THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering
Standard Resume

FULL NAME: Jeanne C. Stachowiak **TITLE:** Associate Professor
DEPARTMENT: Biomedical Engineering

CITIZENSHIP: U.S.

EDUCATION:

University of Texas at Austin	Mechanical Engineering	BSME	Spring 2002
University of California, Berkeley	Mechanical Engineering	MS	Spring 2004
University of California, Berkeley	Mechanical Engineering	Ph.D.	Spring 2008

CURRENT AND PREVIOUS ACADEMIC POSITIONS:

University of Texas at Austin	Associate Professor (tenured)	Fall 2018-present
University of Texas at Austin	Assistant Professor	Spring 2012-Fall 2018

OTHER PROFESSIONAL EXPERIENCE:

Sandia National Laboratories	Senior Member of Technical Staff	Aug. 2008-Jan. 2012
Sandia National Laboratories	Member of Technical Staff	July 2004 – Sept. 2005

HONORS AND AWARDS:

Honors and Awards

- 2014 National Science Foundation CAREER Award, Division of Materials Research
- 2016 "New and Notable" Lecturer at the Annual Meeting of the Biophysical Society
- 2017 Selected for the "Future of Biochemistry" special issue of the journal, *Biochemistry*, a publication of the American Chemical Society edited by Prof. Alana Shepartz, published January 2018.
- 2017 Young Innovator of the Biomedical Engineering Society, awarded at the Annual Meeting of the Biomedical Engineering Society (BMES) in October, 2017.
- 2017 Annual "Student Selected Speaker" of the *Structural and Quantitative Biology Seminar Series* at the University of California, Berkeley
- 2018 Banks McLaurin Fellow in Engineering, Cockrell School of Engineering, University of Texas at Austin.
- 2019 Keynote Speaker at the inaugural conference honoring National Science Foundation CAREER awardees, NSF BIO division.
- 2020 Elected to the UT Austin Faculty Council.

Honors and Awards Prior to Joining UT Austin

- 2002 Bachelor's of Science in Mechanical Engineering with highest honors, The University of Texas at Austin,

TX

- 2002 National Defense Science and Engineering Graduate Fellowship Program Awardee
- 2002 ARCS Foundation Graduate Research Fellow
- 2002 National Science Foundation Graduate Research Fellow
- 2005 Sandia National Laboratories, Team Excellence Recognition Award
- 2005 Sandia National Laboratories, Award for Individual Employee Excellence
- 2008 Soroptimist Founder Region Dissertation Fellowship Award
- 2011 Cornell University Distinguished Honor for Faculty Mentoring of Co-op Students

DISCLOSURES, PATENTS PENDING AND PATENTS AWARDED

J. C. Stachowiak, D. A. Fletcher, T. H. Li, S. Parekh, A. P. Liu, D. L. Richmond, E. Schmid, "Forming an Artificial Cell with Controlled Membrane Composition, Asymmetry, and Contents," US Provisional Patent Pending, Application Number 20130028963.

J. C. Stachowiak, H. D. C. Smyth, A. K. Gadok, S. Ferrati, C. Zhao, "Vesicles for Delivery of Functional Transmembrane Proteins," U.S. Provisional Patent Application No. 62/245,665

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES

- Biophysical Society, 2010-Present
- Biomedical Engineering Society, 2011-Present
- Society for Biomaterials, 2015-Present
- Americal Society for Cell Biology, 2012-Present
- American Chemical Society, 2010-Present
- American Physical Society, 2014-Present
- Tau Beta Pi, 2002-Present

UNIVERSITY COMMITTEE ASSIGNMENTS

Departmental Committee Service

- Member, Graduate Student Recruiting Committee, 2012-2013
- Faculty Recruiting Committee, 2012-2014, 2017-2018, 2018-2019
- Undergraduate Laboratory Curriculum Committee, 2013-2014
- UT BME Grant Review Committee for Texas 4000 Foundation Seed Grants, 2013-2014
- Chair of the BME Staff Excellence Committee, 2014
- Co-Chair, Graduate Student Recruiting Committee, 2014-2015
- Chair, Graduate Student Recriting Committee, 2015, 2016, 2017-Present
- T32 NIH Training Grant Executive Committee, 2016-present

Cockrell School of Engineering Service

- New faculty orientation panel member, 2013, 2014

- CSE Accreditation and Assessment Committee, 2014-2016
- Faculty careers panel for graduate students, 2016
- Inaugural member of College of Engineering Diversity, Equity, and Inclusion Committee, 2019-2020
- College of Engineering Awards Committee, 2020-present

University Service

- NSF CAREER Panel Member for the Office of the Vice President of Research, 2016
- George H. Mitchell Award Selection Committee, 2016, 2017, 2019, 2020
- UT Austin Faculty Council Member, 2020-2022
- Member of the Faculty Advisory Committee on the University Budget, 2020-present

PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES:

Professional Society/Conference Organization

- 2009 Biophysical Society, Session Chair at the Annual Meeting in San Francisco, CA
- 2012 Biomedical Engineering Society, Session Chair at the Annual Meeting in Atlanta, GA
- 2013 Biophysical Society, Session Chair at the Annual Meeting in Philadelphia, PA
- 2015 Biophysical Society, Session Chair at the Annual Meeting in Baltimore, MA
- 2017 Biophysical Society, Session Chair at the Annual Meeting in New Orleans, LA
- 2017 American Chemical Society, Session Chair at the National Meeting in San Francisco, CA
- 2017 Organizer of the "Biomaterials Day" Conference at the University of Texas at Austin on behalf of the Society for Biomaterials.
- 2018 Biophysical Society, Chaired the Symposium on "Membrane Bending: Mechanisms and Consequences" at the Annual Meeting in San Francisco, CA

