Travis William Walker *curriculum vitae*

Associate Professor, Chemical and Biological Engineering
South Dakota School of Mines & Technology
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Education

Stanford University

Ph.D., Chemical Engineering, 2013
Thesis: *Exploiting Multiphase Interactions in Fluid Mechanics*
Advisor: Professor Gerald G. Fuller

M.S., Chemical Engineering, 2010

South Dakota School of Mines & Technology

B.S., Chemical Engineering, *summa cum laude*, 2008
B.S., Applied and Computational Mathematics, *summa cum laude*, 2008

Experience

Co-founder, Disappex, LLC, 2022–2024

Co-founder, Amber Aqua, LLC, 2022–present

Co-founder, Dakota Evolution, LLC, 2022–present

Participant, DOE, Visiting Faculty Program, Lawrence Livermore National Laboratory, 2022

South Dakota School of Mines & Technology

Associate Professor, Karen M. Swindler Department of Chemical and Biological Engineering, 2021.05–present

Faculty, Materials Engineering and Science Program, 2020.05–present

Faculty, Biomedical Engineering Program, 2018.08–present

Assistant Professor, Department of Chemical and Biological Engineering, 2018.08–2021.05

Lecturer, 2017.12–2018.08

Dragon Materials, LLC

Owner (SD), 2018.08–present

Co-founder/CTO (OR), 2017.05–2018.08

Member, Quantitative Oncology Research Program, OHSU Knight Cancer Institute, 2016.06–2017.09

Oregon State University

Courtesy Faculty, 2018.02–12

Faculty, Materials Science Program, 2013.10–2017.09

Assistant Professor, School of Chemical, Biological, and Environmental Engineering, 2013.09–2017.09

Research Assistant, Department of Chemical Engineering, Stanford University, 2008.09-2013.08

Intern, AIChE, Washington Internships for Students of Engineering, Washington, D.C., 2007.05–08

Process/Project Engineer, Cargill Sweeteners North America, Eddyville, IA, 2006.01–08

Research Engineer, NSF-REU, Ulaanbaatar, Mongolia, 2005.05–08

Honors and Awards

[1] RadTech UV+EB Degradability Challenge, 2025

[2] Bill Hanson "Outing in Scouting" Award, Black Hills Area Council, Boy Scouts of America, 2023

[3] RadTech RadLaunch Class of '22: Disappearing 4D Advanced Materials, 2022

[4] Economic Development Faculty Award, SDSM&T, 2022

[5] South Dakota Governor's Giant Vision Business Competition, AMBER Aqua, First Place, 2022

[6] NSF CAREER Award, 2017

[7] Distinguished Young Rheologist, TA Instruments, 2015

[8] Stanford Centennial Teaching Assistant Award in Engineering, 2013

[9] Flame of Leadership, Stanford District, Pacific Skyline Council, Boy Scouts of America, 2012

[10] Tau Beta Pi (ΤΒΠ) National Engineering Honor Society, Laureate, 2010

[11] Tau Beta Pi (ΤΒΠ) National Engineering Honor Society, Fellow, 2008–2009

[12] Outstanding Graduating Senior Award in Mathematics, SDSM&T, 2008

[13] Chemical and Biological Engineering Achievement Award, SDSM&T, 2008

[14] Order of the Engineer, 2008

[15] SDSM&T Leadership Hall of Fame, 2007

Professional Memberships

[1] National Eagle Scout Association (NESA), Member, 2001

[2] American Institute of Chemical Engineers (AIChE), Member, 2004–present

[3] Phi Eta Sigma (ΦΗΣ) National Freshman Honor Society, 2004

[4] American Chemical Society (ACS), Member, 2004–2006

[5] Tau Beta Pi (ΤΒΠ) National Engineering Honor Society Member, SD A, 2005

[6] Mathematical Association of America (MAA), Member, 2005–2006

[7] Delta Sigma Phi (ΔΣΦ), Member, 2006

[8] Society of Rheology (SOR), Member, 2011–present

[9] American Society of Engineering Education (ASEE), Member, 2013–2017

[10] American Physical Society, Member, 2016–present

[11] National Center for Faculty Development & Diversity, Member, 2016–2017

[12] Society for Imaging Science and Technology, Member, 2018–2021

[13] Society for Experimental Mechanics, Member, 2019

[14] South Dakota Academy of Sciences, Member, 2020

[15] Society for Biomaterials, Member, 2021–present

[16] RadTech International North America, Member, 2022–2023

[17] Photopolymer Additive Manufacturing Alliance, Member, 2022–2023

[18] American Heart Association, Member, 2024–2025

Refereed Journal Publications

[1] T.T. Hsu, T.W. Walker, C.W. Frank, G.G. Fuller. Role of fluid elasticity on the dynamics of rinsing flow by an impinging jet. *Physics of Fluids.* **23**, 033101 (2011).
doi: 10.1063/1.3567215

[2] D.L. Leiske, B. Meckes, C.E. Miller, C. Wu, T.W. Walker, B. Lin, M. Meron, H.A. Ketelson, M.F. Toney, G.G. Fuller. Insertion Mechanism of a Poly(ethylene oxide)-poly(butylene oxide) Block Copolymer into a DPPC Monolayer. *Langmuir.* **27**, 11444 (2011).
doi: 10.1021/la2016879

[3] T.W. Walker, T.T. Hsu, C.W. Frank, G.G. Fuller. Role of shear-thinning on the dynamics of rinsing flow by an impinging jet. *Physics of Fluids.* **24**, 093102 (2012).
doi: 10.1063/1.4752765

[4] T.W. Walker, T.T. Hsu, S. Fitzgibbon, D.S.L. Mui, J. Zhu, A. Mendiratta, C.W. Frank, G.G. Fuller. Enhanced particle removal using viscoelastic fluids. *Journal of Rheology.* **58**, 63 (2014).
doi: 10.1122/1.4832637

[5] T.T. Hsu, T.W. Walker, C.W. Frank, G.G. Fuller. Instabilities and elastic recoil of the two-fluid circular hydraulic jump. *Experiments in Fluids.* **55**, 1645 (2014).
doi: 10.1007/s00348-013-1645-9

[6] M.A. Ostrowski, N.F. Huang, T.W. Walker, T. Verwijlen, C. Poplawski, A.S. Khoo, J.P. Cooke, G.G. Fuller, A.R. Dunn. Endothelial Cells Migrate Upstream and Align Against the Shear Stress Field Created by Impinging Flow. *Biophysical Journal.* **106**, 366 (2014).
doi: 10.1016/j.bpj.2013.11.4502

[7] S. Fitzgibbon, E.S.G. Shaqfeh, G.G. Fuller, T.W. Walker. Scaling analysis and mathematical theory of the interfacial stress rheometer. *Journal of Rheology.* **58**, 999 (2014).
doi: 10.1122/1.4876955

[8] T.W. Walker, A.N. Logia, G.G. Fuller. Multiphase flow of miscible liquids: jets and drops. *Experiments in Fluids.* **56**, 106 (2015).
doi: 10.1007/s00348-015-1974-y

[9] H. Song, M. Tan, T.W. Walker, A. Jander, P. Dhagat. Planar Alignment of Isolated Magnetic Microdisks in Newtonian Fluids by a Rotating Field. *IEEE Magnetics Letters.* **6**, 5000304 (2015).
doi: 10.1109/LMAG.2015.2489187

[10] K.H. Nakayama, V.N. Surya, M. Gole, T.W. Walker, W. Yang, E.S. Lai, M. Ostrowski, G.G. Fuller, A.R. Dunn, N.F. Huang. Nanoscale patterning of extracellular matrix alters endothelial function under flow. *Nano Letters.* **16**, 1 (2015).
doi: 10.1021/acs.nanolett.5b04028

[11] M. Tan, H. Song, P. Dhagat, A. Jander, T.W. Walker. Theoretical study of alignment dynamics of magnetic oblate spheroids in rotating magnetic fields. *Physics of Fluids.* **28**, 062004 (2016).
doi: 10.1063/1.4953009

[12] J.L. Sylman, U. Daalkhaijav, Y. Zhang, E.M. Gray, P.A. Farhang, T.T. Chu, J. Zilberman-Rudenko, C. Puy, E.I. Tucker, S.A. Smith, J.H. Morrissey, T.W. Walker, X.L. Nan, A. Gruber, O.J.T. McCarty. Differential roles for the coagulation factors XI and XII in regulating the physical biology of fibrin. *Annals of Biomedical Engineering.* **45**, 5 (2016).
doi: 10.1007/s10439-016-1771-7

[13] K.A. Marshall, A.M. Liedtke, A.H. Todt, T.W. Walker. Extensional Rheometry with a Handheld Mobile Device. *Experiments in Fluids.* **58**, 6 (2017).
doi: 10.1007/s00348-017-2351-9

[14] U. Daalkhaijav, T.W. Walker. Developing a Nondestructive Technique for Measuring Bulk Rheology of *Pseudomonas aeruginosa* Biofilm. *Applied Rheology.* **27**, 64033 (2017).
doi: 10.3933/ApplRheol-27-64033

[15] M. Tan, A.L. Lambert, B.M. Swann, H. Song, A. Jander, P. Dhagat, T.W. Walker. Utilizing Yield-Stress Fluids to Suppress Chaining during Magnetic Alignment of Microdisks via Rotating Fields. *AIChE Journal: Futures Series.* **64**, 8 (2018).
doi: 10.1002/aic.16215

[16] C.G. Harris, N.J.S. Jursik, W.E. Rochefort, T.W. Walker. Additive Manufacturing with Soft TPU – Adhesion Strength in Multimaterial Flexible Joints. *Frontiers in Mechanical Engineering.* **5**, 1 (2019).
doi: 10.3389/fmech.2019.00037

[17] K.A. Marshall, T.W. Walker. Investigating the dynamics of droplet-breakup in a microfluidic cross-slot device for characterizing the extensional properties of weakly viscoelastic fluids. *Rheologica Acta.* **58**, 9 (2019).
doi: 10.1007/s00397-019-01152-0

[18] M. Tan, Y. Mao, T.W. Walker. Rheological enhancement of artificial sputum medium. *Applied Rheology.* **30**, 1 (2020).
doi: 10.1515/arh-2020-0100

[19] J.M. Barakat, Z. Hinton, N.J. Alvarez, T.W. Walker. Surface-tension effects in oscillatory squeeze flow rheometry. *Physics of Fluids.* **33**, 122112 (2021). (*Editor's Pick*)
doi: 10.1063/5.0072869

[20] M. Amouamouha, G.B. Gholikandi, T.W. Walker. Experimental Investigation of the Performance of Anaerobic Membrane Bioreactor with Electrolytic Regeneration (AMBER) for Challenges and Options in Wastewater Treatment. *Science of the Total Environment.* **844**, 157080 (2022).
doi: 10.1016/j.scitotenv.2022.157080

[21] K.J. Donovan, J. Stasiak, Ş. Özbek, W.E. Rochefort, T.W. Walker. Frugal Imaging Technique of Capillary Flow Through Three-Dimensional Polymeric Printing Powders. *JoVE.* **188**, e63494 (2022).
doi: 10.3791/63494

[22] Y. Mao, M. Tan, T.C.L. Kohs, J.L. Sylman, A.T.P. Ngo, C. Puy, O.J.T. McCarty, T.W. Walker. Transient Particle Tracking Microrheology of Plasma Coagulation via the Intrinsic Pathway. *Applied Rheology.* **33**, 20220129 (2023).
doi: 10.1515/arh-2022-0129

[23] M. Tan, J.A. Adeniran, T.W. Walker. Dynamics and Rheological Properties of Suspensions of Paramagnetic Particles under Constant Magnetic Fields. *Physical Review Fluids.* **8**, 4 (2023).
doi: 10.1103/PhysRevFluids.8.043701

[24] S. Rushd, H. Ferroudji, H. Yousuf, A. Basu, T.W. Walker, T.K. Sen. Applications of Drag Reducers for the Pipeline Transportation of Heavy Crude Oils: A Literature Review and Future Directions. *Canadian Journal of Chemical Engineering.* **102**, 438 (2023).
doi: 10.1002/cjce.25023

[25] M. Amouamouha, S. Ryckman, S. Kabran, T.W. Walker. Acceleration of the startup process of an anaerobic baffled reactor utilizing electrolyte regeneration. *Chemical Engineering and Processing – Process Intensification.* **194**, 109586 (2023).
doi: 10.1016/j.cep.2023.109586

[26] L.A.E. Brunmaier, T. Ozdemir, T.W. Walker. Angiogenesis: Biological Mechanisms and In Vitro Models. *Annals of Biomedical Engineering.* **53**, 1543 (2025).
doi: 10.1007/s10439-025-03721-2

Refereed Conference Journal Publications

[1] H. Song, M. Tan, T.W. Walker, A. Jander, P. Dhagat. Planar alignment of magnetic microdisks in composites using rotating fields. *IEEE Transactions on Magnetics.* **PP**, 99 (2015).
doi: 10.1109/TMAG.2015.2443026

[2] W.R. Duffie, K.D. Barz, T.S. Filipova, K.J. Donovan, T.M. Brenza, T.W. Walker. Additive Manufacturing of Novel Surface-Eroding, Non-Swelling Anhydride Resins. *RadTech Proceedings*. (2022). (*Student Paper Competition Winner*)

Book Chapters

[1] U. Daalkhaijav, A.L. Dunham, T.W. Walker. Effects of Medium Components on the Bulk Rheology and on the Formation of Ferning Patterns for Biofilm of *Pseudomonas aeruginosa*. In D. Sriramulu (Ed.), Pseudomonas aeruginosa - *an Armory Within*. (2019).
doi: 10.5772/intechopen.85240

Invention Disclosures and Patents

[1] M. Amouamouha, T.W. Walker. Anaerobic membrane bioreactor with electrolytic regeneration (AMBER) for wastewater treatment. South Dakota School of Mines & Technology. U.S. Patent Pending No. 18/706,315. 2024.04.30.

[2] L.A.E. Brunmaier, T.W. Walker, T.M. Brenza, C.E. Miller. Physiologically-Relevant, Serum-Free In Vitro Angiogenesis Platform. South Dakota School of Mines & Technology. U.S. Patent Application No. 18/725,006. 2025.03.13.

[3] W.R. Duffie, T.W. Walker, T.M. Brenza, T.S. Filipova, K.D. Barz. Novel Synthesis Route for the Production of Methacrylated Surface-Eroding Anhydride Oligomers. South Dakota School of Mines & Technology. U.S. Provisional Patent Application No. 63/269,417. 2022.03.16.

[4] L.A.E. Brunmaier, T.W. Walker. Development and Validation of an Animal-Free Media Formulation for Human Umbilical Vein Endothelial Cells (HUVECs). South Dakota School of Mines & Technology. *Web disclosure.* 2024.08.15.

Invited Lectures

For all presentations, presenters, if not the first listed author, are denoted with an asterisk (*).

[1] T.W. Walker. Applications of miscible fluids: surface cleaning and impacting drop morphologies. 3M, Woodbury, Minnesota. 2012.11.05.

[2] T.W. Walker. Exploiting multiphase interactions in fluid mechanics. Kansas State University, Manhattan, Kansas. 2012.11.28.

[3] T.W. Walker. Exploiting viscoelastic fluids for enhanced particle removal. Missouri University of Science and Technology, Rolla, Missouri. 2013.02.25.

[4] T.W. Walker. Exploiting multiphase interactions in fluid mechanics. Oregon State University, Corvallis, Oregon. 2013.03.06.

[5] T.W. Walker, T.T. Hsu, S. Fitzgibbon, C.W. Frank, G.G. Fuller. Exploiting viscoelastic fluids for enhanced particle removal. David M. Mason Lecture Student Symposium, Stanford, California. 2013.05.14.

[6] T.W. Walker. Exploiting multiphase interactions in fluid mechanics. OCSSB Seminar Series, Oregon Health & Science University, Portland, Oregon. 2013.10.10.

[7] T.W. Walker. Exploiting multiphase interactions in fluid mechanics. Bend Research Inc., Bend, Oregon. 2013.12.19.

[8] T.W. Walker. Exploiting multiphase interactions in fluid mechanics. Nike IHM, Inc., Beaverton, Oregon. 2014.08.18.

[9] T.W. Walker. Surface cleaning and particle removal using non-Newtonian liquids. Applied Materials, Inc., Santa Clara, California. 2014.11.06.

[10] T.W. Walker. Dynamics of Magnetic Oblate Spheroids Suspended in Newtonian Fluids under Magnetic Field. South Dakota School of Mines & Technology, Rapid City, South Dakota. 2016.04.12.

