Curriculum Vitae

Name:	Eduardo Reátegui, Ph.D.
Office Address:	457 Koffolt Laboratories 151 W. Woodruff Avenue Columbus, OH 43210-1350
Lab Address:	490 Koffolt Laboratories 151 W. Woodruff Avenue Columbus, OH 43210-1350
Home Address:	5468 Dunmere Lane Dublin, OH 43017
Work Phone:	614-688-1410
Work Email:	reategui.8@osu.edu
Website:	https://bioeng.engineering.osu.edu
Work Fax:	614-247-8810
Place of Birth:	Perú (US Permanent Resident)

Academic Appointments and Affiliations

The Ohio State University; Columbus, OH

Assistant Professor (tenure-track)	Chemical and Biomolecular Engineering	08/2017-present
Faculty Member	Molecular Biology and Cancer Genetics Program, Comprehensive Cancer Center	08/2017-present
Faculty Member	Host Defense and Microbial Biology Program, Institute of Infectious Diseases	08/2017-present
	Prevention, Detection and Therapies Program, Institute of Infectious Diseases	08/2017-present

Education and Research Training

Massachusetts General Hospital & Harvard Medical School; Boston, MA

Postdoctoral Research Fellow	Center for Engineering in Medicine BioMEMs Resource Center Advisors: Mehmet Toner, Ph.D. & Shannon Stott, Ph.D. & Daniel Irimia, Ph.D.	03/2012-07/2017

University of Minnesota; Minneapolis, MN

Ph.D.	Mechanical Engineering Advisor: Alptekin Aksan, Ph.D.	08/2006-12/2011

University of Massachusetts Dartmouth; Dartmouth, MA

M.S.	Mechanical Engineering Advisor: Alex Fowler, Ph.D.	08/2004-07/2006

Universidad Nacional de Ingeniería; Lima, Perú

B.S.	Mechanical Engineering	08/1998-07/2002

Professional Memberships and Affiliations

American Association of Cancer Research (AACR)
American Society of Mechanical Engineers (ASME)
Biomedical Engineering Society (BMES)
International Society of Extracellular Vesicles (ISEV)
Materials Research Society (MRS)

Awards and Honors

2016	Invited Speaker Award Conference: Gordon Research Conference on Rare Cells in Circulation; South Hadley, MA
2015	Young Investigator Travel Award Conference: International Society of Extracellular Vesicles; Washington DC
2014	Best Poster Award Conference: Circulating Biomarkers; Boston, MA
2012	Best Dissertation Award "Physical Science and Engineering" University of Minnesota; Minneapolis, MN
2010	Doctoral Dissertation Fellowship University of Minnesota; Minneapolis, MN
2010, 2009	Travel Award Conference: The Physics, Chemistry, and Biology of Water; West Dover, VT
2009	Best Poster Award Conference: The Physics, Chemistry, and Biology of Water; West Dover, VT
2009	Travel Award Workshop: *USA-Mexico Workshop in Biological Chemistry*; Mexico City
2005	Best Poster Award Sigma Xi Research Exhibition University of Massachusetts Dartmouth; Dartmouth, MA
2003	Best Research Undergraduate Project Ministry of Energy and Mines; Lima, Perú
2002	First Class Honors Mechanical Engineering, Universidad Nacional de Ingenieria; Lima, Perú

Publications

https://www.ncbi.nlm.nih.gov/myncbi/1nKV5LEuVFP1aN/bibliography/public/
(*Total Google Scholar Citations = 586; h-index = 10*) as of 04/20/2020

1. N. Walters, J. Zhang, L. Nguyen, **E. Reátegui**, Bioparticle Microarrays for Chemotactic and Molecular Analysis of Human Neutrophil Swarming in vitro. **J. Vis. Exp.** (156), e60544, doi:10.3791/60544, **2020**.

2. X. Y. Rima, N. Walters, L.T.H. Nguyen**, E. Reátegui,** Surface Engineering within a Microchannel for Hydrodynamic and Self-assembled Cell Patterning. **Biomicrofluidics**, 14(1):014104. doi: 10.1063/1.5126608, **2020**.