Review Committees

- National Science Foundation Grant Review Panelist for Division of Molecular and Cellular Biosciences, 2015
- National Institutes of Health Grant Review Panelist for Member Conflicts in the Biological Chemistry and Macromolecular Biophysics, 2016
- National Science Foundation Mail-in Grant Reviewer for Division of Molecular and Cellular Biosciences, 2016
- National Science Foundation Grant Review Panelist for Division of Molecular and Cellular Bioscience, 2017
- National Institutes of Health Grant Review Service for Study Section: Biochemistry and Biophysics of Membranes (BBM), 2017
- National Institutes of Health Grant Review Service for Study Section: Gene and Drug Delivery (GDD), 2019
- National Institutes of Health Grant Review Service for Study Section: Membrane Biology and Protein Processing (MBPP), 2019, 2020
- National Institutes of Health Grant Review Service for Study Section: NIGMS MIRA Special Emphasis Panel, 2020
- Standing Member of the National Institutes of Health MBPP (Membrane Biology and Protein Processing) Review Group, 2021-2025
- Journal Peer Review (alphabetical): ACS Applied Materials and Interfaces, BBA Biomembranes, Biophysical

Journal, eLife, IEEE Transactions of Biomedical Engineering, iScience, Journal of the American Chemical Society, Journal of the Federation of American Societies for Experimental Biology (FASEB), Lab on a Chip, Langmuir, Materials Chemistry B, Materials Science and Engineering C, Nature, Nature Cell Biology, Nature Communications, Physical Review Letters, PLOS One, Royal Society of Chemistry Advances, Science Advances, Soft Matter

RESEARCH SYNOPSIS: Laboratory of Jeanne C. Stachowiak

Through quantitative molecular-scale measurements in reconstituted systems and living cells, research in my laboratory aims to elucidate the physical mechanisms that organize and shape membranes during dynamic cellular processes. Specifically, my research program is focused on two broad goals: (i) to advance basic understanding of the physical mechanisms that organize and shape cellular membranes; and (ii) to design novel biomembrane materials that are capable of interacting with cells in ways that mimic cell-cell communication.

(i) My overall research objective in membrane biophysics is to advance basic understanding of the physical mechanisms that organize and shape cellular membranes. Curved membranes are an essential feature of diverse cellular structures including endocytic pits, trafficking vesicles, and most organelles. These and other curved membrane structures play important roles in numerous human diseases, motivating the study of the molecular-level mechanisms that drive membrane curvature. When I started my independent lab, the general consensus was that proteins induce curvature through two primary mechanisms: (i) membrane scaffolding by curved proteins or complexes, and (ii) insertion of wedge-like amphipathic helices into the membrane. Notably, both of these mechanisms require proteins to have specific structural features. In contrast, my lab's early work demonstrated a new general mechanism of membrane bending, which is independent of protein structure – *membrane bending by protein crowding*. Here we used a combination of quantitative *in vitro* assays, live cell imaging experiments, and physical modeling to show that lateral pressure generated by collisions among crowded, membrane bound proteins provides a surprisingly potent driving force for membrane curvature and fission by proteins of arbitrary structure (Stachowiak PNAS 2010; NCB 2012, 2013).

Building on these findings, a key insight that shaped the next stage of our work was that intrinsically disordered domains, ubiquitous among the endocytic protein machinery, are surprisingly potent drivers of membrane crowding owing to their large hydrodynamic radii (Busch, Stachowiak N Comms 2015). Our work in this area has demonstrated that crowding effects, rather than previously hypothesized membrane insertions, are responsible for membrane fission by several endocytic proteins (Snead, Stachowiak PNAS 2017), and that disordered proteins, despite their lack of structure, are highly sensitive to membrane curvature (Zeno, Stachowiak N Comms 2018; JACS 2019). Collectively this work has shown that when non-interacting disordered proteins are crowded together at membrane surfaces, repulsion among them drives the membrane to curve outward, forming protein-coated tubules and buds.

Interestingly, rather than repelling one another, many disordered proteins have recently been found to assemble together via weak, multi-valent interactions, forming networks that have the physical properties of liquids. Notably, recent studies have suggested that liquid-liquid phase separation of membrane-bound proteins plays an important role in diverse cellular processes that take place at membrane surfaces. How might liquid-liquid phase separation of proteins at membrane surfaces impact membrane curvature? Our recent work has used synthetic and cell-derived membranes to show that liquid-liquid phase separation of membrane-associated disordered proteins creates a substantial compressive stress in the plane of the membrane. This stress drives the membrane to bend away from the

protein layer, creating protein-lined membrane tubules. Discovery of this mechanism, which may be relevant to a broad range of membrane protrusions, illustrates that membrane remodeling is not exclusive to structured scaffolds, but can also be driven by the rapidly emerging class of liquid-like protein networks that assemble at membranes (Yuan Stachowiak PNAS 2021).

Looking more broadly at the possible role of protein liquids in membrane biology, our most recent work has examined the role of protein phase separation during endocytosis. During clathrin-mediated endocytosis, dozens of proteins assemble into an interconnected network at the plasma membrane. Early initiators of endocytosis concentrate downstream components, while permitting dynamic rearrangement within the budding vesicle. Our work showed that these initiators rely on weak, liquid-like interactions to catalyze endocytosis. In vitro, these weak interactions promote the assembly of protein droplets with liquid-like properties. To probe the physiological role of these liquid-like networks, we tuned the strength of initiator protein assembly in real time using light-inducible oligomerization. Low light levels drove liquid-like assemblies, restoring normal rates of endocytosis in initiator knockout cells. In contrast, initiator proteins formed solid-like assemblies upon exposure to higher light levels, which stalled vesicle budding, likely owing to insufficient molecular rearrangement. These findings suggest that liquid-like assembly of initiator proteins provides an optimal catalytic platform for endocytosis (Day Stachowiak NCB 2021).

Going forward, the idea of a transition between a stochastic, disordered protein network toward a more ordered structure that is capable of deterministic outcomes provides a template for understanding many processes in membrane biology. At present my group is focused on characterizing these "disorder to order" transitions using a diverse toolset, which includes in vitro biochemistry, engineered live cells, diverse modalities of quantitative and single molecule light microscopy, and deep collaborations with theorists who work across a range of length scales. Looking toward the future, *our broad vision is to use the principles and methods of biophysics to explain how functional protein complexes emerge dynamically and efficiently from the staggering complexity of cellular membrane surfaces*. This work, which crosses boundaries between many fields, requires a collaborative and adaptive laboratory, which integrates individuals from diverse scientific backgrounds. This work has been funded consistently since 2014 by a series of NIH NIGMS R01 and R35 awards (R01GM112065 (renewed), R01GM120549, R35139531).