[11] T.W. Walker. Dynamics of Magnetic Oblate Spheroids Suspended in Newtonian Fluids under Magnetic Field. University of Akron, Akron, Ohio. 2016.08.16.

[12] T.W. Walker. Multiphase Flow of Miscible Liquids: Jets and Drops. Procter & Gamble, Cincinnati, Ohio. 2016.10.24.

[13] T.W. Walker. Complex Fluids and Soft Solids. University of Nebraska-Lincoln, Lincoln, Nebraska. 2017.03.10.

[14] T.W. Walker. Mx Scholar Program for STEM & Aerospace. Maryknoll School, Honolulu, Hawaii. 2017.03.20-24.

[15] T.W. Walker. Dynamics of Magnetic Oblate Spheroids Suspended in Newtonian Fluids under Magnetic Field. University of Connecticut, Storrs, Connecticut. 2017.04.17.

[16] T.W. Walker. Dynamics of Magnetic Oblate Spheroids Suspended in Newtonian Fluids under Magnetic Field. University of Nevada-Reno, Reno, Nevada. 2017.12.07.

[17] T.W. Walker. Dynamics of Magnetic Oblate Spheroids Suspended in Newtonian Fluids under Magnetic Field. University of South Florida, Tampa, Florida. 2017.12.14.

[18] T.W. Walker. Complex Fluids and Soft Solids. South Dakota School of Mines & Technology, Rapid City, South Dakota. 2018.03.01.

[19] T.W. Walker. Mx Scholar Program for STEM & Aerospace. Maryknoll School, Honolulu, Hawaii. 2019.02.25-03.01.

[20] T.W. Walker. Invited Speaker: Biofilm Rheology. Biophysical Properties of Microbes and Microbial Communities, 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[21] T.W. Walker. Improvement of Post-CMP Cleaning Efficiency Through Surface-Energy Optimization and Use of Viscoelastic Fluids. Philadelphia Mixing Solutions, Ltd., Palmyra, Pennsylvania. 2020.01.09.

[22] T.W. Walker. Engineering Designer Composite Materials – Magnetically Controlling Filler Alignment in Novel Metamaterials. Drexel University, Philadelphia, Pennsylvania. 2020.01.10.

[23] T.W. Walker. Engineering Designer Composite Materials – Magnetically Controlling Filler Alignment in Novel Metamaterials. University of Illinois at Chicago, Chicago, Illinois. 2021.04.08.

[24] T.W. Walker. Improvement of Post CMP Cleaning Efficiency through Surface Energy Optimization and Use of Viscoelastic Fluids. Lewis University, Romeoville, Illinois. 2021.08.10.

[25] W.R. Duffie, T.S. Filipova, T.M. Brenza, K.J. Donovan, T.W. Walker*. Macromolecular Engineering of Degradable Photocurable Resins. APS March Meeting, Chicago, Illinois. 2022.03.14–18.

[26] T.W. Walker. Macromolecular Engineering of Degradable Photocurable Resins. Stanford University, Stanford, California. 2022.08.09.

[27] W.R. Duffie, T.W. Walker*. Macromolecular Engineering of Degradable Photocurable Resins. RadTech International North America, Webinar. 2024.04.08.

[28] T.W. Walker. Molecular Engineering in Energy, Sustainability, and Health. South Dakota School of Mines & Technology, Rapid City, South Dakota. 2025.02.25.

[29] T.W. Walker. Synthesis Route for the Production of Novel, Degradable Dimethacrylated Anhydride Oligomers. RadTech UV+EB Technology Expo & Conference 2025. 2025.05.20.

Submitted Journal Publications

[1] M. Amouamouha, C. Stone, Z. Liang, H. Fong, T.W. Walker. Investigation of membranes for water treatment using hot-pressed electrospun nanofibers with antimicrobial properties. *Journal of Water Process Engineering* (2025).

[2] L.A.E. Brunmaier, T.W. Walker. Chemically-Defined Medium Formulation and Adaptation Method for Supporting Growth of Endothelial Cells. *Scientific Reports* (2025).

[3] L.A.E. Brunmaier, T.W. Walker. Investigating the Inflammatory Response of TiO_2 Exposure to HUVECs. *Biochemistry and Biophysics Reports* (2025).

[4] W.R. Duffie, K.D. Barz, J.P. Fyffe, T.S. Filipova, K.J. Donovan, T.M. Brenza, T.W. Walker. Synthesis Route for the Production of Novel, Degradable Dimethacrylated Anhydride Oligomers. *Polymer Chemistry* (2025).

[5] W.R. Duffie, K.D. Barz, S-H. Yoon, K.J. Donovan, T.W. Walker. Investigation of the Physiochemical Effects of Thermal Post-Curing on 3D Printed Photopolymers. *3D Printing and Additive Manufacturing* (2025).

Conference Presentations

For all presentations, presenters, if not the first listed author, are denoted with an asterisk (*).

[1] T.W. Walker, R.T. Kowalski. Analytic Power Series Technique for Solving First Order Ordinary Differential Equations. MAA Rocky Mountain Sectional Meeting, BHSU, Spearfish, South Dakota. 2008.04.25–26.

[2] T.T. Hsu, T.W. Walker, C.W. Frank, G.G. Fuller. Fluid Mechanics of Rinsing Flows: Effect of Viscoelasticity. The Society of Rheology 81st Annual Meeting, Madison, Wisconsin. 2009.10.18-22.

[3] T.T. Hsu, T.W. Walker, C.W. Frank, G.G. Fuller*. Fluid mechanics of rinsing flows. 2009 American Institute of Chemical Engineers Annual Meeting, Nashville, Tennessee. 2009.11.08–13.

[4] D.J. Giacomin, T.W. Walker, T.T. Hsu, G.G. Fuller. Rinsing of rheologically complex fluids. Poster. The Society of Rheology 82rd Annual Meeting, Santa Fe, New Mexico. 2010.10.24–28.

[5] T.W. Walker, T.T. Hsu, P.D. Anderson, G.G. Fuller*. Rinsing Flows of Non-Newtonian Fluids. 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, California. 2010.11.21–23.

[6] T.W. Walker, T.T. Hsu, E.S.G. Shaqfeh, G.G. Fuller. Rinsing flows using non-Newtonian fluids. The Society of Rheology 83rd Annual Meeting, Cleveland, Ohio. 2011.10.10–14.

[7] G.G. Fuller, T.W. Walker, T.T. Hsu, C.W. Frank. Rinsing Flows: Exploiting Viscoelastic Fluids. 62nd Canadian Chemical Engineering Conference, Vancouver, Canada. 2012.10.14–17.

[8] S. Padhy, T.W. Walker, S. Krishnan, M. Rodriguez, E.S.G. Shaqfeh*, G. Iaccarino, J.F. Morris, N. Tonmukayakul. The Effect of Orthogonal Shear Flow On the Sedimentation of Particles in Viscoelastic Fluids. 2012 American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania. 2012.10.28–11.02.

[9] M.A. Ostrowski, N.F. Huang, T.W. Walker, A.S. Khoo, M. Devicha, C. Poplawski, J.P. Cooke, G.G. Fuller, A.R. Dunn. Response of Endothelial Cells to Stagnation Point Flows. Poster. 2012 American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania. 2012.10.28–11.02.

[10] M.A. Ostrowski, N.F. Huang, T.W. Walker, A.S. Khoo, M. Devicha, C. Poplawski, J.P. Cooke, G.G. Fuller, A.R. Dunn. Response of Endothelial Cells to Stagnation Point Flows. 2012 American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania. 2012.10.28–11.02.

[11] T.W. Walker. Multiphase Flow Phenomena in Chemical and Biological Systems. Meet the Faculty Candidate Poster Session. 2012 American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania. 2012.10.28–11.02.

[12] T.W. Walker, A.N. Logia, G.G. Fuller. Multiphase Flow of Miscible Liquids: Jets and Drops. 2012 American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania. 2012.10.28–11.02.

[13] T.W. Walker, T.T. Hsu, C.W. Frank, G.G. Fuller. Rinsing Flows: Exploiting Viscoelastic Liquids. 2012 American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania. 2012.10.28–11.02.

[14] T.W. Walker, A.N. Logia, G.G. Fuller. Multiphase Flow of Miscible Liquids: Jets and Drops. 65th Annual Meeting of the APS Division of Fluid Dynamics, San Diego, California. 2012.11.18–20.

[15] M.A. Ostrowski, N.F. Huang, T.W. Walker, T. Verwijlen, G.L. Lin, J.P. Cooke, A.R. Dunn, G.G. Fuller. Response of endothelial cells to stagnation point flows. The Society of Rheology 84th Annual Meeting, Pasadena, California. 2013.02.10–14.

[16] T.W. Walker, T.T. Hsu, S. Fitzgibbon, C.W. Frank, G.G. Fuller. Exploiting viscoelastic fluids for enhanced particle removal. The Society of Rheology 84th Annual Meeting, Pasadena, California. 2013.02.10–14.

[17] M.A. Ostrowski, E.Y-H. Huang, N.F. Huang, T.W. Walker, J.P. Cooke, A.R. Dunn, G.G. Fuller*. Upstream migration of endothelial cells in response to impinging fluid flows. The Society of Rheology 85th Annual Meeting, Montréal, Québec, Canada. 2013.10.13–17.

[18] M.A. Ostrowski, N.F. Huang, T.W. Walker, T. Verwijlen, C. Poplawski, A.S. Khoo, J.P. Cooke, A.R. Dunn, G.G. Fuller. Endothelial Cells Migrate Upstream and Align Against the Shear Stress Field Created By Impinging Flow. 2013 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2013.11.03–08.

[19] H. Song, T.W. Walker, A. Jander, P. Dhagat*. Magnetic Microdisk Composites with Planar Anisotropy for High Frequency Applications. IEEE International Magnetics Conference. Dresden, Germany. 2014.05.06.

[20] U. Daalkhaijav, T.W. Walker*. Rheological properties of *Pseudomonas aeruginosa* biofilm formation in the presence of quorum sensing inhibitors. The Society of Rheology 86th Annual Meeting, Philadelphia, Pennsylvania. 2014.10.05–09.

[21] S. Fitzgibbon, E.S.G. Shaqfeh*, G.G. Fuller, T.W. Walker. Scaling analysis and mathematical theory of the interfacial stress rheometer. The Society of Rheology 86th Annual Meeting, Philadelphia, Pennsylvania. 2014.10.05–09.

[22] H. Song, T.W. Walker*, A. Jander, P. Dhagat. Magnetic microdisks in a rotating magnetic field. The Society of Rheology 86th Annual Meeting, Philadelphia, Pennsylvania. 2014.10.05–09.

[23] U. Daalkhaijav, T.W. Walker*. Mechanical Properties of *Pseudomonas aeruginosa* Pellicle Biofilm Formation in the Presence of Quorum Sensing Inhibitors. 2014 American Institute of Chemical Engineers Annual Meeting, Atlanta, Georgia. 2014.11.16–21.

[24] H. Song, T.W. Walker*, A. Jander, P. Dhagat. Creating Composites for High Frequency Applications By Aligning Magnetic Microdisks in a Rotating Magnetic Field. 2014 American Institute of Chemical Engineers Annual Meeting, Atlanta, Georgia. 2014.11.16–21.

[25] H. Song, M. Tan, T.W. Walker, A. Jander, P. Dhagat. Rotational Alignment of Magnetic Microdisks in Composites for High Frequency Applications. Poster. IEEE International Magnetics Conference. Beijing, China. 2015.05.11–15.

[26] K.H. Nakayama, V.N. Surya, M. Gole, T.W. Walker, W. Yang, E.S. Lai, M. Ostrowski, G.G. Fuller, A.R. Dunn, N.F. Huang. Nanoscale Extracellular Matrix Alters Endothelial Function Under Disturbed Flow. Poster. BMES 2015 Annual Meeting. Tampa, Florida. 2015.10.07–10.

[27] U. Daalkhaijav, T.W. Walker. *Pseudomonas aeruginosa* biofilm rheology. The Society of Rheology 87th Annual Meeting, Baltimore, Maryland. 2015.10.11–15.

[28] U. Daalkhaijav, Y. Mengüc, T.W. Walker. Eutectic gallium indium rheology. Poster. The Society of Rheology 87th Annual Meeting, Baltimore, Maryland. 2015.10.11–15.

[29] M. Tan, T.W. Walker. Microrheological study of viscoelastic materials by magnetic tweezers. Poster. The Society of Rheology 87th Annual Meeting, Baltimore, Maryland. 2015.10.11–15.

[30] M. Tan, H. Song, A. Jander, P. Dhagat, T.W. Walker. Alignment dynamics of magnetic microdisks in rotating magnetic field. The Society of Rheology 87th Annual Meeting, Baltimore, Maryland. 2015.10.11–15.

[31] U. Daalkhaijav, T.W. Walker*. *Pseudomonas aeruginosa* biofilm rheology. 2015 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, Utah. 2015.11.08–13.

[32] M. Tan, H. Song, P. Dhagat, A. Jander, T.W. Walker*. Alignment Dynamics of Magnetic Microdisks in Rotating Magnetic Field. 2015 American Institute of Chemical Engineers Annual Meeting, Salt Lake City, Utah. 2015.11.08–13.

[33] M. Tan, H. Song, P. Dhagat, A. Jander, T.W. Walker*. Alignment dynamics of magnetic disks in rotating magnetic fields. Poster. Gordon Research Conference on Colloidal, Macromolecular, & Polyelectrolyte Solutions, Ventura, California. 2016.02.07–12.

[34] U. Daalkhaijav, K.A. Marshall*, T.W. Walker. Formation of ferning pattern and the correlation of the ferning with biofilm rheology. Poster. The XVIIth International Congress on Rheology, Kyoto, Japan. 2016.08.08-13.

[35] K.A. Marshall, T.W. Walker. Investigating droplet-breakup dynamics for characterizing low-viscosity elasticity. The XVIIth International Congress on Rheology, Kyoto, Japan. 2016.08.08-13.

[36] M. Tan, T.W. Walker*. Dynamics of Magnetic Oblate Spheroids Suspended in Newtonian Fluids under Magnetic Field. The XVIIth International Congress on Rheology, Kyoto, Japan. 2016.08.08-13.

[37] J.L. Sylman, A. Mitrugno, S.M. Baker-Groberg, G.W. Tormoen, X. Nan, R. Sears, P.K. Newton, P. Kuhn, P. Dhagat, T.W. Walker, O.J.T. McCarty. The role of the blood microenvironment in cancer metastasis. Biomedical Engineering Society 2016 Annual Meeting, Minneapolis, Minnesota. 2016.10.05-08.

[38] J.L. Sylman, J. Zilberman-Rudenko, X. Nan, C. Puy, E.I. Tucker, U. Daalkhaijav, T.W. Walker, A. Gruber, O.J.T. McCarty. The Effect of Factor XI on Clot Structure and Mechanical Strength. Biomedical Engineering Society 2016 Annual Meeting, Minneapolis, Minnesota. 2016.10.05-08.

[39] K.A. Marshall, T.W. Walker. Investigating Droplet-Breakup Dynamics for Characterizing Low-Viscosity Elasticity of Dilute Polymer Solutions. 2016 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2016.11.13–18.

[40] M. Tan, T.W. Walker*. The Motion of Magnetic Oblate Spheroids Suspended in Newtonian Fluids Under Magnetic Fields. 2016 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2016.11.13–18.

[41] K.A. Marshall, T.W. Walker*. Droplet breakup dynamics of weakly viscoelastic fluids. 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, Oregon. 2016.11.20–22.

[42] M. Tan, T.W. Walker. Dynamics of magnetic particles suspended in Newtonian fluids under magnetic field. 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, Oregon. 2016.11.20–22.

[43] U. Daalkhaijav, J.L. Sylman, O.J.T. McCarty, T.W. Walker*. Regulating fibrin formation, structure, and mechanical strength. The Society of Rheology 88th Annual Meeting, Tampa, Florida. 2017.02.12–16.

[44] Ş. Özbek, G.B. Basim, T.W. Walker. Control of Surface Energy to Optimize Post CMP Cleaning Efficiency for Microelectronics Fabrication. Poster. 253rd American Chemical Society National Meeting, San Francisco, California. 2017.04.02–06.

[45] Y. Mao, M. Tan, O.J.T. McCarty, T.W. Walker*. Microrheological study of plasma coagulation triggered by intrinsic pathway. The Society of Rheology 89th Annual Meeting, Denver, Colorado. 2017.10.08–12.

[46] K.A. Marshall, A.M. Liedtke, T.W. Walker*. Extensional Rheometry with a Handheld Mobile Device. Poster. The Society of Rheology 89th Annual Meeting, Denver, Colorado. 2017.10.08–12.