3. J. Kim, J. Gómez-Pastora, C. J. Gilbert, M. Weigand, N. Walters, **E. Reátegui**, A. F. Palmer, M. Yazer, M. Zborowski, J. J. Chalmers, Quantification of the Mean and Distribution of Hemoglobin Content in Normal Human Blood Using Cell Tracking Velocimetry. **Analytical Chemistry**, 92, 2, 1956 – 1962, **2019**.

4. J. Kim, J. Gómez-Pastora, M. Weigand, M. Potgieter, N. Walters, **E. Reátegui**, A. F. Palmer, M. Yazer, M. Zborowski, J. J. Chalmers, A subpopulation of Monocytes in Normal Human Blood Has Significant Magnetic Susceptibility: Quantification and Potential Implications. **Cytometry PartA**, 95, 5, 461 - 582, **2019**.

5. N. Walters, J. Zhang, L. Nguyen, **E. Reátegui**, Extracellular Vesicles as Mediators of in vitro Neutrophil Swarming on a Large Scale Microparticle Array. **Lab on a Chip**, **19,** 2874 - 2884, **2019***.*

6. J. J. Kim*, **E. Reátegui***, A. Hopke, F. Jalali, M. Roushan, P. S. Doyle, D. Irimia, High-throughput Patterning of Living Colloids for Dynamic Studies of Neutrophil-Microbe Interactions. **Lab on a Chip**, 18, 1514 - 1520, **2018**. * *Equal Contribution.*

7. **E. Reátegui***, K. van der Vos*, C. P. Lai*, M. Zeinali, N. A. Atai, B. Aldikacti, F. P. Floyd, A. Khankhel, V. Thapar, F. H. Hochberg, L.V. Sequist, B. V. Nahed, B. Carter, M. Toner, L. Balaj, D. Ting, X. O. Breakefield, S. L. Stott, Engineered Nanointerfaces for Microfluidic Isolation and Molecular Profiling of Tumor-specific Extracellular Vesicles, **Nature Communications,** 9, (1), 175, **2018.*** *Equal Contribution.*

8. R. Vogel, A. K. Pal, S. Jambhrunkar, P. Patel, S. S. Thakur, **E. Reátegui**, H. S. Parekh, P. Saáz, A. Stassinopoulos, M. Broom, High-throughput Single-Particle Zeta Potential Characterization of Biological Nanoparticles using Tunable Resistive Pulse Sensing. **Scientific Reports,** 7, (1), 17479, **2017**.

9. X. Jiang, K. H. K. Wong, A. H. Khankhel, M. Zeinali, **E. Reátegui**, M. J. Phillips, X. Luo, N. Aceto, F. Fachin, A. N. Hoang, W. Kim, A. E. Jensen, Lecia V. Sequist, S. Maheswaran, D. A. Haber, S. L. Stott, M. Toner, Microfluidic Isolation of Platelet-covered Circulating Tumor Cells, **Lab on a Chip**, 17, 3498-3503, **2017**.

10. J. Preciado*****, **E. Reátegui***, S. Azarin, E. Lou, A. Aksan, Immobilization Platform to Select and Induce Quiescence of Dormancy-capable Cancer Cells. T**echnology,** 5, (3), 129-138, **2017.*** *Equal Contribution.*

11. **E. Reátegui**, F. Jalali, A. Khankhel, E. Wong, H. Cho, J. Lee, C. N. Serhan, J. Dalli, H. Elliott, D. Irimia, Microscale Array for the Profiling of Start and Stop Signals Coordinating Human-neutrophil Swarming, **Nature Biomedical Engineering**, 1, 0094, **2017.**

    - Highlighted in ***News and Views*** from Nature Biomedical Engineering.
    - Highlighted in ***Behind the Paper*** from Nature Biomedical Engineering.

12. M.-H. Park*, **E. Reátegui***, W. Li, S. N. Tessier, K. Wong, A. E. Jensen, M. Toner, S. L. Stott, P. T. Hammond, Enhanced Isolation and Release of Circulating Tumor Cells Using Nanoparticle Binding in and Ligand Exchange in a microfluidic chip, **Journal of the American Chemical Society (JACS)**, 139, (7), 2741-2749, **2017.** * *Equal contribution*.