(ii) My overall research objective in biomaterials is to design novel biomembrane materials that are capable of interacting with cells in ways that mimic cell-cell communication. Toward this goal, a key unmet challenge in medicine is the delivery of drugs specifically and efficiently to the cytoplasm of diseased cells. We have approached this problem through several distinct projects, each of which adopts molecular-level mechanisms of cell-cell interaction to achieve delivery. One such project utilizes the cellular gap junction network to deliver drugs directly to the cell cytoplasm. Gap junction networks consist of transmembrane channels composed of connexin proteins that connect the cytoplasm of neighboring cells. Our work has demonstrated that connexin containing vesicles open efficient passageways for the delivery of drugs to the cytoplasm, reducing the cytotoxic dose of a chemotherapeutics by more than an order of magnitude in comparison to free drugs and existing liposomal formulations (Gadok and Stachowiak, *Journal of the American Chemical Society*, 2016). Additional work has demonstrated the ability to target these and other cell-derived vesicles to specific populations of cells (Zhao and Stachowiak, *Small*, 2016). In a second project we have used the biophysical phenomenon of lipid membrane phase separation to locally concentrate fusogenic lipids on the surfaces of liposomes. Our results demonstrate that this strategy substantially increases the efficiency of liposomal fusion to cellular membranes, enabling macromolecular delivery to the cellular cytoplasm (Imam and Stachowiak, *Cellular and Molecular Bioengineering*, 2017, BMES Young Innovator Award Issue). This work has been supported by a CAREER Award from the National Science Foundation (DMR1352487, PI Stachowiak, 2014-2019) and an exploratory research grant from the National Institutes of Health (R21EB025490, 2018-2021).

Over the long-term I envision designing membrane-based biophysical experiments and molecular machines that recapitulate cellular processes and actuate specific responses from cells. Such systems will have a far-reaching impact in medicine by revealing biophysical mechanisms, reducing the side effects of drug therapy, and moving beyond conventional drugs toward integrated macro-molecular systems that precisely modulate the behavior of target cells. The strengths that my lab is building in quantitative measurement, design of novel membrane-based materials, and biophysical modeling have positioned us to play a leading role in these emerging areas.

PUBLICATIONS:

A. Refereed Archival Journal Publications

Published as a Faculty Member at UT Austin
Underline indicates Stachowiak Lab members

1. J. C. Stachowiak*, E. M. Schmid*, C. J. Ryan, H. S. Ann, D. Y. Sasaki, M. B. Sherman, P. L. Geissler, D. A. Fletcher*, C. C. Hayden*, "Membrane bending by protein-protein crowding," *Nature Cell Biology*, vol. 9, p. 944-949, 09/2012. **Corresponding author*
2. C. S. Scheve, P. Gonzales, N. Momin, J. C. Stachowiak*, "Protein-protein crowding resists membrane phase separation," *Journal of the American Chemical Society*, vol. 135, p. 1185-1188, 01/2013. **Corresponding author*
3. D. Y. Sasaki, N. Zawada, S. F. Gilmore, P. Narasimmaraj, M. A. Sanchez, J. C. Stachowiak, C. C. Hayden, H. L. Wang, A. N. Parikh, A. P. Schreve, "Lipid Membrane Domains for the Selective Adsorption and Surface Patterning of Conjugated Polyelectrolytes,", *Langmuir*, vol. 29, p. 5214-5221, 04/2013.
4. J. C. Stachowiak, F. Brodsky, E. Miller "A Cost-Benefit Analysis of the Physical Mechanisms of Membrane Curvature", *Nature Cell Biology*, vol. 15, p. 1019-1027, 09/2013.
5. C. W. Coyne, K. Patel, J. Heureaux, J. C. Stachowiak, D. A. Fletcher, A. P. Liu, "Lipid Bilayer Vesicle Generation Using Microfluidic Jetting" *Journal of Visualized Experiments*, DOI: 10.3791/51510, p. e51510-e51510, 2014.
6. N. Momin, S. Lee, A. K. Gadok, D. J. Busch, G. D. Bachand, C. C. Hayden, J. C. Stachowiak, D. Y. Sasaki "Designing Lipids for Selective Partitioning Into Liquid Ordered Membrane Domains", *Soft Matter, vol.* 11, p. 3241-3250, 03/2015.
7. D. J. Busch, J. R. Houser, C. C. Hayden, M. B. Sherman, E. M. Lafer, J. C. Stachowiak*, "Crowding Among Intrinsically Disordered Proteins Modulates the Curvature and Content of Clathrin-Coated Vesicles", *Nature Communications*, vol. 6, doi:10.1038/ncomms8875, 07/2015. **Corresponding author*
8. J. R. Houser, D. J. Busch, D. R. Bell, B. Li, P. Ren, J. C. Stachowiak*, "The Impact of Physiological Crowding on the Diffusivity of Membrane Bound Proteins", *Soft Matter*, vol. 12, p. 2127-2134, 01/2016. **Corresponding author*
9. Z. I. Imam, L. E. Kenyon, A. Carrillo, I. Espinoza, F. Nagib, J. C. Stachowiak*, "Steric Pressure Among Membrane-bound Polymers Opposes Lipid Phase Separation", *Langmuir*, vol. 32, p. 3774-3784, 04/2016. **Corresponding author*
10. C. Zhao, D. J. Busch, C. P. Vershel, J. C. Stachowiak*, "Multi-functional Transmembrane Protein Ligands for Cell-Specific Targeting of Plasma Membrane-derived Vesicles", *Small*, vol. 12, p. 3837-3848, 07/2016 **Corresponding author*
11. S. S. Bordovsky, C. S. Wong, G. D. Bachand, J. C. Stachowiak, D. Y. Sasaki, "Engineering Lipid Structure for Recognition of the Liquid Ordered Membrane Phase", *Langmuir*, vol. 32, p. 12527-12533, 10/2016.
12. A. K. Gadok, D. J. Busch, S. Ferrati, B. Li, H. D. C. Smyth, J. C. Stachowiak*, "Connectosomes for Direct Molecular Delivery to the Cellular Cytoplasm", *Journal of the American Chemical Society*, vol. 128, p 12833-12840, 09/2016. **Corresponding author*
13. M. Chabanon, J. C. Stachowiak, P. Rangamani, "Systems biology of cellular membranes: a convergence with biophysics" *Wiley Interdisciplinary Reviews: Systems Biology and Medicine*, DOI: 10.1002/wsbm.1386, 04/2017.
14. W. T. Snead, C. C. Hayden, A. K. Gadok, P. Rangamani, C. Zhao, E. M. Lafer, J. C. Stachowiak*, "Membrane Fission by Protein Crowding", *PNAS*, vol. 114, p E3258-E3267, 03/2017. **Corresponding author*
15. Z. I. Imam, L. E. Kenyon, G. Ashby, F. Nagib, M. Mendicino, C. Zhao, A, K. Gadok, J. C. Stachowiak*, "Phase Separating Liposomes Enhance the Efficiency of Macromolecular Delivery to the Cellular