[47] K.A. Marshall, S.R. Haug, T.W. Walker*. Investigating the dynamics of droplet-breakup in a microfluidic cross-slot device for characterizing the extensional properties of weakly viscoelastic fluids. The Society of Rheology 89th Annual Meeting, Denver, Colorado. 2017.10.08–12.

[48] M. Tan, T.W. Walker. The dynamics of magnetic oblate spheroids under a rotating magnetic field. The Society of Rheology 89th Annual Meeting, Denver, Colorado. 2017.10.08–12.

[49] K.A. Marshall, A.M. Liedtke, A.H. Todt, T.W. Walker*. Extensional Rheometry with a Handheld Mobile Device. Poster. 2017 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2017.10.28–11.03.

[50] Y. Mao, M. Tan, J.L. Sylman, U. Daalkhaijav, T.W. Walker*, O.J.T. McCarty. Regulating fibrin formation, structure, and mechanical strength. 2017 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2017.10.28–11.03.

[51] M. Tan, Y. Mao, B.M. Swann, T.W. Walker*. Microrheology and Structural Reconfiguration of Artificial Biofluids Composed of Xanthan Gum in Salt Solutions. 2017 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2017.10.28–11.03.

[52] M. Tan, T.W. Walker. Dynamics and rheology of suspension of particles with arbitrary shapes. 92nd ACS Colloid and Surface Science Symposium, State College, Pennsylvania. 2018.06.10–13.

[53] C.G. Harris, W.E. Rochefort, T.W. Walker*. Additive Manufacturing with Soft TPU. The Society of Rheology 90th Annual Meeting, Houston, Texas. 2018.10.14–18.

[54] Ş. Özbek, R.K. Cashen, T.W. Walker*, G.B. Basim. Improvement of Post CMP Cleaning Efficiency through Surface Energy Optimization and Use of Viscoelastic Fluids. 2019 ACS Great Lakes Regional Meeting, Lisle, Illinois. 2019.05.01–04.

[55] Ş. Özbek, R.K. Cashen, T.W. Walker, G.B. Basim. Improvement of Post CMP Cleaning Efficiency through Surface Energy Optimization and Use of Viscoelastic Fluids. 235th Electrochemical Society Meeting, Dallas, Texas. 2019.05.26–31.

[56] Ş. Özbek, C.G. Harris, W.E. Rochefort, T.W. Walker*. Additive Manufacturing with Soft TPU: Thermal Properties for Printability and Adhesion Strength in Multimaterial Flexible Joints. Printing for Fabrication 2019. San Francisco, California. 2019.09.29-10.03.

[57] M. Tan, J.A. Adeniran, T.W. Walker. Dynamics and rheology of suspension of particles with arbitrary shapes. The Society of Rheology 91st Annual Meeting, Raleigh, North Carolina. 2019.10.20–24.

[58] J.A. Adeniran, M. Tan, S. Rauniyar, R.K. Sani, T.W. Walker. Experiments and Simulations of Microbial Growth in a Rotating Bioreactor. 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[59] K.J. Donovan, W.E. Rochefort, J. Stasiak, T.W. Walker. Frugal Lucas-Washburn Measurement of Microscale 3D Printing Powders via Handheld Device. 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[60] M. Tan, J.A. Adeniran, C. Beal, T.W. Walker*. Dynamic Simulations and Rheological Studies of Suspensions of Magnetic Particles. 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[61] M. Tan, J.A. Adeniran, T.W. Walker*. Dynamics and Rheology of Suspensions of Particles with Arbitrary Shapes. 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[62] W.R. Duffie, E.A. Kalaga, K.D. Barz, T.S. Filipova, T.M. Brenza, K.J. Donovan, T.W. Walker. Kinetic Analysis of Degradable Resins in Digital Light Processing. ACS Sioux Valley Fall 2020 Symposium, Virtual. 2020.11.09–14.

[63] J.A. Adeniran, M. Tan, T.W. Walker. Numerical Simulation of Dynamics of Microbes in NASA's Rotating Wall Vessel. 2020 American Institute of Chemical Engineers Annual Meeting (Virtual), San Francisco, California. 2020.11.15–20.

[64] J.M. Barakat, Z.R. Hinton, N.J. Alvarez, T.W. Walker. Surface-Tension Effects in Oscillatory Squeeze Flow Rheometry. 2020 American Institute of Chemical Engineers Annual Meeting (Virtual), San Francisco, California. 2020.11.15–20.

[65] W.R. Duffie, S-H. Yoon, C. Chen, T.W. Walker. Investigation of the Physiochemical Effects of Heat-Induced Aging on 3D Printed Photopolymers. 2020 American Institute of Chemical Engineers Annual Meeting (Virtual), San Francisco, California. 2020.11.15–20.

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[67] Ş. Özbek, K.J. Donovan, T.W. Walker. Characterization of Polymeric Powders through Capillary Flow for Additive-Manufacturing Techniques. 2020 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2020.11.15–20.

[68] M. Tan, T.W. Walker. Investigations of Dynamics and Rheological Properties of Anisotropic Suspensions. 2020 American Institute of Chemical Engineers Annual Meeting (Virtual), San Francisco, California. 2020.11.15–20.

[69] J.M. Barakat, Z.R. Hinton, N.J. Alvarez, T.W. Walker. Surface Tension Effects in Oscillatory Squeeze Flow Rheometry. 73th Annual Meeting of the APS Division of Fluid Dynamics (Virtual), Chicago, Illinois. 2020.11.22–24.

[70] M. Tan, T.W. Walker. Investigations of Dynamics and Rheological Properties of Anisotropic Suspensions. The XVIIIth International Congress on Rheology (Virtual), Rio de Janeiro, Brazil. 2020.12.14–17.

[71] R.K. Cashen, Ş. Özbek, J.W. Conradt, G.B. Basim, T.W. Walker. Effects of weak viscoelasticity on enhanced particle removal for CMP. 239th ECS Meeting, Chicago, Illinois. 2021.05.30–06.03.

[72] W.R. Duffie, K.D. Barz, T.S. Filipova, T.M. Brenza, T.W. Walker. Synthesis, Characterization, and Application of Novel Surface-Eroding Photopolymer Formulations. 6th European Symposium of Photopolymer Sciences, Virtual. 2021.06.15-17.

[73] K.J. Donovan, T.W. Walker, L.J. Groven. Rheological optimization of high solids loading for additive manufacturing. The Society of Rheology 92nd Annual Meeting, Bangor, Maine. 2021.10.10–14.

[74] M. Amouamouha, J.R. Kalimuthu, S. Ragi, T.W. Walker*. In Situ Mapping of the Mechanical Properties of Sulfate Reducing Bacteria by Microrheology. 2021 American Institute of Chemical Engineers Annual Meeting, Boston, Massachusetts. 2021.11.14–19.

[75] W.R. Duffie, K.D. Barz, T.S. Filipova, T.M. Brenza, T.W. Walker. Synthesis, Characterization, and Application of Novel Surface-Eroding Photopolymer Formulations. 2021 American Institute of Chemical Engineers Annual Meeting, Boston, Massachusetts. 2021.11.14–19.

[76] Ş. Özbek, K.J. Donovan, T.W. Walker. Characterization of Polymeric Powders through Capillary Flow for Additive-Manufacturing Techniques. 2021 American Institute of Chemical Engineers Annual Meeting, Boston, Massachusetts. 2021.11.14–19.

[77] Ş. Özbek, M. Carter, T.W. Walker, G.A. Crawford. Cold Spray of Polystyrene Particles on Various Substrates. 2021 American Institute of Chemical Engineers Annual Meeting, Boston, Massachusetts. 2021.11.14–19.

[78] M. Amouamouha, J.R. Kalimuthu, S. Ragi, T.W. Walker. Investigation of Temporal Organization of Sulfate Reducing Bacteria Biofilm Using Multiple Particle Tracking Microrheology. 81st Annual Meeting of the North Central Branch of American Society for Microbiology, Virtual. 2021.11.19.

[79] W.R. Duffie, K.D. Barz, T.S. Filipova, T.M. Brenza, T.W. Walker. Additive Manufacturing of Novel Surface-Eroding, Non-Swelling, Anhydride Resins. RadTech 2022 UV+EB Technology Conference, Orlando, Florida. 2022.05.09–12.

[80] M. Tan, J.A. Adeniran, T.W. Walker*. A Computational Investigation of the Dynamics and Rheological Properties of MR Fluids. 19th U.S. National Congress on Theoretical and Applied Mechanics, Austin, Texas. 2022.06.19–24.

[81] J.A. Adeniran, M. Tan, T.W. Walker. Numerical Simulations, Scaling Analysis, Surrogate Experiments, and Analytic Model of Microbial Growth in a Rotating Bioreactor. 96th ACS Colloid and Surface Science Symposium, Golden, Colorado. 2022.07.10–13.

[82] M. Amouamouha, T.W. Walker. Investigation Temporal and Spatial Mechanical Properties of Sulfate Reducing Bacteria Biofilm by Microrheology. 96th ACS Colloid and Surface Science Symposium, Golden, Colorado. 2022.07.10–13.

[83] L.A.E. Brunmaier, T.M. Brenza, T. Özdemir, T.W. Walker. Development of a Physiologically-Relevant In Vitro Angiogenesis Platform. 96th ACS Colloid and Surface Science Symposium, Golden, Colorado. 2022.07.10–13.

[84] W.R. Duffie, T.S. Filipova, T.M. Brenza, K.J. Donovan, T.W. Walker. Investigation of Novel Core-Shell Microparticles with Degradable Shells for Controlled-Delivery Applications. 96th ACS Colloid and Surface Science Symposium, Golden, Colorado. 2022.07.10–13.

[85] Ş. Özbek, M. Carter, K.J. Donovan, L.J. Groven, G.A. Crawford, T.W. Walker. Cold Spray of Polystyrene Particles on Various Substrates. 96th ACS Colloid and Surface Science Symposium, Golden, Colorado. 2022.07.10–13.

[86] M. Tan, J.A. Adeniran, T.W. Walker*. A Computational Investigation of the Dynamics and Rheological Properties of MR Fluids. 96th ACS Colloid and Surface Science Symposium, Golden, Colorado. 2022.07.10–13.

[87] J.L Powell, R.J. Gentile, E. Meredith, Ş. Özbek, T.W. Walker, J.J. Keleher. Post-CMP Cleaning Using Viscoelastic Fluids for Particle Removal. ACS Fall 2022, Chicago, Illinois. 2022.08.21-25.

[88] W.R. Duffie, T.W. Walker*. Synthesis of novel core-shell microparticles with degradable shells for controlled-delivery applications. The Society of Rheology 93rd Annual Meeting, Chicago, Illinois. 2022.10.09–13.

[89] Ş. Özbek, K.J. Donovan, T.W. Walker, L.J. Groven. Development of Acoustically Milled Polymer Composites for Cold Spray Applications. The Society of Rheology 93rd Annual Meeting, Chicago, Illinois. 2022.10.09–13.

[90] M. Amouamouha, T.W. Walker. Wastewater Treatment Using Anaerobic Membrane Bioreactors with Electrolytic Regeneration (AMBER). 2022 American Institute of Chemical Engineers Annual Meeting, Phoenix, Arizona. 2022.11.13–18.

[91] W.R. Duffie, T.W. Walker*. Investigation of Novel Core-Shell Microparticles with Degradable Shells for Controlled-Delivery Applications. 2022 American Institute of Chemical Engineers Annual Meeting, Phoenix, Arizona. 2022.11.13–18.

[92] M. Amouamouha, D.M. Kavunga, T.W. Walker. Investigation of the performance of nanofiber membranes for wastewater treatment. AMTA/AWWA Membrane Technology Conference, Knoxville, Tennessee. 2023.02.20–23.

[93] K.L. Huse, L.A.E. Brunmaier, L.W. Merriam, E. McConnell, A.G. Clair, C.V. Udedike, K.J. Donovan, T. Özdemir, T.W. Walker. Modified procedure for extraction of silk fibroin with consistent physical properties. 98th ACS Colloid and Surface Science Symposium, Seattle, Washington. 2024.06.23–26.

[94] L.A.E. Brunmaier, T.W. Walker*. Investigating the Inflammatory Response to Exposure of Ultrafine TiO_2 Particulate Matter to HUVECs. 98th ACS Colloid and Surface Science Symposium, Seattle, Washington. 2024.06.23–26.

[95] L.A.E. Brunmaier, K.L. Huse, T.W. Walker. Investigation of Shear and Extensional Rheology of Silk Fibroin in Applications of Tissue Engineering. 2024 American Institute of Chemical Engineers Annual Meeting, San Diego, California. 2024.10.27–11.01.

[96] L.A.E. Brunmaier, T.W. Walker. Development of an Animal-Free Endothelial Cell Culture Media and Adaptation Method. 2024 American Institute of Chemical Engineers Annual Meeting, San Diego, California. 2024.10.27–11.01.

[97] L.A.E. Brunmaier, T.W. Walker. Investigating the Inflammatory Response to Exposure of Ultrafine TiO_2 Particulate Matter to HUVECs. 2024 American Institute of Chemical Engineers Annual Meeting, San Diego, California. 2024.10.27–11.01.

[98] J.T. Hilsendeger, K.M. Benjamin, L.J. Groven, T.W. Walker. Development of Solubility Kinetics for Removal of PFAS from Granular Activated Carbon with Supercritical Carbon Dioxide. 2024 American Institute of Chemical Engineers Annual Meeting, San Diego, California. 2024.10.27–11.01.

Other Publications

[1] T.W. Walker. Clean Energy Sources and Mass Electrical Storage. *Journal of Engineering and Public Policy*. 11, 2007, www.wise-intern.org.

[2] T.W. Walker. Harnessing Natural Energy. *Chemical Engineering Progress*. 104 (3): S23-S28, 2008.

[3] T.T. Hsu, T.W. Walker, C.W. Frank, G.G. Fuller. Screen shots of the rinsing flows with the testing coating fluid being (clockwise from upper left) glycerol-water, Boger fluid, semidilute PAM solution, and water. Cover. *Physics of Fluids*. **23**, 3 (2011).

[4] T.W. Walker, T.T. Hsu, G.G. Fuller. Rinsing Flow Image of Water. APS-DFD Gallery of Fluid Motion. 2012. www.aps.org/units/dfd/pressroom/gallery/2012/walker12.cfm.

[5] S. Fitzgibbon, E.S.G. Shaqfeh, G.G. Fuller, T.W. Walker. Scaling analysis and mathematical theory of the interfacial stress rheometer. Cover. *Journal of Rheology*. **58**, 4 (2014).

[6] W.R. Duffie, K.D. Barz, T.S. Filipova, K.J. Donovan, T.M. Brenza, T.W. Walker. Additive Manufacturing of Novel Surface-Eroding, Non-Swelling Anhydride Resins. *UV+EB Technology*. **4** (2022).

Other Presentations

[1] T.W. Walker, A. Sarnai, D. Badarch, P. Munkhbaatar, R.M. Winter. Study of Extraction of Molybdenum from Its Concentrates. Poster. 2005 American Institute of Chemical Engineers Annual Meeting, Cincinnati, Ohio. 2005.10.31.

[2] T.W. Walker. Clean Energy Sources and Mass Electrical Storage. U.S. House, Rayburn 2335 - House Science Committee, Washington, D.C. 2007.08.02.

[3] A.N. Logia, T.W. Walker, G.G. Fuller. Role of Reynolds Number on Liquid-Liquid Drop Experiments. Poster. Raising Interest in Science and Engineering Poster Presentation. Stanford, California. 2011.07.29.

[4] A.N. Logia*, T.W. Walker, G.G. Fuller*. When Flowing Gets Tough, Rheology Gets Things Flowing. American Chemical Society Santa Clara Valley Section Meeting. Stanford, California. 2011.09.15.

[5] A.N. Logia, T.W. Walker, G.G. Fuller. Newtonian Liquid-Liquid Drop Experiments: An Exploration of Miscible Fluid Systems in Engineering Solid Fibers. Poster. Raising Interest in Science and Engineering Poster Presentation. Stanford, California. 2012.07.27.

[6] A.N. Logia, T.W. Walker, G.G. Fuller. Exploring Multiphase Viscous Drop Impact with a Bulk Fluid. Poster. SURPS Poster Presentation. Stanford, California. 2012.10.04.

[7] A.N. Logia, T.W. Walker, G.G. Fuller. Newtonian Liquid-Liquid Drop Experiments: An Exploration of Miscible Fluid Systems. Poster. Bright Students Training as Research Scientists Program. American Geophysical Union Fall Meeting. San Francisco, California. 2012.12.05.