13. J. J. Kim, K. W. Bong, **E. Reátegui,** D. Irimia, P. S. Doyle, Porous Microwells for Geometry Selective, Large-scale Microparticle Arrays, **Nature Materials**, 16, 139-146, **2017.**

14. W. Li*, **E. Reátegui***, M.-H Park, S. Castleberry, A. E. Jensen, M. Toner, S. L. Stott, P. T. Hammond, Biodegradable Nano-film for Capture and Non-invasive Release of Circulating Tumor Cells, ***Biomaterials***, 65, 93-102, **2015**. * *Equal contribution*.

15. **E. Reátegui**, N. Aceto, J. P. Sullivan, A. E. Jensen, E. J. Lim, M. Zeinali, J. M. Martel, A. J. Aranyosi, W. Li, S. Castleberry, A. Bardia, L. V. Sequist, D. A. Haber, S. Maheswaran, P. T. Hammond, M. Toner, S. L. Stott, Nanostructured Coating for Immunoaffinity Capture and Selective Release of Single Circulating Tumor Cells, ***Advanced Materials***, 27, (9), 1593-1599, **2015**.

16. **E. Reátegui**, L. Kasinkas, K. Kniesz, M. A. Lefebvre, A. Aksan, Silica-PEG Encapsulation of Mammalian Cells, ***Journal of Materials Chemistry B***, 2, (42), 7440-7448, **2014**.

17. **E. Reátegui**, L. Kasinkas, E. Reynolds, A. Aggarwal, L. Wackett, A. Aksan, M. J. Sadowsky, Silica Gel Encapsulated AtzA Biocatalyst for Atrazine Biodegradation, ***Applied Microbiology and Biotechnology***, 96, (1), 231-240, **2012.**

18. **E. Reátegui**, A. Aksan, Effects of Water on the Structure and Low/High-Temperature Stability of Confined Proteins, ***Physical Chemistry and Chemical Physics***, 12, 10161-10172, **2010**.

19. **E. Reátegui**, A. Aksan, Effects of the Low-Temperature Transitions of Confined Water on the Structure of Isolated and Cytoplasmic Proteins**, *Journal of Physical Chemistry B***, 113, (39), 13048-13060, 2009.

20. **E. Reátegui**, A. Aksan, Structural Changes in Confined Lysozyme, ***Journal of Biomechanical Engineering***, 131, (7), 745201-4, **2009**.

21. **E. Reátegui**, A. Fowler, Desiccation of Nucleated Mammalian Cells in Nanoliter Droplets, ***Chemical Engineering Research, and Design***, 86, (11), 1187-1195, **2008**.

22. **E. Reátegui**, E. Reynolds, L. Kasinkas, A. Aggarwal, M. J. Sadowsky, A. Aksan, L. P. Wackett, Reactive Biomaterial for the Treatment of Herbicide-Contaminated Drinking Water: Atrazine Dechlorination. **ASME Proceedings / Microsystems and Genetic Regulation in Biological Machines**, Paper SBC2012-80205, pp 347-348, **2012**.

23. **E. Reátegui**, L. Kasinkas, A. Aksan, Encapsulation of Mammalian Cells in Nanoporous Silica Gels: Interactions at the Biointerface. **ASME Proceedings / Mechanics and Synthesis of Biological Interfaces**, Paper SBC2012-80211, pp 667-668, **2012**.

24. **E. Reátegui**, A. Aksan, Effect of Kinetic and Thermodynamic Transitions of Confined Water on Biomolecules. **ASME Proceedings / Biomass Transfer Processes in Tissues**, Paper SBC2008-192376, pp 155-156, **2008**.

Conference Oral & Poster Presentations

1. **E. Reategui**, Microfluidic Isolation and Molecular Profiling of Circulating Tumor Cells and Extracellular Vesicles, Targeted Nucleic Acid Detection and Delivery, Notre Dame, 2018.