Cytoplasm," *The Journal of Cellular and Molecular Bioengineering,* 2017 BMES Young Innovator Award Special Issue, vol. 10, p. 387-403, 05/2017. **Corresponding author*

16. S. Ferrati, A. K. Gadok, L. A. Heersema, A. D. Brunaugh, C. Zhao, H. D. C. Smyth*, J. C. Stachowiak*, "Connexin Membrane Materials as Potent Inhibitors of Breast Cancer Cell Migration," *The Journal of the Royal Society Interface,* vol. 14, 08/2017. **Corresponding author*

17. A. K. Gadok, C. Zhao, A. I. Meriwether, S. Feratti, J. Zoldan, H. D. C. Smyth, J. C. Stachowiak*, "Display of Single-Domain Antibodies on the Surfaces of Connectosomes Enables Gap Junction Mediated Drug Delivery to Specific Cell Populations," *Biochemistry,* vol. 57, p. 81-90, 08/2017. **Corresponding author*

18. A. C. M. DeGroot, D. J. Busch, C. C. Hayden, S. Mihelic, M. Behar, J. C. Stachowiak*, "Entropic Control of Receptor Recycling Using Engineered Ligands," *Biophysical Journal,* vol. 114, p. 1377-1388, 01/2018. **Corresponding author*

19. W. T. Snead, J. C. Stachowiak*, "Structure versus Stochasticity – The role of Molecular Crowding and Intrinsic Disorder in Membrane Fission," *Journal of Molecular Biology*, vol. 430, p. 2293-2308, 04/2018. **Corresponding author*

20. P. Bassereau, R. Jin, R. Baumgart, M. Deserno, R. Dimova, V. A. Frolov, P. V. Bashkirov, H. Grubmuller, R. Jahn, H. J. Risselada, L. Johannes, M. M. Kozlov, R. Lipowsky, T. J. Pucadyil, W. F. Zeno, J. C. Stachowiak, D. Stamou, A. Breuer, L. Lauritsen, C. Simon, C. Sykes, G. A. Voth, T. R. Weikl, "The 2018 Biomembrane Curvature and Remodeling Roadmap," *Journal of Physics D: Applied Physics,* vol. 51, 07/2018.

21. W. T. Snead, J. C. Stachowiak*, "A tethered vesicle assay of membrane fission," *Methods in Enzymology,* vol. 611, p. 559-582, 08/2018. **Corresponding author*

22. H. Alimohamadi, R. Vasan, J. E. Hassinger, J. C. Stachowiak, P. Rangamani, "The role of traction in membrane curvature generation," *Molecular Biology of the Cell,*29, p. 2024-2035, 8/2018.

23. W. F. Zeno, U. Baul, W. T. Snead, G. Kago, A. C. M. DeGroot, L. Wang, E. M. Lafer, D. Thirumalai, J. C. Stachowiak*, "Synergy between intrinsically disordered domains and structured proteins amplifies membrane curvature sensing," *Nature Communications,* 9, 4152, 08/2018. **Corresponding author*

24. W. T. Snead, W. F. Zeno, G. Kago, R. W. Perkins, J. B. Richter, C. Zhao, E. M. Lafer, J. C. Stachowiak*, "BAR scaffolds drive membrane fission by crowding disordered domains," *Journal of Cell Biology*, 218, 664-682, 2/2019. **Corresponding author*

25. W. F. Zeno, A. Thatte, L. Wang, W. T. Snead, E. M. Lafer, J. C. Stachowiak*, "Molecular mechanisms of membrane curvature sensing by a disordered protein," *Journal of the American Chemical Society,* 141, 10361-10371, 7/2019. **Corresponding author*

26. C. Zhao, A. C. M. DeGroot, C. C. Hayden, J. R. Houser, H. A. Ali, M. F. LaMonica, J. C. Stachowiak*, "Receptor heterodimerization modulates endocytosis through collaborative and competitive mechanisms," *Biophysical Journal,*117, 646-658, 2019. **Corresponding author*

27. A. C. M. DeGroot, C. Zhao, M. F. LaMonica, C. C. Hayden, J. C. Stachowiak*, "Molecular thermodynamics of receptor competition for endocytic uptake," *Soft Matter,* 15, 7448-7461. 2019. **Corresponding author*

28. W. F. Zeno, K. Y. Day,V. D. Gordon, J. C. Stachowiak*, "Principles and Applications of Biological Membrane Organization," *Annual Review of Biophysics,* 49, 19-39, 09/2019. **Corresponding author*

29. A. N. Trementozzi, Z. I Imam, M. Mendicino, C. C. Hayden, J. C. Stachowiak*, "Liposome-mediated chemotherapeutic delivery is synergistically enhanced by ternary lipid compositions and cationic lipids," *Langmuir*, 35, 12532-12542, 09/2019. **Corresponding author*

30. W. F. Zeno, W. T. Snead, A. S. Thatte, J. C. Stachowiak*, "Structured and intrinsically disordered domains within Amphiphysin1 work together to sense and drive membrane curvature," *Soft Matter*, 15, 8716-8717, 10/2019. **Corresponding author*

31. K. J. Day, J. C. Stachowiak* "Biophysical forces in membrane bending and traffic," *Current Opinion in Cell Biology*, 65, 72-77, 01/2020. **Corresponding author.*

32. A. N. Trementozzi, A. Hufnagel, H. Xu, M. S. Hanafy, F. Rosero Castro, H. D. C. Smyth, Z. Cui, J. C. Stachowiak*, "Gap junction liposomes for efficient delivery of chemotherapeutics to solid tumors," *ACS Biomaterials Science and Engineering*, 6, 4851-4857, 08/2020. **Corresponding author*