[8] M.A. Ostrowski, N.F. Huang, T.W. Walker, C. Poplawski, A.S. Khoo, M. Devicha, J.P. Cooke, G.G. Fuller, A.R. Dunn. Endothelial Cell Response to Complex Flow Profiles. Poster. The American Society of Cell Biology 2012 Annual Meeting, San Francisco, California. 2012.12.15–19.

[9] T.W. Walker, T.T. Hsu, S. Fitzgibbon, C.W. Frank, G.G. Fuller. Enhanced Particle Removal Using Viscoelastic Polymer Solutions. Poster. Complex Fluids and Fluid-Fluid Interfaces Symposium. Stanford, California. 2013.04.15.

[10] T.W. Walker, T.T. Hsu, S. Fitzgibbon, C.W. Frank, G.G. Fuller. Enhanced Particle Removal Using Viscoelastic Polymer Solutions. Poster. Stanford Polymer Collective Research Poster Symposium. Stanford, California. 2013.04.19.

[11] A.N. Logia, T.W. Walker, G.G. Fuller. Exploring Multiphase Viscous Drop Impact With a Bulk Fluid. Undergraduate Student Paper Competition. AIChE Western Regional Conference. San Diego, California. 2013.04.27.

[12] A.N. Logia, T.W. Walker, G.G. Fuller. Exploring Multiphase Viscous Drop Impact with a Bulk Fluid. Poster. Undergraduate Student Paper Competition. 2013 American Institute of Chemical Engineers Annual Student Meeting. San Francisco, California. 2013.11.03–08.

[13] A.N. Logia, T.W. Walker, G.G. Fuller. Exploring Multiphase Viscous Drop Impact with a Bulk Fluid. Undergraduate Student Paper Competition. 2013 American Institute of Chemical Engineers Annual Meeting. San Francisco, California. 2013.11.03–08.

[14] A. Gabriel, U. Daalkhaijav, M. Thierheimer, H. Wolterman, T.W. Walker. Characterizing *Pseudomonas aeruginosa* Biofilms and Developing Artificial Sputum Medium in Cystic Fibrosis Patients. 2014 ASE Summer Symposium. Portland, Oregon. 2014.08.15.

[15] U. Daalkhaijav, T.W. Walker. Rheological Properties of Biofilm. Poster. Oregon Bioscience Association 2014 Annual Conference. Portland, Oregon. 2014.09.15.

[16] U. Daalkhaijav, T.W. Walker. *Pseudomonas aeruginosa* Biofilm Rheology. Poster. OSU COE Engineering Research Expo 2015. Portland, Oregon. 2015.03.04.

[17] M. Tan, H. Song, A. Jander, P. Dhagat, T.W. Walker. Alignment of Magnetic Micro-Disks in Magnetic Field. Poster. OSU COE Engineering Research Expo 2015. Portland, Oregon. 2015.03.04.

[18] C.R. Moreno, K.A. Marshall, T.W. Walker. Fabrication of Microfluidic Devices for Advanced Rheological Measurements. 2015 ASE Summer Symposium. Portland, Oregon. 2015.08.21.

[19] U. Daalkhaijav, A. Srivastava*, T.W. Walker. Rheology of Cosmetic Foundation. Poster. Oregon Bioscience Association 2015 Annual Conference. Portland, Oregon. 2015.09.09.

[20] U. Daalkhaijav, T.W. Walker. Rheological Changes in Algal Sludge Characteristics with Suspension Concentration. Poster. OSU COE Engineering Research Expo 2016. Portland, Oregon. 2015.03.01.

[21] M. Tan, H. Song, A. Jander, P. Dhagat, T.W. Walker. Modeling Alignment Dynamics of Magnetic Micro-Disks. Poster. OSU COE Engineering Research Expo 2016. Portland, Oregon. 2016.03.01.

[22] A.H. Todt, K.A. Marshall, T.W. Walker. Extensional Rheology. 2016 ASE Summer Symposium. Portland, Oregon. 2015.08.12.

[23] M.J.E. Domingo, H.F. Oldenkamp, K.A. Marshall, L.L. Han, W.E. Rochefort, T.W. Walker. Rheology of Bovine Cervical Mucus. Poster. 2016 American Institute of Chemical Engineers Annual Meeting, San Francisco, California. 2016.11.13–18.

[24] A.M. Liedtke, K.A. Marshall, T.W. Walker. Extensional Rheometry with a Handheld Mobile Device. American Institute of Chemical Engineers 2017 Pacific Northwest Student Regional Conference, Corvallis, Oregon. 2017.04.21–22.

[25] B.A. Appleby, C.J. Silsby, B.M. Swann, T.W. Walker. Modeling the Contribution of Polymers in Inkjet Printing. Poster. American Institute of Chemical Engineers 2017 Pacific Northwest Student Regional Conference, Corvallis, Oregon. 2017.04.21–22.

[26] R.K. Cashen*, J.W. Conradt*, B. Bodily, T.W. Walker. Enhanced Particle Removal with Weakly Viscoelastic Fluids. Poster. American Institute of Chemical Engineers 2017 Pacific Northwest Student Regional Conference, Corvallis, Oregon. 2017.04.21–22.

[27] M.J.E. Domingo, H.F. Oldenkamp, K.A. Marshall, L.L. Han, W.E. Rochefort, T.W. Walker. Rheology of Bovine Cervical Mucus. Poster. American Institute of Chemical Engineers 2017 Pacific Northwest Student Regional Conference, Corvallis, Oregon. 2017.04.21–22.

[28] C.M. Putnam, H.F. Oldenkamp, Y. Mao, W.E. Rochefort, T.W. Walker. Xanthan Gum and Chromium(III) Nitrate Gelation. Poster. American Institute of Chemical Engineers 2017 Pacific Northwest Student Regional Conference, Corvallis, Oregon. 2017.04.21–22.

[29] C.G. Harris, T.W. Walker, W.E. Rochefort. Characteristics of Adhesion in 3D Printed Composites. Poster. 2017 American Institute of Chemical Engineers Annual Student Conference, San Francisco, California. 2017.10.28–11.03.

[30] K. Ward, W.E. Rochefort, T.W. Walker. Characterization and Development of Hydrogels for Nucleus Pulposus Repair in Spinal Discs. 2017 ASE Summer Symposium. Portland, Oregon. 2017.08.18.

[31] C. Wong, W.E. Rochefort, T.W. Walker. Effects of Low Concentration, High Molecule Weight Polymers in Extensional Flow. 2017 ASE Summer Symposium. Portland, Oregon. 2017.08.18.

[32] B.A. Appleby, Z.R. Wallace, T.W. Walker. Challenging the Autoinjector: Investigating Mechanical Degradation of High-Molecular-Weight Polymers in a Contraction Flow. Poster. 2017 American Institute of Chemical Engineers Annual Student Conference, San Francisco, California. 2017.10.28–11.03.

[33] C.G. Harris, W.E. Rochefort, T.W. Walker*. Additive Manufacturing with Soft TPU. Printing for Fabrication 2018. Dresden, Germany. 2018.09.27.

[34] S.P. Crawford, M. Tan, T.W. Walker. Effect of Surface Functionality on Micro-Particle Motion in Weak Hydrogels. SD EPSCoR 2019 Undergraduate Research Symposium. Sioux Falls, South Dakota. 2019.07.30.

[35] D.M. Kavunga, E.I. Dessler, Ş. Özbek, T.W. Walker. Additive Manufacturing with ABS, ASA, and PLA Thermal Properties for Printability. SD EPSCoR 2019 Undergraduate Research Symposium. Sioux Falls, South Dakota. 2019.07.30.

[36] J.A. Adeniran, M. Tan, T.W. Walker. Investigation of suspension mechanics for cell growth in rotating wall vessel (RWV). Poster. The Society of Rheology 91st Annual Meeting, Raleigh, North Carolina. 2019.10.20–24.

[37] W.R. Duffie, E.A. Kalaga, Ş. Özbek, T.M. Brenza, K.J. Donovan, T.W. Walker. Synthesizing Novel Biodegradable Polymers with Tunable Mechanical Properties. Poster. 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[38] Ş. Özbek, C.G. Harris, W.R. Duffie*, W.E. Rochefort, T.W. Walker. Additive Manufacturing with Soft TPU: Thermal Properties for Printability and Adhesion Strength in Multimaterial Flexible Joints. Poster. 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[39] M. Tan, P.S. Paul, P. Dhagat, T.W. Walker*. Theory and Experiments of Measuring Microrheology via Dynamic Magnetic Susceptibility. Poster. 2019 American Institute of Chemical Engineers Annual Meeting, Orlando, Florida. 2019.11.10–15.

[40] E.I. Dessler, N.L. Schrader, Ş. Özbek, K.J. Donovan, T.W. Walker. Additive Manufacturing with Semi-Crystalline Thermoplastics: Properties for Printability. Poster. 2019 American Institute of Chemical Engineers Annual Student Conference, Orlando, Florida. 2019.11.08–11.

[41] M. Tan, T.W. Walker*. Dynamic Simulations and Rheological Studies of Suspensions of Magnetic Particles. Poster. Gordon Research Conference: Colloidal, Macromolecular, and Polyelectrolyte Solutions, Ventura, California. 2020.02.02–07.

[42] W.R. Duffie, K.D. Barz, T.S. Filipova, T.M. Brenza, T.W. Walker. Invention of Photocurable Surface-Eroding Resins for Applications in 3D Printing. 11th Annual South Dakota Mines Student Research Symposium. 2021.04.06-07. Graduate Student 2nd Place.

[43] Ş. Özbek, M.J. Carter, T.W. Walker, G.A. Crawford. Cold Spray of Polystyrene Particles on Various Substrates. 11th Annual South Dakota Mines Student Research Symposium. 2021.04.06-07.

[44] Ş. Özbek, M. Carter, G.A. Crawford, T.W. Walker. Cold Spray of Polystyrene Particles on Various Substrates. Cold Spray Action Team Hybrid Meeting 2021, Virtual. 2021.06.22–23. Student Poster 1st Place.

[45] E. McConnell, E. Hyde, L.A.E. Brunmaier, K.J. Donovan, T.W. Walker. 3D Bioprinting: Novel Technique and Rheological Analysis. SD EPSCoR 2021 Undergraduate Research Symposium. Virtual. 2021.07.29.

[46] L.A.E. Brunmaier, T.M. Brenza, T. Özdemir, T.W. Walker*. Development of a Physiologically-Relevant, Serum-Free In Vitro Angiogenesis Platform. Poster. 2022 Joint Symposium – SFB + JSB, Honolulu, Hawaii. 2022.01.08–10.

[47] W.R. Duffie, K.D. Barz, T.S. Filipova, T.M. Brenza, T.W. Walker*. Innovative Development of Surface-Eroding, Non-Swelling Methacrylated-Anhydride Resins for Additive Manufacturing of Biocompatible Products. Poster. 2022 Joint Symposium – SFB + JSB, Honolulu, Hawaii. 2022.01.08–10.

[48] L.A.E. Brunmaier, T.W. Walker. Development of a Physiologically-Relevant, Serum-Free In Vitro Angiogenesis Platform. 12th Annual South Dakota Mines Student Research Symposium. 2022.03.04.

[49] D.M. Kavunga, B. Bruch, C. Stone, M. Amouamouha, T.W. Walker. Production of Nanofiber Membranes Using Centrifugal Spinning. 12th Annual South Dakota Mines Student Research Symposium. 2022.03.04.

[50] Ş. Özbek, K.J. Donovan, T.W. Walker. Characterization of Polymeric Powders Through Capillary Flow for Additive-Manufacturing Techniques. 12th Annual South Dakota Mines Student Research Symposium. 2022.03.04.

[51] M. Tan, J.A. Adeniran, T.W. Walker. Simulation and Rheological Studies of Magnetorheological fluids. 12th Annual South Dakota Mines Student Research Symposium. 2022.03.04.

[52] J.A. Adeniran, M. Tan, J.M. Barakat, T.W. Walker. Numerical Simulations, Scaling Analysis, Surrogate Experiments, and Analytic Model of Microbial Growth in a Rotating Bioreactor. Poster. 19th U.S. National Congress on Theoretical and Applied Mechanics, Austin, Texas. 2022.06.19–24.

[53] W.R. Duffie, K.D. Barz, T.S. Filipova, T.M. Brenza, T.W. Walker. Light-based Additive Manufacturing of Novel Surface-Eroding Resins. Gordon Research Conference on Polymer Physics, Mt. Holyoke, Massachusetts. 2022.07.24–29.

[54] E. McConnell, L.A.E. Brunmaier, K.J. Donovan, T.W. Walker. Processing and Mechanics of Biocompatible Materials for TEVGs. Poster. SD EPSCoR 2022 Undergraduate Research Symposium, Brookings, South Dakota. 2022.07.28.

[55] T.W. Walker, M. Amouamouha, L.A.E. Brunmaier, Ş. Özbek. Walker Research Group. STEAM Café, Rapid City, South Dakota. 2022.09.21.

[56] D.M. Kavunga, B. Bruch, C. Stone, M. Amouamouha*, T.W. Walker. Production of Nanofiber Membranes Using Centrifugal Spinning. Poster. 2022 American Institute of Chemical Engineers Annual Meeting, Phoenix, Arizona. 2022.11.13–18.

[57] C.J. Allen, W.R. Duffie, V. Gadhamshetty, T.W. Walker. Use of Novel Degradable Surface Coatings for Enhanced Biofilm Growth. Poster. TMS 2023 Annual Meeting & Exhibition, San Diego, California. 2023.03.19–23.

[58] M. Amouamouha, T.W. Walker. Performance and Startup Process of an Electrolytic Anaerobic Baffled Reactor (EABR). Poster. 2023 Borchardt Conference, University of Michigan, Ann Arbor, Michigan. 2023.05.23-24.

[59] A.G. Clair, L.A.E. Brunmaier, T.W. Walker. Material Characterization and Animal-Component Free Cell Media Adaptation Method for Development of a Tissue Engineered Vascular Graft. Poster. SD EPSCoR 2023 Undergraduate Research Symposium. Sioux Falls, South Dakota. 2023.07.25.

[60] L.A.E. Brunmaier, T.W. Walker. Development of an Animal-Free Culturing Method for Endothelial Cells and Its Application in a Quantitative In Vitro Angiogenesis Model. Poster. Gordon Research Conference on Angiogenesis and Angiostability in Development, Disease and Engineered Tissues, Newport, Rhode Island. 2023.07.30–08.04.

[61] L.A.E. Brunmaier, T.W. Walker. Investigating the Inflammatory Response to Exposure of Ultrafine TiO_2 Particulate Matter to HUVECs. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[62] A.G. Clair, L.A.E. Brumaier, T.W. Walker. AF Oral Development of an Animal Component?Free, Chemically Defined Endothelial Cell Culture Media and Adaptation Method. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[63] C.A. Brouwer, Ş. Özbek, L.J. Groven, K.J. Donovan, T.W. Walker. Evaluating the Morphology and Internal Structure of Cold-Sprayed Samples. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[64] C.V. Gauker, W.R. Duffie, K.D. Barz, T.S. Filipova, K.J. Donovan, T.W. Walker. Microscopic Characterization of the Degradation of Photocurable Methacrylated Polyanhydrides in Water. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[65] J.T. Hilsendeger, L.J. Groven, T.W. Walker, K.M. Benjamin. Development of Solubility Parameters for PFAS Compounds in Supercritical Carbon Dioxide. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[66] K.L. Huse, L.A.E. Brunmaier, L.W. Merriam, E. McConnell, A.G. Clair, T.Özdemir, T.W. Walker. Modified Procedure for Extraction of Silk Fibroin with Consistent Physical Properties. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[67] L.C. Jensen, J.P. Fyffe, N.M. Lockwood, T.W. Walker, T.S. Filipova. Synthesis of Aryloxy Dicarboxylic Acids from Tetraaryl Bisphenol A for Photopolymerizable Materials. Poster. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[68] J. Linder, T.W. Walker, K.J. Donovan. Protocol Development for Rheological Characterization of Carboxymethyl Cellulose Gums For Biomaterial Applications. Poster. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[69] D.A. Remington, J.T. Hilsendeger, L.J. Groven, T.W. Walker, K.M. Benjamin. Supercritical CO_2 Extraction of Acetylsalicylic Acid. Poster. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[70] L.W. Merriam, K.L. Huse, L.A.E. Brunmaier, T.W. Walker. Optimization of Sodium Alginate Tube Extrusion. Poster. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[71] I.C. Thurman, W.R. Duffie, C.V. Gauker, Perry J. Ketelsen, T.W. Walker. Hybrid Manufacturing for Alternative Injection Molding. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[72] C.V. Udedike, T.W. Walker. Processability Map for Electrospinning of Polyethylene Oxide in Acetonitrile-Water Solutions. 14th Annual South Dakota Mines Student Research Symposium. 2024.04.09.