2. N. A. Walters, **E. Reategui**, Neutrophil Swaming on-a-chip for Characterization of Collective Cell Migration and Early Stages of inflammation, Targeted Nucleic Acid Detection and Delivery, Notre Dame 2018.

3. **E. Reátegui**, K. van der Vos, C. P. Lai, M. Park, M. Zeinali, L. Balaj, W. Li, B. Aldikacti, S. N. Tessier, K. H. Wong, V. Thapar, D. T. Ting, P. T. Hammond, D. A. Haber, S. Maheswaran, M.

Toner, X. O. Breakefield, S. L. Stott, Microfluidic Liquid Biopsy: Seeking Particles large and Small on Cancer Patient Blood, Biomedical Engineering Annual Society Meeting, Phoenix **2017**.

4. **E. Reátegui**, J. J. Kim, A. Hopke, F. Jalali, M. Roushan, J. Dalli, C. N. Serhan, P. S. Doyle, D. Irimia, High-throughput Microtechnologies for Transient Profiling of Molecular Signatures during Neutrophil Swarming, Biomedical Engineering Annual Society Meeting, Phoenix **2017**.

5. J. Preciado, **E. Reátegui**, A. Aksan, Dormancy-capable Cell Isolation via Physical Proliferation Inhibition, Summer Biomechanics, Bioengineering, and Biotransport Conference (SB^3C), Tucson **2017**.

6. D. Irimia, **E. Reátegui**, Neutrophil Swarming – Start and Stop Signals, Gordon Research Conference on The Ying and Yang of Phagocytosis: Regulators of Human Health and Disease, Waterville Valley **2017**.

7. D. Irimia, **E. Reátegui**, A. Khankhel, F. Jalali, E. Wong, H. Cho, J. Lee, C. N. Serhan, J. Dalli, H. Elliott, Multiple Chemoattractants and One-Stop Signal Mediate Neutrophil Swarming, Gordon Research Conference on Direct Cell Migration: Mechanisms of Collective and Single Cell Motility in Development, Homeostasis, and Disease, Galveston **2017**.

8. J. J. Kim, K. W. Bong, **E. Reátegui**, D. Irimia, P. S. Doyle, Porous Microwells for Geometry-Selective, Large-Scale Microparticle Arrays, Miniaturized Systems for Chemistry and Life Sciences, Dublin, Ireland **2016**.

9. **E. Reátegui**, K. van der Vos, C. P. Lai, M. Zeinali, L. Balaj, D. T. Ting, B. V. Nahed X. O. Breakefield, S. L. Stott, Isolation and Molecular Profiling of Tumor-specific Extracellular Vesicles Using Microfluidic Technologies, Biomedical Engineering Annual Meeting, Minneapolis **2016**.

10. **E. Reátegui**, A. Khankhel, F. Jalali, E. Wong, H. Cho, J. Dalli, H. Elliott, C. N. Serhan, D. Irimia, Neutrophil Swarming-on-a-chip for the Study of Collective Cell Migration, Biomedical Engineering Annual Meeting, Minneapolis **2016.**

11. J. A. Preciado, **E. Reátegui**, A. Aksan, Platform to Isolate Dormancy-capable Cells. Biomedical Engineering Annual Meeting, Minneapolis **2016.**

12. D. Irimia, **E. Reátegui**, A. Khankhel, F. Jalali, E. Wong, H. Cho, J. Dalli, C. N. Serhan, H. Elliot, Multiple Signals Coordinate Human-neutrophil migration during swarming in a novel ex vivo assay, The Society for Leukocyte Biology's 49th Annual Meeting and "Neutrophil 2016", Verona, Italy **2016**.

13. **E. Reátegui**, K. van der Vos, C. P. Lai, M. Zeinali, L. Balaj, D. T. Ting, B. V. Nahed X. O. Breakefield, S. L. Stott, Characterization of Tumor-specific Extracellular Vesicles from Glioma Patients Using Microfluidic Technologies, Gordon Research Conference on Rare Cells in Circulation, South Hadley **2016**.