33. W.F. Zeno, J.B. Hochfelder, A.S. Thatte, L. Wang, A.K. Gadok, C.C. Hayden, E.M. Lafer, J.C. Stachowiak*, "Clathrin senses membrane curvature," *Biophysical Journal*, 120, 818-828, 01/2021. **Corresponding author*

34. K.J. Day, G.K. Kago, L. Wang, J.B. Richter, C.C. Hayden, E.M. Lafer, J.C. Stachowiak*, "Liquid-like protein interactions catalyze assembly of endocytic vesicles," *Nature Cell Biology*, in press, 03/2021 https://www.biorxiv.org/content/10.1101/860684v1. **Corresponding author*

35. F. Yuan, H. Alimohamadi, B. Bakka, A.N. Trementozzi, N.L. Fawzi, P. Rangamani, J.C. Stachowiak, "Membrane bending by protein phase separation," *PNAS*, in press, 03/2021 https://www.biorxiv.org/content/10.1101/2020.05.21.109751v1.**Corresponding author*

Manuscripts Published prior to joining UT Austin

36. M. Yue, J. C. Stachowiak, A. Majumdar, "A 2-D microcantilever array for multiplexed biomolecular analysis," *Mechanics and Chemistry of Biosystems*, vol. 1, p. 211-220, 09/2004.

37. J. C. Stachowiak, M. Yue, K. Castelino, A. Chakraborty, A. Majumdar, "Chemomechanics of Surface Stresses Induced by DNA Hybridization," *Langmuir*, vol. 22, p. 263-268, 01/2006.

38. J. C. Stachowiak, et al., "Autonomous Microfluidic Sample Preparation System for Protein Profile-Based Detection of Aerosolized Bacterial Cells and Spores," *Analytical Chemistry*, vo. 79, p. 5763-5770, 08/2007.

39. J. C. Stachowiak, M. G. von Muhlen, T. H. Li, L. Jalilian, S. H. Parekh, D. A. Fletcher, "Piezoelectric Control of Needle-Free Transdermal Drug Delivery," *Journal of Controlled Release*, vol. 124, p. 88-97, 12/2007.

40. M. Yue, J. C. Stachowiak, H. Lin, R. Datar, R. Cote, A. Majumdar, "Label-free Protein Recognition 2D Array Using Nanomechanical Sensors," *Nano Letters, vol.* 8, p. 520-524, 02/2008.

41. J. C. Stachowiak, D. L. Richmond, T. H. Li, A. P. Liu, S. H. Parekh, D. A. Fletcher, "Unilamellar Vesicle Formation and Encapsulation by Microfluidic Jetting," *Proceedings of the National Academy of Sciences of the United States of America, vol.* 105, p. 4697-4702, 03/2008.

42. J. C. Stachowiak, T. H. Li, A. A. Arora, S. Mitragotri, D. A. Fletcher, "Dynamic control of needle-free jet injection," *Journal of Controlled Release, vol.* 135, p. 104-112, 04/2009.

43. J. C. Stachowiak, D. L. Richmond, T. H. Li, F. Brochard-Wyart, D. A. Fletcher, "Inkjet Formation of Unilamellar Lipid Vesicles for Cell-like Encapsulation," *Lab on a Chip*, vol. 9, p. 2003-2009, 06/2009.

44. T. H. Li, J. C. Stachowiak, D. A. Fletcher, "Mixing Solutions in Inkjet Formed Vesicles," *Methods in Enzymology*, vol. 465, p. 75-94, 12/2009.

45. J. C. Stachowiak*, C. C. Hayden, D. Y. Sasaki, "Steric confinement of proteins on lipid membranes can drive curvature and tubulation," *Proceedings of the National Academy of Sciences of the United States of America*, vol. 107, p. 7781-7786, 04/2010. **Corresponding author*

46. J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Targeting proteins to liquid ordered domains in lipid membranes," *Langmuir*, vol. 27, p. 1457-1462, 12/2010.

47. D. L. Richmond, E. M. Schmid, S. Martens, J. C. Stachowiak, N. Liska, D. A. Fletcher, "Forming giant vesicles with controlled membrane composition, asymmetry, and contents," *Proceedings of the National Academy of Sciences of the United States of America*, vol. 108, p. 9431-9436, 06/2011.

48. F. J. Zendejas, R. J. Meagher, J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Orienting lipid domains in giant vesicles using an electric field," *Chemical Communications*, vol. 47, p. 7320-7322, 04/2011.

Refereed Conference Proceedings at UT Austin
Underline indicates Stachowiak Lab members

1. J. C. Stachowiak, E. M. Schmid, C. J. Ryan, H. S. Ann, D. Y. Sasaki, P. L. Geissler, D. A. Fletcher, C. C. Hayden, "Protein-protein crowding as a driving force for membrane bending during clathrin-mediated endocytosis," *Biophysical Society Annual Meeting*, San Diego, CA, February **2012**. (Poster)

2. J. R. Houser, J. Jose, J. C. Stachowiak, "Exploring the role of protein-protein crowding in clathrin mediated endocytosis," *American Society for Cell Biology Annual Meeting*, San Francisco, CA, December **2012**. (Poster)

3. C. S. Scheve, J. C. Stachowiak, "Steric pressure between proteins opposes membrane phase separation," *Annual meeting of the Biophysical Society*, Philadelphia, PA, February **2013**. (Talk)

4. D. J. Busch, J. R. Houser, J. T. Jose, M. B. Sherman, C. C. Hayden, E. M. Lafer, J. C. Stachowiak, "Molecular crowding and membrane scaffolding drive membrane curvature synergistically in clathrin coated pits," *American Society for Cell Biology Annual Meeting*, New Orleans, LA, December **2013**. (Poster)

5. J. C. Stachowiak, "Membrane bending by protein-protein crowding," *Annual Meeting of the American Physical Society*, Denver, CO, March **2014**. (Talk)

6. W. T. Snead, N. Momin, V. Bora, J. C. Stachowiak, "Helix insertion drives membrane bending by enabling protein crowding," *Annual Meeting of the Biophysical Society*, Baltimore, MD, February **2015**. (Talk)

7. J. C. Stachowiak, "Protein crowding modulates the shape and content of curved membranes and coated vesicles," *Annual Meeting of the Biophysical Society*, Baltimore, MD, February **2015**. (Talk)

8. D. J. Busch, J. R. Houser, C. C. Hayden, M. B. Sherman, E. M. Lafer, J. C. Stachowiak "Intrinsically disordered proteins drive membrane curvature and modulate the cargo content of coated vesicles," *Annual Meeting of the American Society of Cell Biology*, San Diego, CA, December **2015**. (Talk)

9. J. C. Stachowiak, "Role of Molecular Crowding in Organizing Cellular Membranes," *American Chemical Society Pacifichem Meeting*, Honoloulu, HI, December **2015**.