[73] L.W. Merriam, K.L. Huse, L.A.E. Brunmaier, T.W. Walker. Optimization of Sodium Alginate Tube Extrusion. Poster. 2024 AIChE Rocky Mountain Student Regional Conference, SDSM&T, Rapid City, South Dakota. 2024.04.05–06.

[74] D.A. Remington, J.T. Hilsendeger, L.J. Groven, T.W. Walker, K.M. Benjamin. Supercritical CO_2 Extraction of Acetylsalicylic Acid. Poster. 2024 AIChE Rocky Mountain Student Regional Conference, SDSM&T, Rapid City, South Dakota. 2024.04.05–06.

[75] L.A.E. Brunmaier, K.L. Huse, A. Trapp, K.J. Donovan, T.W. Walker. Rheological properties that determine the processability of sodium alginate and the corresponding mechanical characterization. Poster. 7th TERMIS World Congress, Seattle, Washington. 2024.06.25–28.

[76] L.A.E. Brunmaier, T.W. Walker. Development of an Animal Component-Free, Chemically Defined Human Umbilical Vein Endothelial Cell Culture Media and Adaptation Methods. Poster. 7th TERMIS World Congress, Seattle, Washington. 2024.06.25–28.

[77] K.J. Donovan, L.A.E. Brunmaier, T.W. Walker, W.E. Rochefort. Characterization of bovine intervertebral discs and novel hydrogels for the repair or replacement of spinal discs. Poster. 7th TERMIS World Congress, Seattle, Washington. 2024.06.25–28.

[78] K.L. Huse, L.A.E. Brunmaier, L.W. Merriam, E. McConnell, A.G. Clair, C.V. Udedike, K.J. Donovan, T. Özdemir, T.W. Walker. Modified procedure for extraction of silk fibroin with consistent physical properties. Poster. 7th TERMIS World Congress, Seattle, Washington. 2024.06.25–28.

[79] L.A.E. Brunmaier, T.W. Walker. Development of an Animal Component-Free, Chemically Defined Human Umbilical Vein Endothelial Cell Culture Media and Adaptation Methods. Poster. 11th Annual SD EPSCoR Research Symposium, Sioux Falls, South Dakota. 2024.07.31–08.01.

[80] J.T. Hilsendeger, D.A. Remington, D.L. Tipton, E.V. Kinyon, K.M. Benjamin, L.J. Groven, T.W. Walker. Evaluation of PFAS Solubility in Supercritical Carbon Dioxide. Poster. 11th Annual SD EPSCoR Research Symposium, Sioux Falls, South Dakota. 2024.07.31–08.01.

[81] L.W. Merriam, K.L. Huse, L.A.E. Brunmaier, A. Thatola, I.C. Grinager, A.K. Flanegan, T.W. Walker. Processing and Characterization of Alginate Tubes. Poster. 11th Annual SD EPSCoR Research Symposium, Sioux Falls, South Dakota. 2024.07.31–08.01.

[82] I.C. Thurman, J.T. Hilsendeger, S.M. Goyal, C.J. Allen, V. Gadhamshetty, T.W. Walker. Design and Behavior of Molecularly Imprinted Polymer Sensors for Riboflavin Detection. Poster. 11th Annual SD EPSCoR Research Symposium, Sioux Falls, South Dakota. 2024.07.31–08.01.

[83] L.A.E. Brunmaier, K.L. Huse, T. Özdemir, K.J. Donovan, T.W. Walker. Investigation of Shear and Extensional Rheology of Silk Fibroin in Applications of Tissue Engineering. Poster. SFB 2024 Regional Symposium, Denver, Colorado. 2024.09.19–20.

[84] L.W. Merriam, L.A.E. Brunmaier, K.L. Huse, A. Flanegan, I. Grinager, A. Thatola, T.W. Walker. Processing and Characterization of Alginate Tubes for Use in Vascular Tissue Grafting. 2024 American Institute of Chemical Engineers Annual Student Meeting. San Diego, California. 2024.10.27–11.01. (*Poster Session: 3rd Place*)

[85] M. Gomez, S. Santos, J. Stone, C. Shearer, T. Vasquez, T. Walker, S. Aadland, D. Dixon*, R. Arciniega. Increasing the Partnership, Technical Training, and Exchange of Students between UPC-PERU, Lima, PE, and SDSMT, Rapid City, USA. 2024 Annual Colloquium on International Engineering Education (ACIEE). University of Rhode Island, South Kingstown, Rhode Island. 2024.11.07-08.

[86] J.T. Hilsendeger, D.A. Remington, K.M. Benjamin, L.J. Groven, T.W. Walker. Supercritical Fluid Extraction of Per- and Polyfluoroalkyl Substances. SDAEP: 2025 Environmental & Water Quality Conference, Ft. Pierre, South Dakota. 2025.03.27.

[87] J.T. Hilsendeger, D.A. Remington, K.M. Benjamin, L.J. Groven, T.W. Walker. Supercritical Fluid Extraction of Short Chain PFAS from Granular Activated Carbon. 15th Annual South Dakota Mines Student Research Symposium. 2025.04.08.

[88] L.W. Merriam, L.A.E. Brunmaier, K.L. Huse, A. Flanegan, I. Grinager, A. Thatola, T.W. Walker. Processing and Characterization of Alginate Tubes for use in Tissue Grafting. Poster. 15th Annual South Dakota Mines Student Research Symposium. 2025.04.08.

[89] I.C. Thurman, T.W. Walker. Exploration of Photopolymerization for Molecularly Imprinted Polymers (MIPs). 15th Annual South Dakota Mines Student Research Symposium. 2025.04.08.

[90] J.T. Hilsendeger, D.A. Remington, K.M. Benjamin, L.J. Groven, T.W. Walker. Supercritical Fluid Extraction of Per- and Polyfluoroalkyl Substances. 15th Annual South Dakota Mines Student Research Symposium. 2025.04.08. (*Graduate Oral Presentation: 2nd Place*)

[91] L.W. Merriam, L.A.E. Brunmaier, K.L. Huse, A. Flanegan, I. Grinager, A. Thatola, T.W. Walker. Processing and Characterization of Alginate Tubes for use in Tissue Grafting. Poster. 2025 AIChE Rocky Mountain Student Regional Conference, Montana State University, Bozeman, Montana. 2025.04.11–12. (*Poster Session: 1st Place*)

[92] L.A.E. Brunmaier, T.W. Walker. Animal-Free Medium Formulation and Adaptation Method for Supporting Growth of Endothelial Cells. Annual Meeting of the South Dakota Academy of Science, Rapid City, South Dakota. 2025.04.11-12.

[93] L.A.E. Brunmaier, T.W. Walker. Investigating the Inflammatory Response to Exposure of Ultrafine TiO_2 Particulate Matter to HUVECs. Annual Meeting of the South Dakota Academy of Science, Rapid City, South Dakota. 2025.04.11-12.

[94] J.T. Hilsendeger, D.A. Remington, K.M. Benjamin, L.J. Groven, T.W. Walker. Supercritical Fluid Extraction of Per- and Polyfluoroalkyl Substances. Annual Meeting of the South Dakota Academy of Science, Rapid City, South Dakota. 2025.04.11-12. (*SDAS Award: Oral Presentation*)

[95] I.C. Thurman, T.W. Walker. Exploration of Photopolymerization for Molecularly Imprinted Polymers (MIPs). Annual Meeting of the South Dakota Academy of Science, Rapid City, South Dakota. 2025.04.11-12.

Manuscripts in Preparation

[1] J.A. Adeniran, M. Tan, J.M. Barakat, T.W. Walker. Numerical Simulations, Scaling Analysis, Surrogate Experiments, and Analytical Model of the Dynamics of Microorganisms under Creeping Flow in a Rotating Bioreactor.

[2] J.A. Adeniran, M. Tan, J.M. Barakat, C.S. Beal, T.W. Walker. Mixing in a Rotating Wall Vessel.

[3] C.J. Allen, W.R. Duffie, S. Talluri, T.W. Walker, V. Gadhamshetty. Spatiotemporal analysis of Ennoblement Effect caused by *Olesulfovibrio alaskenesis* G20 on Copper Substrate.

[4] C.J. Allen, W.R. Duffie, S. Talluri, T.W. Walker, V. Gadhamshetty. hBN elimination of pitting corrosion during ennoblement effect caused by *Oleidesulfovibrio alaskensis* G20 on copper substrate.

[5] C.J. Allen, W.R. Duffie, T.W. Walker, V. Gadhamshetty. In vivo methacrylic anhydride MIP-based sensor for vitamin B2 detection during initial biofilm formation.

[6] M. Amouamouha, J.R. Kalimuthu, V.R. Gadhamshetty, T.W. Walker. Developing a frugal, efficient anaerobic method for growing sulfate-reducing bacteria (SRB) without a traditional chamber.

[7] M. Amouamouha, S. Ragi, T.W. Walker. In-situ investigation of spatial and temporal structure of SRB-*Desulfovibrio alaskensis G20* biofilm using multiple-particle-tracking microrheology.

[8] W.R. Duffie, C.V. Gauker, T.W. Walker. Kinetic Analysis of Degradable Resins via Frugal Microfluidics.

[9] K.E. ArunKumar, K.J. Donovan, W.R. Duffie, Ş. Özbek, T.W. Walker, T.M. Brenza. Influence of composition on physiochemical properties of copolymers of lactic acid and sebacic anhydride.

[10] Ş. Özbek, M.J. Carter, K.J. Donovan, G.A. Crawford, L.J. Groven, T.W. Walker. Cold Spray of Polystyrene Particles on Various Substrates.

[11] Ş. Özbek, K.J. Donovan, T.W. Walker. Characterization of Polymeric Powders through Capillary Flow for Additive-Manufacturing Techniques.

[12] Ş. Özbek, K.J. Donovan, T.W. Walker, L.J. Groven. Development of Acoustically Milled Polymer Composites for Cold-Spray Applications.

[13] J.L. Powell, Ş. Özbek, T.W. Walker, J.J. Keleher. Post-CMP Cleaning Using Viscoelastic Fluids for Particle Removal.

[14] M. Tan, J.A. Adeniran, T.W. Walker. A computational investigation of suspensions of magnetic disks under magnetic fields.

[15] M. Tan, J.A. Adeniran, T.W. Walker. A computational investigation of the dynamics and rheology of straight and curved rods.

[16] M. Tan, P.S. Paul, P. Dhagat, T.W. Walker. Theory and Experiments of Measuring Microrheology via Dynamic Magnetic Susceptibility.

Postdoctoral Researchers and Research Scientists

[1] **Mingyang Tan**, Jilin University (B.S. CHE), USC (M.S. CHE), OSU (Ph.D. CHE), 2018.10–2020.12.

[2] **Laura A.E. Brunmaier**, SDSM&T (B.S. ABS), SDSM&T BME, 2024.12–present.

Ph.D. Students

[1] **Mingyang Tan**, Jilin University (B.S. CHE), USC (M.S. CHE), OSU CHE, 2013.10–2018.09.
Thesis: *A Study of the Dynamics and Rheology of Passive and Active Suspensions of Particles with Various Geometries.*

[2] **Joshua A. Adeniran**, Obafemi Awolowo University (B.S. CHE), SDSM&T CBE, 2018.05–2023.08.
Thesis: *Dynamics of Suspensions of Spherical Particles under External Body Forces in Creeping-Flow Conditions.*

[3] **Şebnem Özbek**, Özyeğin University (B.S. ME, M.S. ME), SDSM&T CBE, 2018.08–2023.06.
Thesis: *Exploring Deposition of Polymer Particles via Cold Spray: Process Parameters and Substrate Conditions.*

[4] **Whytneigh R. Duffie**, Saint Edward's University (B.S. Chem), SDSM&T CBE, 2018.10–2023.06.
Thesis: *Synthesis, Characterization, and Application of Novel Surface-Eroding Anhydrides.*

[5] **Laura A.E. Brunmaier**, SDSM&T (B.S. ABS), SDSM&T BME, 2019.05–2024.12.
NSF Graduate Research Fellow, 2021–2024.
Thesis: *Establishing the Foundations for Developing a Tissue Engineered Vascular Graft.*

[6] **Maryam Amouamouha**, Isfahan University of Technology (B.S. CE), Kharazmi University (M.S. CE), Shahid Beheshi University (Ph.D. EnvE), SDSM&T CBE, 2019.08–2022.12.
Thesis: *Fundamental Investigation of Processes in Anaerobic Membrane Bioreactor with Electrolytic Regeneration (AMBER) for Wastewater Treatment.*

[7] **Jordan A. Hoops**, SDSM&T (B.S. ABS, B.S. CHE), SDSM&T CBE (co-advisor: Timothy Brenza), 2022.07–2025.08.
Thesis: *Characterization of Acute and Repeated Oxidative Stress Response in Human Pulmonary Cells and Formulation of Antioxidant Intervention.*

[8] **Joseph T. Hilsendeger**, SDSM&T (B.S. CHE), SDSM&T CBE, 2023.08–present.

[9] **Kelly M. Sutko**, SDSU (B.S. Biotech, Chem), SDSM&T CHE, 2025.05–present

M.S. Students

[1] **Kristin A. Marshall**, New York University (B.S. Econ), OSU CHE, 2014.10–2017.03.
Diversity Advancement Pipeline Fellow, 2015–2016.
Thesis: *Extensional Characterization of Weakly-Viscoelastic fluids: Methods & Applications.*

[2] **Aarushi Srivastava**, Banasthali University (B.S. CHE), OSU CHE, 2014.10–2017.03.
Thesis: *Investigating the Effect of Tetrahydrofuran (THF) Plasticizer on the Crystallization and Solvent Seaming of PET/NPG Copolymer Films.*

[3] **Britany M. Swann**, Oregon State University (B.S. Chem), OSU CHE, 2016.01–2017.09.
Thesis: *Leveraging Fluids with Weak Yield Stresses for Directed Alignment and Distribution of Magnetic Disks in Novel Inks.*

[4] **Yating Mao**, Guangxi University for Nationalities (B.S. Appl Chem), OSU CHE, 2016.03–2017.09.
Thesis: *Transient Microrheological Characterization of Biogels.*

[5] **Thai Le Ba Nghia**, Vo Truong Toan University (M.D.), SDSM&T BME, 2019.08–2021.08.
Thesis: *Investigating the Role of Factor XII and Hemostatic Sponges in Blood Coagulation via Passive Microrheology.*

[6] **Kevin D. Barz**, SDSM&T (B.S. Chem), SDSM&T MSE, 2019.09–2021.08.
Thesis: *Development of Degradable Photopolymer Resins for Use in Additive Manufacturing.*

[7] **Christen V. Gauker**, SDSM&T (B.S. CHE), SDSM&T CHE, 2021.08–2024.05.
Thesis: *Microscopic Characterization of the Degradation of Photocurable Methacrylated Polyanhydrides in Water.*

[8] **Kara L. Huse**, SDSM&T (B.S. BME), SDSM&T BME, 2022.05–2024.08.
Thesis: *Modified Protocols for Silk Extraction and for Characterization of Dip-Coated Tubes for the Foundation of a Tissue-Engineered Vascular Graft.*

[9] **Caleb A. Brouwer**, SDSM&T (B.S. BME, B.S. MET), SDSM&T BME, 2022.05–2024.12.
Thesis: *Effect of Process Parameter on Sample Morphology and Internal Structure during Micro-Cold Spray.*

[10] **C. Vivienne Udedike**, Nnamdi Azikiwe University (B.S. CHE), SDSM&T CHE, 2023.01–2024.05.
Thesis: *Building a Processibility Map for Electrospinning of Nanofibers.*

M.Eng. and Non-Thesis M.S. Students

[1] **Nicholas Kraaz**, Oregon State University (B.S. CHE), OSU CHE, 2013.09–2014.05.

[2] **Christopher S. Beal**, SDSM&T (B.S. CHE), SDSM&T CHE, 2019.02–2021.05.

[3] **Kyle J. Bergevin**, SDSM&T (B.S. Chem, B.S. ABS), SDSM&T BME, 2020.06–2022.05.

[4] **Divine M. Kavunga**, SDSM&T (B.S. CHE), SDSM&T MES, 2021.08–2023.05.

[5] **Isaiah C. Thurman**, SDSM&T (B.S. CHE), SDSM&T CBE, 2023.05–2025.05.

Graduate Student Mentoring

[1] **Armen Mekhdjian**, SU, 2010.09–12.

[2] **Mohd Saad Bhamla**, SU, 2011.01–04.