14. J. A. Preciado, **E. Reátegui**, M. Lefebvre, S. Azarin, E. Lou, A. Aksan, 3D in vitro Platform to Isolate Dormancy Capable Cancer Cells, Summer Biomechanics, Bioengineering, and Biotransport Conference, Washington DC **2016.**

15. **E. Reátegui**, A. Khankhel, F. Jalali, E. Wong, H. Cho, Jesmond Dalli, H. Elliott, C. N. Serhan, D. Irimia, Ex vivo Assay Helps Elucidate Chemokine Signaling During Neutrophil Swarming, Gordon Research Conference on Cytokines and Chemokines, Girona, Spain **2016.**

16. **E. Reátegui**, C. P. Lai, K. van der Vos, M. Zeinali, L. Balaj, X. O. Breakefield, S. L. Stott, Specific Isolation of Tumor-derived Extracellular Vesicles Using Microfluidic Technologies, International Society for Extracellular Vesicles, Annual Meeting, Washington DC **2015.**

17. **E. Reátegui**, N. Aceto, J. P. Sullivan, A. E. Jensen, E. J. Lim, M. Zeinali, J. M. Martel, A. J. Aranyosi, W. Li, S. Castleberry, A. Bardia, L. V. Sequist, D. A. Haber, S. Maheswaran, P. T. Hammond, M. Toner, Shannon L. Stott, Cellular and Biomolecule Isolation on Biodegradable Nanostructured Coatings, Materials Research Society Fall Meeting, Boston **2014.**

18. **E. Reátegui**, N. Aceto, J. P. Sullivan, A. E. Jensen, E. J. Lim, M. Zeinali, J. M. Martel, A. J. Aranyosi, W. Li, S. Castleberry, A. Bardia, L. V. Sequist, D. A. Haber, S. Maheswaran, P. T. Hammond, M. Toner, Shannon L. Stott, Shear-responsive Nanocoating for Single Circulating Tumor Cell DNA Analysis, Biomedical Engineering Society Annual Meeting, San Antonio **2014.**

19. **E. Reátegui**, N. Aceto, J. P. Sullivan, A. E. Jensen, E. J. Lim, M. Zeinali, J. M. Martel, A. J. Aranyosi, W. Li, S. Castleberry, A. Bardia, L. V. Sequist, D. A. Haber, S. Maheswaran, P. T. Hammond, M. Toner, Shannon L. Stott, Biodegradable Nanocoating for the Isolation of Circulating Tumor Cells, Gordon Research Conference on Rare Cells in Circulation, South Hadley **2014.**

20. **E. Reátegui**, A. E. Jensen, J. Sullivan, N. Aceto, S. Maheswaran, D. A. Haber, M. Toner, S. L. Stott, Temperature Responsive Coating for Enrichment and Isolation of Circulating Tumor Cells from Whole Blood, Biomedical Engineering Society Annual Meeting, Seattle 2013 and Circulating Biomarkers **2014**, Boston **2014.**

21. W. Li, E. **Reátegui**, M-H. Park, S. Castleberry, S. Mayner, A. E. Jensen, S. L. Stott, M. Toner, P. T. Hammond, Enzymatically degradable Nano-films for Capture and Release of Circulating Tumor Cells, Biomedical Engineering Society Annual Meeting, Seattle **2013.**

22. **E. Reátegui**, A. Hoang, S. L. Stott, M. Toner, Hybrid Nanocoating of a Microfluidic Chip for Capture and Release of Viable Circulating Tumor Cells from Whole Blood, ASME 2nd Global Congress on Nanoengineering for Medicine and Biology, Boston **2013.**

23. A. Aksan, L. Kasinkas, M. Turnbull, **E. Reátegui**, E. Reynolds, M. J. Sadowsky, L. P. Wackett, Bioremediation Technology Development for Cleaning of Fracking Wastewater, American Institute of Chemical Engineers Annual Meeting, Pittsburg **2012.**

24. **E. Reátegui**, E. Reynolds, L. Kasinkas, A. Aggarwal, B. Mutlu, M. J. Sadowsky, A. Aksan, L. P. Wackett, Engineering Biomaterials for Bioremediation Applications, American Institute of Chemical Engineers Annual Meeting, Pittsburg **2012.**