10. D. J. Busch, J. R. Houser, C. C. Hayden, M. B. Sherman, E. M. Lafer, J. C. Stachowiak, "Intrinsically disordered proteins drive membrane curvature," *Annual Meeting of the Biophysical Society*, Los Angeles, CA, February **2016**. (Talk)

11. Z. I. Imam, L. Kenyon, J. C. Stachowiak, "Steric pressure among membrane-bound polymers opposes lipid phase separation," *Annual Meeting of the Biophysical Society*, Los Angeles, CA, February **2016**. (Poster)

12. W. T. Snead, C. C. Hayden, J. C. Stachowiak, "Membrane fission by protein crowding," *Annual Meeting of the Biophysical Society*, Los Angeles, CA, February **2016**. (Poster)

13. C. Zhao, D. J. Busch C. P. Vershel, J. C. Stachowiak, "Plasma membrane-derived vesicles with engineered transmembrane protein ligands – a new system for cellular targeting," *Annual Meeting of the American Chemical Society*, San Diego, CA, March **2016**. (Talk)

14. A. K. Gadok, J. C. Stachowiak, "Connectosomes for direct intracellular drug delivery," *Annual Meeting of the American Chemical Society*, San Diego, CA, March **2016**. (Talk)

15. J. C. Stachowiak, "Intrinsically Disordered Proteins as Physical Drivers of Membrane Traffic," *American Chemical Society National Meeting*, Philadelphia, PA, August **2016**. (Talk)

16. W. T. Snead, C. C. Hayden, A. K. Gadok, P. Rangamani, J. C. Stachowiak, "Membrane fission by protein crowding," *Annual Meeting of American Society for Cell Biology*, San Francisco, CA, December **2016**. (Talk)

17. W. T. Snead, C. C. Hayden, A. K. Gadok, P. Rangamani, J. C. Stachowiak, "Membrane fission by protein crowding," *Annual Meeting of the Biophysical Society*, New Orleans, LA, February **2017**. (Talk)

18. A. K. Gadok, J. C. Stachowiak, "Connectosomes for direct molecular delivery to the cellular cytoplasm," *Annual Meeting of the Biophysical Society*, New Orleans, LA, February **2017**. (Poster)

19. A. K. Gadok, J. C. Stachowiak, "Quantifying the ability of clathrin triskelia to sense membrane curvature," *Annual Meeting of the Biophysical Society*, New Orleans, LA, February **2017**. (Poster)

20. C. Zhao, D. J. Busch, C. P. Vershel, H. A. Ali, N. C. Miroballi, J. C. Stachowiak, "Plasma membrane vesicles with engineered transmembrane protein ligands for high-affinity cell targeting," *Annual Meeting of the Biophysical Society,* New Orleans, LA, February **2017**. (Poster)
21. A. C. M. DeGroot, D. J. Busch, C. C. Hayden, J. C. Stachowiak, "Bulky ligands as entropic inhibitors of receptor uptake by endocytosis," *Annual Meeting of the Biophysical Society,* New Orleans, LA, February **2017**. (Poster)
22. Z. I. Imam, L. E. Kenyon, G. Ashby, F. Nagib, M. Mendicino, J. C. Stachowiak, "Lipid Phase Separation Enhances Fusion," *Annual Meeting of the American Chemical Society*, San Francisco, CA, April **2017**. (Talk)
23. J. C. Stachowiak, "Stochastic Molecular Mechanisms in Membrane Traffic," *American Chemical Society National Meeting*, San Francisco, CA, April **2017**. (Talk)
24. W. T. Snead, W.F. Zeno, G.K. Kago, E.M. Lafer, J. C. Stachowiak, "BAR scaffolds drive membrane fission by locally concentrating intrinsically disordered domains," *Annual Meeting of American Society for Cell Biology,* Philadelphia, PA, December **2017**. (Talk)
25. A. C. M. DeGroot, D. J. Busch, C. C. Hayden, S. A. Mihelic, A. T. Alpar, M. Behar, J. C. Stachowiak, "Biophysical control of receptor recycling using engineered ligands," *Annual Meeting of the Biophysical Society,* San Francisco, CA, February **2018**. (Poster)
26. C. Zhao, A. C. M. DeGroot, J. C. Stachowiak, "Low affinity receptors can enter endocytic pits by binding to high affinity receptors," *Annual Meeting of the Biophysical Society*, San Francisco, CA, February **2018**. (Poster)
27. G. Kago, J. Houser, W. T. Snead, W. F. Zeno, C. C. Hayden, E. M. Lafer, J. C. Stachowiak, "Eps15 forms membrane bound networks that promote localized assembly of the clathrin coat," *Annual Meeting of the Biophysical Society,* San Francisco, CA, February **2018**. (Poster)
28. J. C. Stachowiak, "Stochastic mechanisms in membrane traffic," *Annual Meeting of the Biophysical Society,* San Francisco, CA, February **2018**. (Talk)
29. A. Trementozzi, A. C. M. DeGroot, J. C. Stachowiak, "Biophysical control of receptor recycling using engineered ligands," *Annual Meeting of the American Chemical Society*, Boston, MA, July **2018**. (Talk)
30. W. Zeno, U. Paul, W. T. Snead, A.C.M. DeGroot, L. Wang, E.M. Lafer, D. Thirumalai, J.C. Stachowiak, "Intrinsically disordered proteins sense membrane curvature," *Annual Meeting of the Biophysical Society*, Baltimore, MD, February **2019**. (Talk)
31. A.C.M. DeGroot, S. Gollapudi, C. Zhao, C.C. Hayden, J.C. Stachowiak, "Receptors utilize coated vesicle heterogeneity to evade competition during endocytosis," *Annual Meeting of the Biophysical Society*, San Diego, CA, February **2020**. (Poster)
32. W.F. Zeno, W.T. Snead, L. Wang, A.S. Thatte, J.B. Hochfelder, E.M. Lafer, "The role of disordered proteins in membrane curvature sensing during endocytosis," *Annual Meeting of the Biophysical Society,* San Diego, CA, February **2020**. (Poster)
33. K.D. Graham, W.T. Snead, L. Wang, E.M. Lafer, J.C. Stachowiak, "Assembly of I-BAR containing protein IRSp53 enhances membrane bending," *Annual Meeting of the Biophysical Society*, San Diego, CA, February **2020**. (Poster)