[3] **Dong Hyun Kim**, SU, 2012.01–03.

[4] **Uranbileg Daalkhaijav**, OSU, 2013.11–2017.05.

[5] **Stephanie Walker**, OSU, 2014.06–12.

[6] **Ehsan Taghizadeh**, OSU, 2014.10–2016.04.

[7] **Carmen Gondhalekar**, OSU, 2015.01–07.

[8] **Yu Cao**, OSU, 2016.03–06.

[9] **Shelley Haug**, OSU, 2016.09–2017.09.

[10] **Şebnem Özbek**, Özyeğin University, 2017.06–2018.08.

[11] **April Mar**, University of Providence, 2018.11–2021.11.

[12] **Kayode Bello**, SDSM&T, 2019.01–05.

[13] **Sarah Jean Johnson**, SDSM&T, 2020.01–2021.08.

[14] **Cody Allen**, SDSM&T, 2020.09–11.

[15] **Brock Folkers**, SDSM&T, 2021.03–08.

[16] **Frederik Holtkemper**, TU Braunschweig, DAAD RISE, 2021.05–08.

[17] **C. Vivienne Udedike**, SDSM&T, 2022.04–2022.12.

[18] **Jillian Linder**, SDSM&T, 2024.01–05.

UHC Students

[1] **Curran Gahan**, OSU CHE, Johnson: 2014, 2013.09–2016.06.
Thesis: *Novel apparatus combining interfacial rheology and SECM.*

[2] **Christine Turner**, OSU CHE, 2014.02–2016.06.
Thesis: *Gated Langmuir-Blodgett trough and double wall Couette for interfacial rheology of insoluble surfactants.*

[3] **Heidi Oldenkamp**, OSU CHE, Johnson: 2014, 2014.06–2017.06.
Thesis: *Phase study and rheological evaluation of the gelation of xanthan gum with chromium (III) nitrate.*

[4] **Aleesha Liedtke**, OSU CHE, Johnson: 2015, COE WRF: 2015, 2014.10–2018.06.
Thesis: *Development of a smartphone app to easily measure extensional viscosity.*

[5] **Ryan Cashen**, OSU CHE, DeLoach Scholar: 2015, 2015.03–2019.08.
Thesis: *Concentration effects of enhanced particle removal with viscoelastic fluids.*

[6] **Renee Myers**, OSU CHE (co: Willie Rochefort), 2019.05–2020.06.
Thesis: *Frequency-Dependent Rheological Characterization of Viscoelastic Materials Using Magnetic Nanoparticle Probes*

UG Student Research

[1] **David J. Giacomin**, SU CE, 2010.06–08.

[2] **Alison N. Logia**, SU CHE, VPUE: 2013.06–08; 2012.08–2014.06.

[3] **Patrick Hong**, OSU CHE, 2013.09–2014.06.

[4] **Jakob Walter**, OSU CE (co: Jason Ideker), 2013.10–2014.12.

[5] **Shanti Johnson**, OSU CHE (Bioenergy; co: David Hackleman), 2013.10–2014.06.

[6] **Mitchell Ridge**, OSU CHE, 2013.11–2014.06.

[7] **Nick Jursik**, OSU ME (co: Willie Rochefort), SSI: 2014; 2014.06–2015.07 & 2017.04–06.

[8] **Arline Helen Ann Haun**, OSU CHE (co: Willie Rochefort), Johnson: 2014.

[9] **Dalton Myas**, OSU CHE, Johnson: 2014, 2015; WME (SRC): 2014; 2014.06–2015.09 & 2017.06–08.

[10] **Hope Wolterman**, OSU CHE, Johnson: 2014, 2015; WME (SRC): 2014; 2014.06–2015.09 & 2017.01–08.

[11] **Cody Rucker**, OSU CHE, URSA: 2015W; 2014.07–2015.09.

[12] **Marisa Thierheimer**, OSU CHE, 2014.09–2016.06.

[13] **Britany Swann**, OSU Chem (Bioenergy; co: Willie Rochefort), 2014.10–2015.12.

[14] **Samantha Anderlie**, OSU Business, 2014.10–2015.03.

[15] **Angela Dunham**, OSU BIOE, WME: 2015; Johnson: 2015; 2015.01–2016.06.

[16] **Braxton Cuneo**, OSU CHE, Johnson: 2015; 2015.03–09.

[17] **Beverly Miller**, OSU BIOE, 2015.06–09.

[18] **Zach Evans**, OSU CHE, 2015.06–08.

[19] **Ben Rosene**, OSU CHE, 2015.06–2016.06.

[20] **Conor Hennessy**, OSU EE, 2015.06–08.

[21] **Benjamin Bodily**, OSU CHE, 2016.05–2017.03.

[22] **Jason Conradt**, OSU CHE, 2016.05–2017.06.

[23] **Mari Domingo**, OSU BIOE, Johnson: 2016; COE WRF: 2016; 2016.06–2017.06.

[24] **Max Jurgenson**, OSU CHE, 2016.06.

[25] **Zachary Wallace**, OSU CHE, Johnson: 2016, 2017; 2016.06–2018.01.

[26] **Caitlin Putnam**, OSU BIOE, COE WRF: 2016; 2016.09–2017.06.

[27] **Benjamin Appleby**, OSU CHE, 2016.10–2018.06.

[28] **Carson Silsby**, OSU CHE, 2016.10–2017.03.

[29] **Nicholas Hogan**, OSU BIOE, 2016.12–2017.06.

[30] **Kyle Harris**, OSU CHE, 2017.01–06.

[31] **Conor Harris**, OSU CHE, 2017.05–2018.08.

[32] **Jacob Davis**, OSU CHE, 2017.06–08.

[33] **Bailey Puetz**. OSU CHE, Johnson: 2017.

[34] **Parker Busch**. OSU CHE, Johnson: 2017.

[35] **Alejandro Navarro**, OSU ME, 2017.06–08.

[36] **Jacob Cook**, OSU CHE, 2017.06–07.

[37] **Forrest Stember**, OSU CHE, 2017.11–2018.06.

[38] **Adam Givens**, SDSM&T CHE, 2018.04–2020.05.

[39] **Alexandra Brown**, SDSM&T CHE, 2018.06–12.

[40] **Nicole Schrader**, SDSM&T CHE, 2018.08–2020.05.

[41] **Natalie Richardson**, SDSM&T CHE, 2018.08–2019.05.

[42] **Alissa Quam**, SDSM&T CHE, 2018.08–12.

[43] **Darla Drenckhahn**, SDSM&T CS, 2018.09–10.

[44] **Laura Brunmaier**, SDSM&T ABS, 2018.11–2019.05.

[45] **Abisola Ojoawo**, SDSM&T CHE, 2019.01–05.

[46] **Enae Dessler**, SDSM&T CHE, 2019.05–2020.05.

[47] **Divine Kavunga**, SDSM&T CHE, 2019.05–2020.05.

[48] **Samuel Crawford**, SDSM&T CHE, REU BuG ReMeDEE, 2019.

[49] **Claire Ternes**, SDSM&T CHE, REU Back to the Future, 2019.

[50] **Cynthia Cruz Sanchez**, OSU CHE, 2019.05–2022.05.

[51] **Nicholas Ritchie**, SDSM&T IE, 2019.07–08.

[52] **Ethan Long**, SDSM&T CHE, 2019.09–2023.05.

[53] **Samuel Ryckman**, SDSM&T ME/CS, 2020.04–2022.08.

[54] **Gabriela Ponce**, SDSM&T CHE, 2020.08–12.

[55] **Dyson Heizelman**, SDSM&T CHE, 2020.08–12.

[56] **Spencer Kabran**, SDSM&T CHE, 2020.09–2021.05.

[57] **Kirsten Anderson**, SDSM&T CHE, 2021.01–05.

[58] **James Wilson**, SDSM&T CHE, 2021.01.

[59] **Alexandra Reader**, SDSM&T BME, 2021.02–05.

[60] **Argenis Blanco**, SDSM&T CHE, 2021.02–2022.05.

[61] **Henry Washnok**, SDSM&T CHE, 2021.05–2021.12.

[62] **Evan McConnell**, SDSM&T BME, REU Back to the Future (2021, 2022), 2021.05–2022.12.

[63] **Christen Gauker**, SDSM&T CHE, 2021.05–08.

[64] **Kevin Baltzer**, SDSM&T CHE, 2021.05–06.

[65] **Wren Jacobs**, SDSM&T ME, 2021.08–2025.05.

[66] **Jacob Fyffe**, SDSM&T Chem/CHE, 2021.08–2023.05.

[67] **Cory Stone**, SDSM&T CHE, 2021.08–2022.12.

[68] **Nathan Andersen**, SDSM&T BME, 2021.08–2022.04.

[69] **Curran Robertson**, SDSM&T ME, 2021.09–12.

[70] **Adam Trapp**, SDSM&T BME, 2021.09–2022.07.

[71] **Ashtyn Meidinger**, SDSM&T BME, 2021.10–2022.05.

[72] **Grace Pettis**, SDSM&T CHE, 2021.11–2023.05.

[73] **Kara Huse**, SDSM&T BME, 2022.02–05.

[74] **Melissa Rothe**, SDSM&T BME, 2022.02–2023.05.

[75] **Megan Major**, SDSM&T BME, 2022.04–05.

[76] **Spencer Mekalson**, SDSM&T CBE, 2022.04–2022.12.

[77] **Kailey Tubbs**, Trinity University EngSci, 2022.05–10.

[78] **Perry Ketelsen**, SDSM&T ME, 2022.08–2024.05.

[79] **Daniel Sechler**, SDSM&T CHE, 2022.08–2023.05.

[80] **Alonna Clair**, SDSM&T BME, 2022.08–2024.05.

[81] **Preston Seamands**, SDSM&T CHE, 2022.09–2022.12.

[82] **Emily Randolph**, SDSM&T CHE, 2023.01–2023.05.

[83] **Caden Vinduska**, SDSM&T ME, 2023.01–2023.05.

[84] **Dakota Remington**, SDSM&T CHE, 2023.02–present.

[85] **Nicholas Lockwood**, SDSM&T Chem/CHE, 2023.08–2024.05.

[86] **Logan Merriam**, SDSM&T CHE, ACE Scholar, 2023.08–2025.05.

[87] **Reid Kaiser**, SDSM&T CHE, 2023.12–2024.05.

[88] **Bailey Finck**, SDSM&T CHE, 2024.08–2025.05.

[89] **Connor Arens**, SDSM&T CHE, 2025.01–2025.05.

[90] **Lily Herwig**, SDSM&T CHE, ACE Scholar, 2025.04–present.

[91] **Johnathan Brickey**, SDSM&T CHE, ACE Scholar, 2025.04–present.

[92] **Isabella Hofmann**, BHSU Biol, SD INBRE SRP, 2025.05–08.

[93] **Calder Lange**, BACE REU, 2025.

ACE Scholars

[1] 2024: **Grayson Glass**, **Evan Gran**, **Allison Kahler**, & **Logan Merriam**

[2] 2025: **Johnathan Brickey**, **Gunner Edson**, **Lily Herwig**, **Anika Main**

UG Senior Project

[1] **Eric Eichenbaum**, **Seth Gwin**, & **Solomon Levinrad**, OSU CHE, 2014.02–06.
Enhanced Particle Removal of Algae-Laden Surfaces Using Viscoelastic Fluids

[2] **Justin Gauvin**, **Ellis Hammond-Pereira**, & **Waleed Al-Zakwani**, OSU CHE, 2017.02–06.
Polymer Characterization for Advanced 3D Printing

[3] **Tavis Allam**, **David Boisjolie**, **Justin Davis**, **Kody Hanson**, **Alexandra Reader**, **Maggie Sebert**, **Ian Waltz**, & **Wyatt Wiening**, SDSM&T ME/BME, 2021.09–2022.05.
NAVD: New Angle Vascular Device

HS Student Researchers

[1] **Alison N. Logia**, SU, RISE: 2011, 2012; Intel ISEF: 2011-2012; 2011.08–2012.05.

[2] **Nicholas Farn**, SU, 2012.06–07.

[3] **Rachid Zniber**, SU, 2012.07–08.

[4] **Annika Gabriel**, OSU, ASE: 2014.

[5] **Albert Cai**, OSU, 2014.06–08.

[6] **Marisa Thierheimer**, OSU, 2014.06–08.

[7] **Caitlin R. Moreno**, OSU, ASE: 2015.

[8] **Renuka Bhatt**, OSU, 2015.06.

[9] **Anika Todt**, OSU, ASE: 2016.

[10] **Kira Ward**, OSU, ASE: 2017.

[11] **Cindy Wong**, OSU, ASE: 2017.

[12] **Jacob Clay**, SDSM&T, 2019.07.

[13] **Nathan Andersen**, SDSM&T, 2019.10–2020.05.

[14] **Steven Rumbaugh**, SDSM&T, 2020.01–05.

[15] **Grace Blote**, SDSM&T, 2020.08–2021.05.

[16] **Wren Jacobs**, SDSM&T, 2021.01–08.

[17] **Perry Ketelsen**, SDSM&T, 2021.01–2022.08.

[18] **John Blote**, SDSM&T, 2021.01–04.

[19] **Emily Hyde**, SDSM&T, AEOP: 2021.

[20] **Beck Bruch**, SDSM&T, 2021.08–2022.08.

[21] **Abigail Flanegan**, SDSM&T, 2022.05–08; AEOP: 2024.

[22] **Samuel Barnes**, SDSM&T, AEOP: 2022; 2023.06–08, 2024.06–08.

[23] **Wilson Miller**, SDSM&T, 2022.05–08 & 2023.06–08.

[24] **Evelyn Haar**, SDSM&T, 2022.06–08 & 2023.06–08.

[25] **Deron Graf**, SDSM&T, 2023.06–07.

[26] **Rhett Miller**, SDSM&T, 2023.06–08.

[27] **Dylan Tipton**, SDSM&T, 2024.06–08; AEOP: 2025.

[28] **Isabel Grinager**, SDSM&T, AEOP: 2024.

[29] **Ann Sheehy**, SDSM&T, AEOP: 2024.

[30] **Emma Kinyon**, SDSM&T, AEOP: 2024; 2025.06-07.

[31] **Aarushi Thatola**, SDSM&T, AEOP: 2024.

[32] **Shourya Goyal**, SDSM&T, AEOP: 2024.

[33] **Brayden Sanderson**, SDSM&T, AEOP: 2025

[34] **Jolee Meagher**, SDSM&T, AEOP: 2025

[35] **James Palecek**, SDSM&T, AEOP: 2025

[36] **Isabella Chow**, SDSM&T, AEOP: 2025

[37] **Nadya Belcher**, 2025.06–present.

[38] **Tyler Mueller**, 2025.06–present.

Graduate Committee Member

[1] **Juan Jose Montesinos**, OSU MEng Chemical Engineering, 2013.12.13.

[2] **Yaodong Zhang**, OSU MEng Chemical Engineering, 2014.12.08.

[3] **Chang Liu**, OSU MEng Chemical Engineering, 2014.12.08.

[4] **Han Song**, OSU PhD Electrical Engineering (advisor: Albrecht Jander), 2013.12–2015.09.
Thesis: *Soft Magnetic Composites for High Frequency Applications.*

[5] **Partha Sheet**, OSU PhD Chemistry (advisor: Dipankar Koley), 2015.06–2017.09.

[6] **Mark Surette**, OSU PhD Environmental Engineering (advisor: Jeffrey Nason), 2015.07–2017.09.

[7] **Garrett Clay**, OSU MS Electrical Engineering (advisor: Pallavi Dhagat), 2016.01–06.
Thesis: *Printing 3D Magnetic Composite Structures with Arbitrary Anisotropy Using UV-curable Magnetic Ink.*

[8] **Pengcheng Qiao**, OSU MEng Chemical Engineering, 2016.08.05.