25. A. Aksan, **E. Reátegui**, L. Kasinkas, K. Schwertfeger, Reversible Encapsulation Platform for Solitary Cancer Cell Dormancy Model, Biomedical Engineering Society Annual Meeting, Atlanta **2012.**

26. **E. Reátegui**, L. Kasinkas, A. Aksan, Effect of Silica Gel Properties on the Viability of Encapsulated Mammalian Cells, Biomedical Engineering Society Annual Meeting, Atlanta **2012.**

27. A. Hoang, A. M. Shah, **E. Reátegui**, T. Barber, D. Winokur, M. Phillips, S. Maheswaran, D. Haber, S. L. Stott, M. Toner, Enzymatic Approach for Capture and Application of Low Antigen-Expressing Circulating Tumor Cells, Biomedical Engineering Society Annual Meeting, Atlanta **2012.**

28. **E. Reátegui**, E. Reynolds, L. Kasinkas, A. Aggarwal, B. Mutlu, M. J. Sadowsky, A. Aksan, L. P. Wackett, Reactive Biomaterial for the Treatment of Herbicide-Contaminated Drinking Water: Atrazine Dechlorination, Summer Bioengineering Conference, Fajardo, Puerto Rico, USA **2012.**

29. **E. Reátegui**, L. Kasinkas, A. Aksan, Encapsulation of Mammalian Cells in Nanoporous Silica Gels: Interactions at the Biointerface, Summer Bioengineering Conference, Fajardo, Puerto Rico, USA **2012.**

30. **E. Reátegui**, L. Kasinkas, A. Aksan, Encapsulation of Mammalian Cells in Hybrid Organic-inorganic Matrices for Developing Biodetection Applications, LifeScience Alley 2010 Conference and Expo, Minneapolis, **2010.**

31. **E. Reátegui**, J. Malsam, A. Aksan, Hydrogen Bonding During Hard and Soft Confinement, Fourth Annual Conference on the Physics, Chemistry, and Biology of Water, Vermont, **2009.**

32. **E. Reátegui**, A. Aksan, Structural Changes of Encapsulated Proteins in Nanoporous Matrices at Cryogenic and High Temperatures, Cryobiology, Sapporo, Japan, **2009.**

33. **E. Reátegui**, A. Aksan, Structural Changes in Nanopore-encapsulated Proteins, USA/Mexico Workshop in Biological Chemistry: Multidisciplinary Approaches to Protein Folding, Mexico City, Mexico, **2009.**

34. **E. Reátegui**, A. Aksan, Effects of Kinetic and Thermodynamic Transitions of Water on the Structure of Confined Lysozyme, Summer Bioengineering Conference, Florida, **2008.**

35. **E. Reátegui**, A. Aksan, Stability of Biomolecules Confined in SiO_2 silica Matrices, International Scientific Congress (Summer), Lima City, **2008.**

36. **E. Reátegui**, A. Aksan, Biostabilization by Encapsulation: State(s) of Confined Water, Cryobiology, Lake Louis, Canada, **2007.**

Patents

Awarded

1. **E. Reátegui**, M. Toner, S. Stott, "Capture and Release of Particles from Liquid Samples," United States Patent No**.** 10,551,376, **2020**.

2. **E. Reátegui**, M. Toner, S. Stott, X. Jian, "Platelet-targeted Microfluidic Isolation of Cells," United States Patent No. 10,391,491, **2019**.

3. **E. Reátegui**, L. Kasinkas, L. Wackett, A. Aksan, M. Sadowsky, “Silica-Encapsulated Biomaterials,” United States Patent No. 9,790,484, **2017**.

4. **E. Reátegui**, A. Aksan, A, Hubel, “Silica-Based Composite Ocular Device and Methods,” United States Patent No**. 9,492,271**, **2016**.

5. **E. Reátegui**, L. Kasinkas, A. Aksan, “Silica-Matrix Forming Compositions, Materials Formed Therefrom, and Methos of Using the Same,” United States Patent No. 9,427,408, **2016**.