Refereed Conference Proceedings Prior to Joining UT Austin

1. M. Yue, J. C. Stachowiak, A. Chakraborty, A. Majumdar, "Nanomechanical sensor array for detection of biomolecular bindings," *ASME Integrated Nanosystems Conference*, Pasadena, CA, September, **2004**. (Talk)
2. J.C. Stachowiak, E.E. Fischer, P. Caton, et. al., "Automated sample preparation system for rapid biological threat detection," *ASME Annual Meeting,* Orlando, FL, November, **2005**. (Talk)
3. D. L. Richmond, E. M. Schmid, S. Martens, J. C. Stachowiak, N. Liska, D. A. Fletcher, "Engineering vesicle membranes for cellular reconstitutions," *Biophysical Society Annual Meeting,* San Francisco, CA, February

2010. (Talk)

4. J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Steric confinement of proteins in lipid domains can drive membrane curvature and tubulation," *Biophysical Society Annual Meeting*, San Francisco, CA, February **2010**. (Talk)
5. D. Y. Sasaki, H. Liu, A. Carroll-Portillo, G. D. Bachand, C. C. Hayden, J. C. Stachowiak, "Formation of lipid nanotubular networks via surface affinity and pulling of giant vesicles with gliding microtubules," *American Chemical Society National Meeting*, San Francisco, CA, March **2010**. (Talk)
6. J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Formation of lipid membrane domains and tubules using reversible metal and protein affinity," *American Chemical Society National Meeting*, San Francisco, CA, March **2010**. (Talk)
7. D. Y. Sasaki, H. Liu, A. Carroll-Portillo, G. D. Bachand, C. C. Hayden, J. C. Stachowiak, "Inverted microtubule-kinesin activity in the formation of lipid nanotubular structures," *American Chemical Society Pacifichem Meeting*, Honoloulu, HI, December **2010**. (Talk)
8. C. C. Hayden, J. C. Stachowiak, J. S. Hwang, E. A. Abate, M. S. Kent; D. Y. Sasaki, "Directed formation of lipid micro-domains functioning as high affinity His-tagged protein binding sites," *American Chemical Society Pacifichem Meeting*, Honolulu, HI, December **2010**. (Talk)
9. J. Stachowiak, E. M. Schmid, M. B. Sherman, D. A. Fletcher, C. C. Hayden, D. Y. Sasaki, "Confinement of protein binding to lipid domains as a tool for directed assembly of 3-D architectures," *American Chemical Society Pacifichem Meeting*, Honolulu, HI, December **2010**. (Talk)
10. F. J. Zendejas, R. Meagher, J. C. Stachowiak, C. C. Hayden, J. Wang, D. Y. Sasaki, "Orientation of lipid domains in giant vesicles by electric field," *American Chemical Society National Meeting*, Anaheim, CA, March **2011**. (Talk)
11. E. M. Schmid, D. L. Richmond, J. C. Stachowiak, D. A. Fletcher, "Bending membranes with proteins: Lessons from cellular reconstitution," *American Chemical Society National Meeting*, Anaheim, CA, March **2011**. (Talk)
12. J. C. Stachowiak, C. C. Hayden, M. A. A. Sanchez, J. Wang, D. Y. Sasaki, "Selective protein affinity and structure transformation of domains in lipid membranes," *American Chemical Society National Meeting*, Anaheim, CA, March **2011**. (Talk)

C. Conference Presentations not archived as proceedings

Conference Presentations not archived as proceedings at UT Austin
Underline indicates Stachowiak Lab members

1. J. C. Stachowiak, "Biomechanics of membrane bending," *Southwestern Biomedical Engineering Conference*, Houston, TX, May 2012. (Talk)
2. A. K. Gadok, J. C. Stachowiak, "Incorporating intercellular junction proteins in membrane vesicles to enable biochemical communication with cells," *Annual Meeting of the Biomedical Engineering Society*, Seattle, WA, September 2013. (Poster)
3. J. C. Stachowiak, "Intrinsically disordered adaptor proteins drive membrane bending through molecular crowding," *Gordon Research Conference on Lysosomes and Endocytosis*, Andover, NH, June 2014. (Poster)
4. D. J. Busch, J. R. Houser, C. C. Hayden, M. B. Sherman, E. M. Lafer, J. C. Stachowiak, "Molecular crowding by intrinsically disordered proteins drives membrane bending," *Gordon Research Conference on Lysosomes and Endocytosis*, Andover, NH, June 2014. (Talk)
5. J. C. Stachowiak, "Lipid rafts and membrane proteins collaborate to organize and shape biological membranes" *Annual Meeting of the Biophysical Society of Japan*, Sapporo, Japan, September 2014. (Talk)
6. W. T. Snead, N. Momin, V. Bora, J. C. Stachowiak, "Helix insertion drives membrane bending by enabling protein crowding," *Annual Meeting of the Biomedical Engineering Society*, San Antonio, TX, October 2014.