[9] **Prajwal Adiga**, OSU MS Chemical Engineering (advisor: Willie Rochefort), 2017.06–2018.12.
Thesis: *Hydraulic Jump Dynamics for Water Jet Impingement on Vertically Oriented Rotating Surfaces.*

[10] **Sourva Verma**, SDSM&T PhD Chemical & Biological Engineering (advisor: Kenneth Benjamin), 2018.11–2025.04.
Thesis: *Atomistic Modeling of Biomolecule Adsorption Relevant to Biofilm Formation.*

[11] **Shailabh Rauniyar**, SDSM&T PhD Chemical & Biological Engineering (advisor: Rajesh Sani), 2019.01–2022.12.
Thesis: *Genome to Phenome Response of Microbes Under Stress Environments.*

[12] **Abhilash Kumar Tripathi**, SDSM&T PhD Chemical & Biological Engineering (advisor: Rajesh Sani), 2019.01–2022.05.
Thesis: *Applications of Omics Technology in Deciphering Microbial Mechanisms in Environmental Waste Management.*

[13] **Mikel J. Zaitzeff**, SDSM&T PhD Chemical & Biological Engineering (advisor: Lori Groven), 2019.02–2023.05.
Thesis: *Flexoelectricity in Polymer-Bound Reactive Systems.*

[14] **Nhu Y Mai**, SDSM&T MS Biomedical Engineering (advisor: Timothy Brenza), 2019.11–2021.12.
Thesis: *Developing Paclitaxel Encapsulated Degradable Particles in Nanoscale for the Treatment of Cancer.*

[15] **Lance Kotter**, SDSM&T PhD Materials Engineering & Science (advisor: Lori Groven), 2020.01–2022.09.
Thesis: *Processing and Characterization of Multi-Spectral Pyrotechnic Flares: A Prelude Towards Additive Manufacturing.*

[16] **Eswar ArunKumar Kalaga**, SDSM&T PhD Chemical & Biological Engineering (advisor: Timothy Brenza), 2021.06–12.
Thesis: *Biodegradable Copolymers – Synthesis, Characterization, and Machine-Learning, Deep-Learning for Predicting Properties.*

[17] **Cody J. Allen**, SDSM&T PhD Civil & Environmental Engineering (advisor: Venkata Gadhamshetty), 2021.11–2024.05.
Thesis: *Spatiotemporal Dynamics of Sulfate Reducing Bacteria During Microbial Induced Corrosion.*

[18] **Juwon Olowonigba**, SDSM&T MS Chemical Engineering (advisor: David Salem), 2023.01–12.
Thesis: *Fabrication and Characterization of Functionally Graded Hybrid Syntactic Foams for Impact Energy Absorption Applications.*

[19] **Amelia P. Huffer**, SDSM&T PhD Biomedical Engineering (advisor: Brandon Scott), 2023.11–present.

[20] **Samantha L. Smith**, SDSM&T MS Biomedical Engineering (advisor: Scott Wood), 2023.11–2024.05.
Thesis: *Building Low-cost Optical Tweezers to Study the Mechanical Forces of the Chondrocyte Cytoskeleton in the Context of Osteoarthritis.*

Graduate Council Representative

[1] **Anna Herring**, PhD Environmental Engineering (advisor: Dorthe Wildenschild), 2013.10–2014.12.
Thesis: *An Investigation into the Pore-Scale Mechanisms of Capillary Trapping: Application to Geologic CO_2 Sequestration.*

[2] **Trevor Howard**, PhD Nuclear Engineer (minor: Mechanical Engineering) (advisor: Wade Marcum), 2013.10–2017.09.
Verification and validation in computational multi-physics.

[3] **Partha Sarathi Paul**, MS Electrical Engineering (advisor: Pallavi Dhagat), 2016.11–2017.06.
Thesis: *Design and Implementation of an AC Susceptometer for Measuring Brownian Relaxation Time of Magnetic Nanoparticles Suspended in a Liquid Medium.*

[4] **Nana Adoo**, SDSM&T PhD Materials Engineering and Science (advisor: Grant Crawford), 2023.05–present.

Teaching Experience

Stanford University, Stanford, CA

Teaching Assistant **2010.03–2013.06**

ENGR 20/CHEMENG 20 (3): Introduction to Chemical Engineering, Spring 2010
ENGR 20/CHEMENG 20 (3): Introduction to Chemical Engineering, Spring 2011
CHEMENG 300 (3): Applied Mathematics in the Chemical and Biological Sciences, Fall 2012
CHEMENG 310 (3): Microhydrodynamics, Winter 2013
CHEMENG 470 (3): Complex Fluid Interfaces: Capillarity and Interfacial Dynamics, Spring 2013

Oregon State University, Corvallis, OR

Instructor **2013.09–2017.06**

CHE 507 (1) [44]: Seminar, Fall 2013

CBEE 102/102H (3) [273]: Engineering Problem Solving and Computations, (co: Karl Schilke) Winter 2014
CHE 520 (4) [30]: Mass Transfer, Spring 2014
CHE 299 (6) [30]: Professional Workskills – Material & Energy Balances, (co: Richard Oleksak) Summer 2014
CHE 507 (1) [28]: Seminar, Fall 2014
CBEE 102/102H (3) [282]: Engineering Problem Solving and Computations, Winter 2015
CHE 514 (4) [32]: Fluid Flow, Winter 2015
CHE 599 (3) [10]: Special Topics – Colloids & Interfaces, Spring 2015
CHE 299 (6) [62]: Professional Workskills – Material & Energy Balances, Summer 2015
CBEE 507 (1) [31]: Seminar, Fall 2015
CHE 525 (4) [53]: Chemical Engineering Analysis, Fall 2015
CBEE 102/102H (3) [241]: Engineering Problem Solving and Computations, Winter 2016
CHE 514 (4) [34]: Fluid Flow, Winter 2016
HC 407 (2) [9]: Exploring the Magic of Physics via Hands-On Service Learning, Spring 2016
CBEE 280 (6) [50]: Material and Energy Balances, Summer 2016
CBEE 507 (1) [15]: Seminar, Fall 2016
HC 407 (2) [8]: Exploring the Magic of Physics via Hands-On Service Learning, Spring 2017

South Dakota School of Mines & Technology, Rapid City, SD

Instructor **2017.12–present**

CBE 117L (1) [42]: Programming for Chemical and Biological Engineering, Spring 2018
CBE 250 (2) [26]: Computer Applications in Chemical Engineering, Spring 2018
CBE 318 (3) [29]: Chemical Engineering Mass Transfer, Spring 2018
CBE 476/576 (1) [8/2]: Organosilicon Polymer Chemistry and Technology, (co: Evan Waddell) Spring 2018
CBE 488/588 (2) [4/7]: Applied Design of Experiments for the Chemical Industry, (co: Stat-Ease, Inc.) Spring 2018
CBE 605 (3) [12]: Applied Engineering Mathematics, Fall 2018
CBE 117L (1) [46]: Programming for Chemical and Biological Engineering, Spring 2019
CBE 611 (3) [12]: Chemical Engineering Transport Phenomena, Spring 2019
CBE 612 (3) [5]: Transport Phenomena: Momentum, (co: Mingyang Tan) Summer 2019
CBE 605 (3) [13]: Applied Engineering Mathematics, Fall 2019
CBE 117L (1) [39]: Programming for Chemical and Biological Engineering, Spring 2020
CBE 611 (3) [13]: Chemical Engineering Transport Phenomena, Spring 2020
EXCH 489 (3) [18 (68)]: Student Exchange – International (Advanced Design Project), Spring 2020
CBE 492 (3) [3]: Special Topics – Colloids and Interfaces, Summer 2020
CBE 692 (3) [7]: Special Topics – Advanced Colloids and Interfaces, Summer 2020
CBE 605 (3) [12]: Applied Engineering Mathematics, (co: Mingyang Tan) Fall 2020
CBE 117L (1) [32]: Programming for Chemical and Biological Engineering, (co: Şebnem Özbek) Spring 2021
CBE 611 (3) [8]: Chemical Engineering Transport Phenomena, Spring 2021
EXCH 489 (3) [7 (47)]: Student Exchange – International (Advanced Design Project), Spring 2021
CBE 318 (3) [28]: Chemical Engineering Mass Transfer, (co: Maryam Amouamouha) Fall 2021
CBE 410 (3) [24]: Brewing Science and Engineering, (co: Michael Tomac) Fall 2021
CBE 605 (3) [10]: Applied Engineering Mathematics, Fall 2021
CBE 117L (1) [27 (1)]: Programming for Chemical and Biological Engineering, (co: Şebnem Özbek) Spring 2022
CBE 611 (3) [9]: Chemical Engineering Transport Phenomena, Spring 2022
EXCH 489 (3) [14 (71)]: Student Exchange – International (Advanced Design Project), Spring 2022
CBE 612 (3) [2]: Transport Phenomena: Momentum, Summer 2022
CBE 605 (3) [4]: Applied Engineering Mathematics, Fall 2022
CBE 492/L (1/1) [8]: Special Topics – Polymer Science and Engineering, Spring 2023
CBE 692/L (1/1) [9]: Special Topics – Advanced Polymer Science and Engineering, Spring 2023

EXCH 489 (3) [13 (51)]: Student Exchange – International (Advanced Design Project), Spring 2023
CBE 492/692 (3) [4]: Special Topics – Colloids and Interfaces, Summer 2023
CBE 361L (1) [20]: Chemical Engineering Fluid Laboratory, Fall 2023
CBE 605 (3) [7]: Applied Engineering Mathematics, Fall 2023
CBE 611 (3) [9]: Chemical Engineering Transport Phenomena, Spring 2024
EXCH 489 (3) [8 (74)]: Student Exchange – International (Advanced Design Project), Spring 2024
CBE 492/L (2/1) [4]: Special Topics – Polymer Science and Engineering, Summer 2024
CBE 692/L (2/1) [6]: Special Topics – Advanced Polymer Science and Engineering, Summer 2024
EXCH 489 (3) [7 (72)]: Student Exchange – International (Advanced Design Project), Spring 2025
CBE 292 (3) [3]: Special Topics – Design of Coffee, Summer 2025
CBE 692 (3) [2]: Special Topics – Modeling the Design of Coffee, Summer 2025

Continued Education

Conferences, Symposia, Technical Meetings, & User Groups Attended

Colloidal, Macromolecular & Polyelectrolyte Solutions, Gordon Research Conference, Ventura, California, 2016.02.07-12.

CMP Users Group, Northern California Chapter of the American Vacuum Society, Portland, Oregon, 2017.04.13.

AIChE 2019 Rocky Mountain Student Regional Conference, Golden, Colorado, 2019.04.05–07.

Technical Interchange Meeting, NASA Jet Propulsion Lab, Pasadena, California, 2019.07.30.

Shaqfeh Symposium, Stanford University, Stanford, California, 2019.08.12.

South Dakota Manufacturers Symposium, Sioux Falls, South Dakota, 2021.09.09.

Defense Strategies Institute's 6th Military Additive Manufacturing Symposium, Tampa, Florida, 2022.01.26–27.

AMTA/AWWA Membrane Technology Conference, Las Vegas, Nevada, 2022.02.21–24.

Short Courses Attended

Active and Passive Microrheology: Theory and Experimental Application, The Society of Rheology 87th Annual Meeting, Baltimore, Maryland, 2015.10.10–11.

Light Scattering University, Wyatt Technology Corporation, Santa Barbara, California, 2018.12.11–13.

University of Michigan Local I-Corps, Virtual, 2021.10.01–11.15.

Workshops Attended

Lens of the Market Stage 1: Research2Innovation, ecosVC, Corvallis, Oregon, 2014.05.21.

National Science Foundation (NSF) Grants Conference, NSF, Portland, Oregon, 2016.02.29–03.01.

Conversational Skills for Convening People and Influencing Decisions, Paul Axtell, Corvallis, Oregon, 2016.04.19–20.

Grant Proposal Writing Workshop, Grant Writers' Seminars & Workshops, LLC, Corvallis, Oregon, 2016.04.28–29.

Service

National Science Foundation
Panelist, 2017, 2019, 2021, 2024
National Aeronautics and Space Administration
Reviewer, 2023

American Institute of Chemical Engineers

- Senior Member of AICHE, 2015
- Annual Meeting
  - Program Committee, Area 01J: Engineering Sciences and Fundamentals: Fluid Mechanics
    - Session Chair, Interfacial and Non-Linear Flows: Droplets and Emulsions, 2016
    - Session Co-Chair, Interfacial and Non-Linear Flows: Instabilities and Structure, 2016
    - Session Co-Chair, Colloidal Hydrodynamics: Structure and Microrheology, 2017
    - Session Co-Chair, Poster Session: Fluid Mechanics, 2018
    - Session Co-Chair, Colloidal Hydrodynamics, 2019
    - Session Co-Chair, Poster Session: Fluid Mechanics, 2020
    - Session Chair, Microfluidic and Microscale Flows: Separations and Particulates, 2022
    - Session Co-Chair, Particulate and Multiphase Flows: Emulsions, Bubbles, Droplets, 2023
    - Session Co-Chair, Turbulent, Reactive Flows and Flow Characterization, 2023
    - Session Co-Chair, Active Synthetic and Biological Systems, 2025
  - Future Faculty Mentoring Program
    - Mentee, 2012–13
    - Junior Mentor, 2016–17, 2018–23
  - AIChE Beer Brewing Competition (ABBC)
    - Guest Tasting Judge, 2017
    - Co-Coordinator, 2018
- Annual Student Conference
  - Chem-E-Car
    - Safety Judge, 2013
    - Volunteer, 2017-2018
    - Poster Judge, 2024
  - ChemE Jeopardy, Emcee, 2014–2018, 2020
  - Undergraduate Student Poster Session, Judge, 2014–2016, 2018
- Student Regional Conference (Pacific Northwest, 2015, 2017; Rocky Mountain, 2019)
  - Chem-E-Car
    - Safety Judge, 2015, 2019
    - Volunteer, 2015, 2019

Printing for Fabrication

- Annual Meeting
  - Program Committee
    - Session Chair, PE - Materials, 2018
    - Session Chair, Production Printing, 2018
    - Session Chair, 3D Printing, 2019
    - Instructor, "Exploiting Physical Properties in Printing," 2019
    - Program Chair, 2020

Society of Rheology

- Annual Meeting
  - Program Committee
    - Session Co-Chair, Microrheology and Microfluidics, 2017
    - Session Chair, Active and Directed Systems, 2019
    - Session Chair, Biomaterials, Bio-fluid Dynamics, and Biorheology, 2025
    - Technical Program Co-Chair, 2026
  - Student Poster Session, Judge, 2014, 2018
- Membership Committee, 2023–present

Content Reviewer

ACS Applied Polymer Materials
ACS Petroleum Research Fund
Aerospace Science and Technology
AIChE Journal
ASEE
Biomicrofluidics
Cambridge University Press
Chemical Engineering Science
Composites Science and Technology
Elsevier
Environmental Engineering Science
IEEE Magnetics Letters
Journal of Non-Newtonian Fluid Mechanics
Journal of Rheology
Journal of Surfactants and Detergents
Journal of Theoretical Biology
Journal of Visualized Experiments
Lab on a Chip
Materialia
Materials
Materials & Design
Micromachines
MRS Advances
Nature Communications
Physical Review E
Physical Review Fluids
Physical Review Letters
Physics of Fluids
PLOS One
Polymer Bulletin
Rheologica Acta
Scientific Reports

South Dakota IDeA Network of Biomedical Research Excellence (SD INBRE)

Internal Advisory Council Member, 2025–present
Executive Committee, SDM Liaison, 2024–present
Mentor Approval Committee, Voting Member, 2024–present
Student Research Program (SRP) Approval Committee, Voting Member, 2024–present
Core Director, 2025–present
Alteration and Renovation Progress Committee, Director, 2025–present
Research Match Core (RMC), TECCL Performance Site, Leader, 2025–present
RMC Approval Committee, Voting Member, 2025–present
SRP Mentor, 2025–present

South Dakota School of Mines & Technology

Academic Scholarships
- Central Chapter of the South Dakota Engineering Society Scholar, 2003
- Dow Chemical Scholar, 2003
- Frank and Marie Christopherson Memorial Scholar, 2003–2007
- Harry Jorgenson Scholar, 2003
- Hatterscheidt Scholar, 2003
- Joe Foss, An American Hero Scholar, 2003
- PIMCO Scholar, 2003–2007
- Robert Byrd Memorial Scholar, 2003–2007
- SDSM&T John G. Cover Presidential Scholar, 2003–2007
- USA Funds National Scholar, 2003–2007
- Broin Companies Biochemical Engineering Scholar, 2004, 2005, 2006, 2007
- SDSM&T Frank & Marylin Richardson Scholar, 2004
- SDSM&T Nelson Scholar, 2005, 2006
- Donald F. and Mildred Topp Othmer National AIChE Scholar, 2006
- Tau Beta Pi National Scholar, 2006
- DeForrest and Ethel McKeel Scholar, 2007
- SDSM&T Guy March CSC Scholar, 2007
- SDSM&T Chemical Engineering Alumni Scholar, 2008

Engineers and Scientists Abroad, 2006–2008
- Founding Member, 2006
- Design Engineer, Senior Design, Vicuña, Chile, 2007.05–2008.05

CBE Summer Institute, Presenter, 2018–2019
AIChE Graduate Recruitment Fair, 2018–2021

AIChE Regional Graduate Recruitment Fair, 2024
CBE Faculty Search & Screen Advisory Committee, 2018, 2021, 2022
Commencement Ceremony
- Processional Participant, 178th–180th, 2018–2019; 183rd–184th, 2021; 186th, 2022; 190th, 2024
- Faculty Marshal, 180th, 2019
- CBE Representative, 183rd, 2021

3D Printing Club, Faculty Advisor, 2018–present
- SDBOR Award for Academic Excellence, 2019
- Summer Camp: 3D & Beyond!, 2019, 2021–2024

Grubby's Got Talent Show, Judge, 2019
Delta Sigma Phi (ΔΣΦ), Faculty Advisor, 2019–present
Leadership Hall of Fame, Selection Committee, 2020
NSF EPSCOR RII Track-1 Faculty Search & Screen Committee, 2020
CBE Graduate Program Coordinator, 2020–2024
Council on Graduate Education (CGE), CBE Representative, 2020–2024
Member, SD EPSCoR Early CAREER and Track-4 Workshop, Virtual, 2020.10.27
Workshop on 3D Printing for the Future, 2021–2022
CBE Department Head Search & Screen Advisory Committee, 2021, 2022, 2023
SD CAREER Mentor Network, 2021
Karen M. Swindler Committee, 2022–present
OFDA Circular Peer Mentoring, Associate Professor Mentoring Circle Participant, 2021–2024
CBE POET Faculty Search & Screen Advisory Committee, 2022
OFDA Promotion & Tenure Success Panel: Assistant to Associate, 2023
Empower and OFDA Exemplary Contributions to Circular Peer Mentoring, 2022–2023
CBE Department Promotion & Tenure Committee, 2023–2024
Homecoming Coronation, Escort, 2023
Advocates & Allies, Advocate, 2024–2025.

