioengineering	Szablowski lab, Rice University, Research technician
2024	Rongshu Jin	MBE Bioengineering	Rice University, Bioengineering, Ph.D.
2024	Diana Dutava	MBE Computer Science	N/A
2022	James S. Trippett	MBE Bioengineering	McGovern School of Medicine
2022	James Kwon	MBE Bioengineering	Texas A&M School of Medicine
2022	Visnhu Rangachari	MBE Bioengineering	N/A
2021	Kevin Gonzalez	MBE Bioengineering	Adjunct Professor, Tecnologico de Monterrey
2021	Huckie Del Mundo	MBE Bioengineering	Spanios (https://spanioslab.com/)

Undergraduate

Name	Year(s) Supervised	Outcomes
Joycelin Yiu	2020-2021	Ph.D. Bioengineering, UCSD

Ryan Wang	2021-2024	Ph.D.,Bioengineering, Stanford University
Oriana Tang	2022-2024	Rice University
Vidal Saenz	2022-2024	Rice University
Aurian Maleki	2020-2020	Rice University
Andrei Mitrofan	2020-2022	8fold mfg, PicoPump Inc, co-founder
Richard Gao	2022-2022	Rice University
Mina Ghayour	2021-2021	Rice University
Priyanka Patel	2023-2023	Rice University
Olivia Kemper	2023-2023	Rice University
Paula Gonzalez	2022-2022	Wellesley College
Clark Horak	2023-2023	University of Houston
Yuna Choi	2022-2023	Rice University
Helena Song	2024-current	Rice University
Akshara Sankar	2023-current	Rice University
Jesus Adame	2024-current	Rice University
Kara Fan	2024-current	Rice University
Eesha Kodavati-kanti	2025-current	Rice University
Sophia Jeffrey	2025-current	Rice University

Technical staff

Name	Year(s) Supervised	Outcomes
Yerim Kim	2023-current	Rice University
Zigang Wu	2025-current	Rice University
Zachary Lane	2022-2023	Postdoc, Whitney Lab for Marine Biology, Schnitzler Lab
Shirin Nouraein	2021-2022	PhD, Rice SSPB
Darrion Nguyen	2022-2022	Ryan's World, presenter (~35m subscriber educational Youtube channel)
James S. Trippett	2022-2023	McGovern School of Medicine
Cooper Lueck	2021-2022	Texas A&M School of Medicine, ENMED program

Ph.D. Defense committees

Bonu Vohidova (BioE)

Hannah Lim (BioE)

Jon Montes (BioE)

Anton Banta (ECE)

Dhiraj Jain (SSPB)

Fatima Ahsan (ECE)

Jiawei Lu (BioE)

Nicole Sevilla (BioE)

Boqiang Fan (ECE)

Ben Kaufman (BioE)

SERVICE

Rice University

2025-current Faculty search committee, Rice University Dept. of Bioengineering

2025-current Collective Excellence Committee

2024-current Graduate students admissions committee, Rice University Dept. of Bioengineering

2022-current Rice Future Leaders in Bioengineering, seminar series for postdoctoral fellows and graduate students (co-founder; organizing committee)

2022-current Rice Neuroengineering Initiative annual meeting, organizing committee

2022-2023 Faculty search committee, Dept. of Bioengineering

2020-current Professional Masters Affairs Committee, Rice University Dept. of Bioengineering

2020-2022 Industry and Alumni Relations Committee, Rice University Dept. of Bioengineering

2020-2023 IACUC, standing member

2020-2024 DEI Committee, standing member, Rice University Dept. of Bioengineering

2020 Graduate admissions committee, Rice University Dept. of Bioengineering

2021-current Graduate admissions committee, Systems, Synthetic, and Physical Biology program

2020 Rice Bioengineering Covid-19 task force (co-founder)

External Service

Baylor College of Medicine

2025-current: MSTP Faculty Operating Committee (MD/Ph.D. program BCM/Rice Bioengineering)

Grant reviews:

NIH panels; BRAIN initiative, NINDS, NIMH, SBIR:

2020: ZMH1 ERB-M (08),

2021: ERB-M(07)

2022: ZMH1 ERB-M (02)

2023: ZNS1 SRB-O (22), ZRG1 NV-Q (91) S

2024: ZMH1 ERB-M (01); ZRG1 NV-H (13)

2025: ZRG1 NV-J (50)

John S. Dunn foundation

Israel Science Foundation (ISF)

Chan-Zucker Berg Initiative (CZI)

Human Frontiers Science Foundation (HFSP)

National Science Foundation (NSF)

Children's Cancer and Leukaemia Group

Focused Ultrasound Foundation

Paper reviews

Science Translational Medicine

Science Advances

Cancer Research

PNAS

Neuron

Nature Biomedical Engineering

Nature Biotechnology

Nature communications

Molecular Therapy: Nucleic Acids

Transactions in Biomedical Engineering

Nature Reviews Chemistry

Theranostics

iScience

and others

Abstract reviews:

Biomedical Engineering Society (BMES)

World Molecular Imaging Congress (WMIC)

Organizing committees

2020-2021 11th International Conference for Biomolecular Engineering (organizing committee) (Virtual due to the Covid-19 pandemic)

2022-2023 SEED 2023 (organizing committee, Los Angeles, CA

Memberships

2018-present	Biomedical Engineering Society (BMES)
2016-present	World Molecular Imaging Society (WMIS)
2018, 2020	Society for Neuroscience (SfN)
2024-present	American Institute of Chemical Engineers (AiChE)
2024-present	International Society for Therapeutic Ultrasound (ISTU)
2024-present	American Chemical Society (ACS)