Provisional

6. **E. Reátegui,** J. Zhang, L.T.H. Nguyen, R. Hicks, A. Palmer, "Scale-up Methods for the Purification of Extracellular Vesicles," provisional patent application filed **2020**.

7. **E. Reátegui**, L.T.H. Nguyen, K. Wang, L. J. Lee, "Fluorescence Quantification of Protein and RNA in Single Extracellular Vesicles for Predicting Immunotherapy Response," provisional patent application filed **2020**.

8. **E. Reátegui**, S. L. Stott, M. Toner, "Engineered Nanointerfaces for Microfluidic Isolation of Extracellular Vesicles." Provisional Patent Application US 2020/0070168 A1, **2020**.

Invited Seminars and Presentations

1. *"New Technologies for Bulk and in-situ Molecular Profiling of Extracellular Vesicles as Cancer Biomarkers and Mediators of Cell Communication,"* Department of Biological Sciences, Virginia Polytechnic Institute, Blacksburg, VA **2019**.

2. *"Tiny Technologies with Impact in Translational Medicine,"* Nationwide Children's Hospital, Columbus, OH **2018**.

3. *"Microfluidic Liquid Biopsy: Seeking Particles Large and Small in Cancer Patient Blood,"* Department of Mechanical Engineering, University of Massachusetts Amherst, Amherst, MA **2017**.

4. *"Microfluidic Liquid Biopsy: Seeking Particles Large and Small in Cancer Patient Blood,"* William G. Lowrie Department of Chemical and Biomolecular Engineering, The Ohio State University. Columbus, OH **2017**.

5. *"Microfluidic Liquid Biopsy: Seeking Particles Large and Small in Cancer Patient Blood,"* Department of Biomedical Engineering, Washington University in Saint Louis. Saint Louis, MO **2017**.

6. "*Microtechnologies for Translational Medicine*," Berkeley Lights," Emeryville, CA **2016**.

7. "*Hybrid Biomaterials for Cellular and Macromolecular Encapsulation: Development and Applications*," Center for Engineering in Medicine, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA **2011**.

Teaching Experience

The Ohio State University

Spring 2020	CBE2420	Transport Phenomena I
	CBE3508	Thermodynamics
Spring 2019	CBE2420	Transport Phenomena I
Spring 2018	CBE2420	Transport Phenomena I

Postdoctoral Associates

Luong T.H. Nguyen, Ph.D. (2018 - present)	Research Topic: "Circulating Biomarkers for Immunotherapy"
Xinyu Wang, Ph.D. (2019 - present)	Research Topic: "Micro/Nanofluidic Systems for the Analysis of Single Extracellular Vesicles"

Doctoral Students

Xilal Y. Rima (2018 - 2023)	Ph.D., Chemical and Biomolecular Engineering (expected) • NSF Graduate Research Fellowship 2020 (Honorable Mention) • College of Engineering Fellowship (Ohio State University) • Graduate Enrichment Fellowship (Ohio State University) • U Mich Pathfinder Workshop participant (2019) Thesis Topic: "Engineering Microsystems for Cancer Dormancy"
Jingjing Zhang (2017 - 2022)	Ph.D., Chemical and Biomolecular Engineering (expected) Thesis Topic: "Purification Methods of Extracellular Vesicles in Biofluids for Quantification of Protein and RNA Content"
Nicole Walters (2017 - 2022)	Ph.D., Chemical and Biomolecular Engineering (expected) • College of Engineering Fellowship (Ohio State University) Thesis Topic: "Neutrophil Swarming for Decoding Molecular Drivers of Inflammation"

Master Students

Aaron Rajasuriyar (2017 - 2019)	M.S., Chemical and Biomolecular Engineering Report Topic: "A Droplet Microfluidic Platform for Cell Encapsulation"

Undergraduate Students Researchers (non-thesis)