Oregon State University

CBEE Student Club, Chem-E-Car, Team Advisor, 2013–2017
CBEE Graduate Committee (Graduate Education and Research), Member, 2013–2016
  Graduate Progression Subcommittee, 2014–2015
  Graduate Recruitment Subcommittee, Chair, 2015–2016
    AIChE Graduate Recruitment Fair, 2013–2015

SESEY, Mentor, 2014-2017 [22 students]
CBEE Gleeson Hall Reallocation Committee, Member, 2014.09–11
CBEE Graduate Program Coordinator Hiring Committee, Member, 2015.10–12
COE Strategic Planning Task Force (Education), Member, 2014.10–11
COE Undergraduate Marshal, 146th–148th Commencement Ceremony, 2015–2017
OPA, 4th Annual Postdoc Research Symposium, Judge, 2015
COE New Student Walk and Convocation, 2015
EWB, Nicaragua Program, Team Mentor, 2014–2016
OR-AMP/PNW LSAMP Conference, Judge, 2017

Stanford University

Stanford Brewing Club, Founding Member, 2010–2013
Stanford Outdoors, 2008–2013
- Climbing Instructor, Stanford Alpine Club, 2009–2012
- Instructor, Stanford Outdoor Education Program, 2010–2013

Teaching Assistant Evaluation Coordinator, Department of Chemical Engineering, 2010.03–2012.07
Member, PhD Pathways: Applying to Teaching-Focused Universities and Colleges Panel, Stanford University, 2013.05.30.

Saturday Academy

Apprenticeships in Science and Engineering (ASE) Program

ASE Mentor, 2014–2017
ASE Symposium Session Presider, 2014, 2015, 2017
ASE Midsummer Conference Workshop Organizer, "3D Printing the Future," 2014–2017

Science Fair

Alison Logia, "Role of Reynolds Number on Liquid-Liquid Drop Experiments," 2012
Intel ISEF
U.S. Patent Trade Office First Place Special Award
California State Science Fair
San Francisco Bay Area Science Fair
First Place Senior Physical Science Division
ASM Materials Education Foundation Special Award
Best in Show Senior Physical Science Division
San Mateo County Science, Technology, Engineering & Math Fair
First Place Senior Physical Science Division

Other
Central Western Oregon Science Expo, Judge, 2014, 2015
Intel ISEF, Chaperone, 2012

Scouting America (Formerly Boy Scouts of America)
Sioux Council, 1990–2003
– Troop 100, Winner, SD, 1990–2003
  – Eagle Scout, 2001
– Order of the Arrow (OA), Tetonwana Lodge #105, 1999
  – Ordeal, 1999
  – Brotherhood, 2000
– Troop 1428, National Scout Jamboree, 2001

Pacific Skyline Council, 2009–2013
– Troop 52, Stanford, CA, 2009–2013
  – Assistant Scoutmaster, 2009–2011
  – Scoutmaster, 2012–2013
  – Philmont Lead Advisor, Crew 810-M, 2012.08.10–17
– OA Ohlone Lodge #63, 2009
– Merit Badge Counselor, 2009–2013
– Climbing Instructor, 2010–2013
– Boy Scout Leader's Training Award, 2012
– Wood Badge, Participant, W3-55-12-1

Oregon Trail Council, 2014–2018
– Merit Badge Counselor, 2014–2018
– OA Tsisquan Lodge #253, 2014
– Pack 144, Corvallis, OR, 2015–2018
  – Lion Guide, 2017–2018
  – Assistant Cubmaster, 2017–2018
– Corvallis Cub Scout Day Camp Staff, 2017

Black Hills Area Sioux Council (formerly Black Hills Area Council, 2018-2025), 2018–present
– Troop 44, Rapid City, SD, 2020–present
  – Assistant Scoutmaster, 2020–2022
  – Scoutmaster, 2022–present
  – Sea Base Lead Advisor, Crew CR032926-F, 2026.03.29–04.03
– Pack 54, Rapid City, SD, 2018–2022
  – Assistant Cubmaster, 2018–2020
  – Cubmaster, 2020–2022
  – Webelos Den Leader, 2021–2022
  – Pack Guide, 2022
– OA Crazy Horse Lodge #171, 2019–present

- Merit Badge Counselor, 2018–present
- Orion Advisor, Crew OP-718H, 2021.07.17–28
- BHAC Cub Scout Day Camp Staff, 2021
- Wood Badge
  - Staff, Troop Guide, NST4-695-22
  - Staff, Assistant Director (Scoutmaster) of Troop Guides, CST4-695-25
- Philmont Lead Advisor, Crew 806-7E, 2023.08.06–14
- Northern Tier Advisor, Crew ES060624-E, 2024.06.06–13
- Philmont Advisor, Crew 609-9A, 2025.06.09–18
- National Jamboree, BHASC Scoutmaster, 2026

South Dakota High School Activities Association, Assistant Wrestling Coach
St. Thomas More High School, Rapid City, SD, 2004–2005
Rapid City Stevens High School, Rapid City, SD, 2005–2008
Westside Wrestling, Rapid City, SD
- Board Member, 2020–2022
- Director of Coaching, 2021–2022

Industrial Collaborations and Consultations

Applied Materials
Cellphire, Inc.
DuPont
HP, Inc.
ideaCHEM
InnoSense LLC
KMG Chemicals, Inc.
Novum Nano
OFD Foods, LLC
Procter & Gamble
Plural Additive Manufacturing
Swagelok Company

Funding Sources: Walker Research Group (SDSM&T)
Active funding is denoted with an asterisk (*).

[1] *SDSM&T Mining Hub, "Supercritical Fluid Extraction of Rare-Earth Elements," $99,976. T.W. Walker, L.J. Groven, K.J. Donovan. 2025.05.22–2026.05.21.

[2] *NASA EPSCoR R3, "RFA-075, Investigating the Deleterious Effects of Radiation in a Human Microphysiological Vascular Platform, HEOMD," $100,000. E.F. Duke (PI), T.W. Walker (Sc-I). 2024.09.01–2025.08.31 (NCE: 2026.08.31).

[3] *AEOP, "U.S. Army Apprenticeships at South Dakota Mines," $72,000. K.J. Donovan (PI), T.W. Walker (Co-PI). 2024.02.01–2026.11.30.

[4] The 100K Innovation Fund, "Increasing the Partnership, Technical Training, and Exchange of Students between UPC-PERU, Lima, PE, and SDSMT, Rapid City, USA," $36,058. 2023.02.01–2024.01.31.

[5] DOE VFP LLNL, "Leveraging Advanced Voxel-Level Engineering via Additive Manufacturing for Directed Heat and Mass Transfer in Electrochemical Reactors," $15,000. T.W. Walker. 2022.05.01–2022.08.15.

[6] NSF EPSCoR RII Track-1 Seed, "Comparison of Electrospun Nanofiber Membranes (ENMS) and Centrifugal Nanofiber Membranes (CNMS) Performance in Biofilm Growth Control on 2D Surfaces," $6,000. M. Amouamouha, D.M. Kavunga, T.W. Walker. 2022.01.01–2022.09.01.

[7] NSF EPSCoR RII Track-1 Seed, "Use of Novel Degradable Surface Coatings for Enhanced Biofilm Growth," $5,000. W.R. Duffie, C.J. Allen, T.W. Walker, K.J. Donovan, T.M. Brenza, T.S. Filipova. 2022.01.01–2022.08.01.

[8] NSF EPSCoR RII Track-1 Seed, "Materials and Manufacturing Education (MME) for the Next Generation," $48,941. K.J. Donovan (PI), T.W. Walker (Co-PI). 2021.10.01–2022.09.30.

[9] Alternatives Research & Development Foundation (ARDF), "Development of a Physiologically-Relevant, Serum- and Animal-Free In Vitro Angiogenesis Assay," $40,000. T.W. Walker (PI), T.M. Brenza, T. Özdemir. 2021.08.22–2022.08.21 (NCE: 2023.08.21).

[10] NIOSH MCOHS-ERC PPRTP, "Investigating the Pro-inflammatory Response of Endothelial Cells to Titanium Dioxide Nanoparticles," $20,000. L.A.E. Brunmaier, T.W. Walker. 2021.07.01–2022.06.30 (NCE: 2023.06.30).

[11] NASA NNH17ZTT001N-17PSI_F, "Investigation of Aspherical Magnetic Particles in Low-Gravity Environments," $200,000. T.W. Walker (PI), M. Tan. 2020.12.22–2022.12.21 (NCE: 2023.12.21).

[12] South Dakota Bioscience Commercialization Alliance i6, "From research to commercialization: An additive manufacturing-based solution in developing polymer based conformal antennas for biofilm applications," $11,000. S. Roy (PI), V.R. Gadhamshetty (Co-PI), B. Jasthi, T.W. Walker. 2020.06.01–2021.05.31.

[13] Dakota Research And Consulting Organization (DRACO), "Complex Fluids Research Fund," $2,625. T.W. Walker. 2020.05.15.

[14] NSF EPSCoR RII Track-1 Seed, "Multifractal and Multiscale Data Analytics for Biofilm Rheology Prediction," $50,000. S. Ragi (PI), T.W. Walker (Co-PI), J. Kalimuthu (Co-PI). 2020.01.02-2021.01.01.

[15] DOE ORNL CNMS, "A computational and experimental study of dynamics, rheological properties, and magnetic properties of suspensions of magnetic particles," 80,000 CPU-hours NTI Computational Cluster, capacity computing. T.W. Walker (PI), M. Tan. 2020.02.01–2021.01.31 (NCE: 2022.01.31).

[16] Providence Portland Medical Foundation, Elsie Franz Finley Oncology Nursing Education Fund, "Efficacy of Using Meat Tenderizer for Thick Saliva in Head and Neck Cancer Patients," $2,054. A.M. Mar, T.W. Walker, L. Savage, S. Seung, B. Bell. 2019.07.01–2020.06.30.

[17] NASA EPSCoR R3, "Experiments and Simulations of Microbial Growth in Rotating Bioreactor," $100,000. E.F. Duke (PI), T.W. Walker (Sc-I), M. Tan. 2019.08.22–2020.08.21 (NCE: 2021.08.21).

[18] SDSM&T, Nelson Research Grant, "Novel Platform for Engineering In Vitro Vascular Grafts," $5,000. T.W. Walker (PI), T.M. Brenza. 2019.07.01–2020.06.30.

[19] SDBOR, FY19 Research & Development Innovation Grant, "Advanced Materials Characterization Equipment for Materials, Environmental, and Energy Initiatives," $192,520. J.A. Puszynski (PI), L.J. Groven, E.F. Duke, G.A. Crawford, J.J. Kellar, W.M. Cross, D.M. Waterman, T.W. Walker, P.C. Gilcrease, D.J. Dixon, D.R. Salem. 2018.08.22–2021.06.15.

Funding Sources: AMBER Aqua

[1] South Dakota Governor's Giant Vision Business Competition, AMBER Aqua, First Place: $20,000, 2022.04.14.

[2] NSF I-Corps, "AMBER," $50,000. T.W. Walker (PI/TL), M. Amouamouha (EL), R. Wells (IM). 2022.04.15–2022.09.30 (NCE: 2024.03.31).

[3] South Dakota FAST Launch: Business Plan Implementation, "AMBER," $10,000. M. Amouamouha, T.W. Walker. 2022.03.01–2022.09.30.

[4] South Dakota FAST Launch: Customer Discovery, "AMBER," $1,500. M. Amouamouha, T.W. Walker. 2021.12.21.

[5] SDBOR, FY20 Research & Commercialization Grant, "Anaerobic Enhanced Membrane Bioreactor (AEMBR)," $30,000. T.W. Walker (PI). 2020.06.22–2021.06.21 (NCE: 2022.06.30).

[6] Sioux Steel Company, "Complex Fluids Research Fund," $20,000. M. Amouamouha, T.W. Walker. 2020.02.25.

Funding Sources: Disappex

[1] South Dakota Governor's Giant Vision Student Competition, Disappex, First Place: $5,000, 2022.04.14.

[2] DOD NSIN Emerge, "Disappearing 4D Advanced Materials," $15,000. W.R. Duffie, T.W. Walker. 2022.05.16–2022.07.29.

[3] South Dakota FAST Launch: Customer Discovery, "Splad," $1,500. W.R. Duffie, T.W. Walker. 2022.01.03.

[4] SDBOR, FY21 Competitive Research Grant, "Synthesizing Novel Degradable Polymers with Tunable Properties for Applications in Advanced Manufacturing," $90,000. T.W. Walker. 2021.08.22–2022.08.21 (NCE: 2023.08.31).

Funding Sources: Walker Research Group (OSU)

[1] NSF CBET PMP, "CAREER: Engineering Designer Composite Materials – Magnetically Controlling Filler Alignment of Oblate Spheroids in Novel Thermoset Metamaterials," $548,491. T.W. Walker (PI). 2017.04.01–2022.03.31 (NCE: 2023.03.31).

[2] HP, Inc., "Advanced rheological and thermal characterization of novel inks with applications in precision nozzle design using DNS," $108,000 (includes $8,000 ONAMI match). T.W. Walker (PI), D.M. Hill. 2017.01.01–2017.12.31.

[3] OSU, MIME Strategic Excellence Award, "Shared Multi-Material 3D Printer to Catalyze Collaborative Research into Printing Processes, Materials, and Applications," $10,000. Y. Mengüc (PI), T.W. Walker, W.E. Rochefort. 2016.11.14.

[4] OHSU/OSU Cancer Prevention and Control Initiative: Knight Horizon Team Building Pilot Projects, "Role of platelets activation in colon cancer metastasis under coagulation and shear," $10,000 (excludes indirect costs). T.W. Walker (PI), O.J.T. McCarty, P. Dhagat, A. Jander. 2016.01.01–2016.12.31.

[5] HP-OSU, Seed Fund, "Advanced rheological characterization of high-solid inks, 3D printing functional materials, and biofluids," $20,800 (includes $800 ONAMI match, excludes indirect costs and internal 34% match). T.W. Walker (PI), W.E. Rochefort, A. Govyadinov, P. Kornilovich. 2015.09.01–2016.02.28.

[6] Medical Research Foundation of Oregon, New Investigator Grant, "Investigating particle adhesion and penetration in pulmonary mucus to prevent bacterial biofilm formation," $40,000 (excludes indirect costs). T.W. Walker (PI). 2014.12.01–2016.11.30.

[7] Applied Materials, "Complex Fluids Research Fund," $50,000. T.W. Walker (PI). 2014.09.25.

[8] Student Sustainability Initiative (SSI) Research Grant, Oregon State University, "Removing Plastics from the OSU Waste Stream," $3,000. N. Jursik (UG), W.E. Rochefort (PI), T.W. Walker (Co-PI). 2014.06.19.

[9] Oregon State University, Research Equipment Reserve Fund (RERF), "TA Instruments DHR-3," $48,950 (excludes internal 34% match). T.W. Walker (PI), W.E. Rochefort, J.E. Parker. 2014.01.14.