Claire Krabacher (2020 - present)	B.S. Chemical and Biomolecular Engineering Research Topic: "Neutrophil Swarming"
Richard G. Atta (2020 - present)	B.S. Chemical and Biomolecular Engineering Research Topic: "Cell Encapsulation"
Jamie O'Sullivan (2019 - 2020)	B.S. Chemical and Biomolecular Engineering Research Topic: "Microfluidic Microvasculature"
Ajay Shankaran (2018 - 2019)	B.S. Chemical and Biomolecular Engineering Research Topic: "Micropatterning of Zymosan Particles on Glass Substrates for in vitro Inflammation Models"

High School Summer Researchers

George Worley (Summer 2018, 2019)	St. Charles Preparatory Academy (Class 2020)
Aakash Chawla (Summer 2018, 2019)	St. Charles Preparatory Academy (Class 2020)

Ph.D. Thesis Committees

James Kim (2015 - 2020)	Ph.D. Chemical and Biomolecular Engineering Advisor: Jeffrey J. Chalmers, Ph.D.

Teng Bao (2014 - 2019)	Ph.D. Chemical and Biomolecular Engineering Advisor: Shang-Tian Yang, Ph.D.

M.S. Thesis Committees

Pengfei Jiang (2017 - 2019)	M.S. Biomedical Engineering Advisor: Katelyn E. Reilly, Ph.D.
Travis Neimeister (2017 - 2019)	M.S. Biomedical Engineering Advisor: Katelyn E. Reilly, Ph.D.

Qualifying Ph.D. Exam Committees

You Li 2020	Ph.D. Chemical and Biomolecular Engineering (expected) Advisor: Shang-Tian Yang, Ph.D.
Mitchell Weigand 2019	Ph.D. Chemical and Biomolecular Engineering (expected) Advisor: Jeffrey J. Chalmers, Ph.D.
Christopher Gilbert 2019	Ph.D. Chemical and Biomolecular Engineering (expected) Advisor: Andre F. Palmer, Ph.D.
Anagha A. Hunoor 2018	Ph.D. Chemical and Biomolecular Engineering (expected) Advisor: Umit Ozkan, Ph.D.
Richard Hickey 2018	Ph.D. Chemical and Biomolecular Engineering (expected) Advisor: Andre F. Palmer, Ph.D.

Graduate Faculty Representative Member

Yang Liu	Ph.D. Pharmacy Advisor: Robert Lee, Ph.D.

Service and Activities

International	
Grant Reviewer for National Science and Engineering Research Council of Canada (NSERC)	2018, 2019
World Biomechanics Congress, Dublin Ireland Co-Chair, Theme: Microfluidics	2018
National	
Chemical and Biomolecular Engineering Graduate Admission Committee	2017, 2018
Chemical and Biomolecular Engineering Diversity Representative for Cancer Research Cluster Senior Faculty Search	2019
Presentation at the AIChE Chapter at Ohio University	2018
Reviewer for the following journals: Biomacromolecules; Current Opinion in Chemical Engineering; International Journal of Cancer; Journal of Materials Chemistry B;	2012-present

Sensors and Actuators B Chemical; Scientific Reports; Lab on a Chip; Plos One; Biomicrofluidics; ACS Applied Materials and Interfaces; Process Biochemistry.

Research Support

Active

National Institutes of Health/National Center for Advancing Translational Sciences (NCATS) 09/10/2019 - 06/30/2021
UG3TR002884 **Reátegui** (Contact PI), Kim (Co-PI) $ 842,000
Title: *Microfluidics Array-Based Sorting, Isolation, and RNA Analysis in Single Extracellular Vesicles*

Chan Zuckerberg Initiative (CZI) 09/01/2020 - 08/30/2022
Reátegui (Contact PI), Lammermann (Co-PI) $ 350,000
Title: *Decoding Inflammation through Neutrophil Swarming*

OSU Leukemia Research Program 03/01/2020 - 30/09/2020
Seed Grant **Reátegui** (Contact PI), Lee (Co-PI) $ 30,000
Title: *EV Microarray for PD-L1/PD-1 Quantification from Blood of Non-Small Cell Lung Cancer (NSCLC) Patients under Anti-PD-L1/PD-1 Immunotherapy*