(Talk)

7. A. K. Gadok, J. C. Stachowiak, "Gap junction liposomes for direct therapeutic delivery to the cellular cytoplasm," *Annual Meeting of the Biomedical Engineering Society*, San Antonio, TX, October 2014. (Talk)
8. D. J. Busch, J. R. Houser, S. Jafri, J. Jose, J. C. Stachowiak, "Intrinsically Disordered Proteins Drive Membrane Curvature of Clathrin Coated Vesicles," *Annual Meeting of the Biomedical Engineering Society*, San Antonio, TX, October 2014. (Poster)
9. A. K. Gadok, J. C. Stachowiak, "Gap junction liposomes for direct therapeutic delivery to the cellular cytoplasm," *Annual Meeting of the Society for Biomaterials*, Charlotte, NC, April 2015. (Poster)
10. J. C. Stachowiak, "Stochastic Mechanisms in Membrane Traffic," *Gordon Research Conference on Active, Adaptive, and Responsive Biointerfaces*, Les Diableretes, Switzerland, June **2016**.
11. J. C. Stachowiak, *Invited Seminar*, Steenbock Symposium on Protein in the Secretory Pathway, University of Wisconsin, Madison, June **2017**.
12. J. C. Stachowiak, *Invited Seminar*, Telluride Workshop on Intrinsically Disordered Proteins, July **2017**.
13. J. C. Stachowiak, *Invited Speaker*, Gordon Research Conference on "Lysosomes and Endocytosis", Proctor Academy, Andover, NH, June **2018**.
14. J. C. Stachowiak, *Invited Speaker*, Gordon Research Conference on "Intrinsically Disordered Proteins", Les Diableretes, Switzerland, July **2018**.
15. J. C. Stachowiak, *Invited Speaker*, American Society for Cell Biology Annual Meeting, Special Interest Subgroup meeting on "Bottom-Up Cell Biology", San Diego, CA, December, **2018**.
16. C. Zhao, A. DeGroot, H. Ali, M. LaMonica, C.C. Hayden, J.C. Stachowiak, "Receptor heterodimerization modulates endocytic uptake through both collaborative and competitive mechanisms," *American Chemical Society Annual Meeting*, Orlando, FL, March **2019**
17. A.C.M. DeGroot, C. Zhao, C.C. Hayden, S. Mihelic, M. LaMonica, J.C. Stachowiak, "Molecular thermodynamics of receptor competition for uptake by endocytosis," *American Chemical Society Annual Meeting*, Orlando, FL, March **2019**
18. K.J. Day, G.K. Kago, J.B. Richter, C.C. Hayden, E.M. Lafer, J.C. Stachowiak, "Protein droplets catalyze assembly of endocytic vesicles," *Annual meeting of the American Society for Cell Biology*, San Deigo, CA, December **2019**.
19. G. Kago, F. Yuan, W.F. Zeno, J.C. Stachowiak,"Protein phase separation as a membrane curvature sensing switch," *Annual meeting of the American Society for Cell Biology*, San Deigo, CA, December **2019**.

Conference Presentations not archived as proceedings- Prior to joining UT Austin

20. J. C. Stachowiak, T. H. Li, J. Rasooly, W. A. Lam, D. A. Fletcher, "Development of a piezoelectric microjet injector for transdermal drug delivery," *MicroTAS Annual Meeting.* Tokyo, Japan, November 2006. (Poster)
21. J. C. Stachowiak, T. H. Li, D. L. Richmond, A.P. Liu, S. H. Parekh, D. A. Fletcher, "Encapsulation of solutes in giant lipid vesicles by microfluidic jetting," *Biomedical Engineering Society Annual Meeting*, Los Angeles, CA, October 2007. (Poster)
22. J. C. Stachowiak, T. H. Li, D. L. Richmond, A.P. Liu, S. H. Parekh, D. A. Fletcher, "High reynolds number microfluidics for drug delivery," *MicroTAS Annual Meeting*, Paris, France, October 2007. (Poster)
23. J. C. Stachowiak, T. H. Li, D. L. Richmond, D. A. Fletcher, "Microfluidic assembly of cell-like systems in giant unilamellar lipid vesicles," *MicroTAS Annual Meeting*, San Diego, CA, October 2008. (Poster)
24. J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Recognition-driven actuation of lipid domains, nano-tubules, and self-assembled networks," *Materials Research Society National Meeting*, April 2010. (Talk)
25. J. C. Stachowiak, E. M. Schmid, C. J. Ryan, H. S. Ann, D. Y. Sasaki, P. L. Geissler, D. A. Fletcher, C. C. Hayden, "Epsin1 bends membranes by molecular crowding," *Gordon Research Conference on Molecular*

Membrane Biology, Andover, NH, July 2011. (Talk)

ORAL PRESENTATIONS:
*Travel expenses paid by inviting organization

Oral Presentations since joining UT Austin

1. J. C. Stachowiak, "Biomechanics of membrane bending," *Southwestern Biomedical Engineering Conference*, Houston, TX, May **2012**.
2. C. S. Scheve, J. C. Stachowiak, "Steric pressure between proteins opposes membrane phase separation," *Annual meeting of the Biophysical Society*, Philadelphia, PA, February **2013**.
3. J. C. Stachowiak, *Invited Departmental Seminar*, **University of Texas at Austin**, Department of Physics, Center for Nonlinear Dynamics, Seminar Series, Spring **2012**.
4. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Texas Health Sciences Center**, San Antonio, Department of Biochemistry, Seminar Series, Spring **2012**.
5. J. C. Stachowiak, *Invited Departmental Seminar*, **University of Texas at Austin**, Institute for Cellular and Molecular Biology, Seminar Series, Fall **2012.**
6. J. C. Stachowiak, *Invited Seminar*, **University of Texas at Austin**, Center for Systems and Synthetic Biology, Seminar Series, Fall **2013**.
7. D. J. Busch, J. R. Houser, C. C. Hayden, M. B. Sherman, E. M. Lafer, J. C. Stachowiak, "Molecular crowding by intrinsically disordered proteins drives membrane bending," *Gordon Research Conference on Lysosomes and Endocytosis*, Andover, NH, June **2014**.
8. J. C. Stachowiak, "Membrane bending by protein-protein crowding," *Annual Meeting of the American Physical Society*, Denver, CO, March **2014**.
9. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Southern Illinois**, Departments of Chemistry and Biochemistry, Seminar Series, Spring **2014**.
10. *J. C. Stachowiak, *Invited Departmental Seminar*, **Duke University**, Departments of Cell Biology and Molecular, Genetics and Microbiology, Seminar Series, Spring **2014**.
11. *J. C. Stachowiak, "Lipid rafts and membrane proteins collaborate to organize and shape biological membranes" *Annual Meeting of the Biophysical Society of Japan*, Sapporo, Japan, September **2014**.
12. W. T. Snead, N. Momin, V. Bora, J. C. Stachowiak, "Helix insertion drives membrane bending by enabling protein crowding," *Annual Meeting of the Biomedical Engineering Society*, San Antonio, TX, October **2014**.
13. A. K. Gadok, J. C. Stachowiak, "Gap junction liposomes for direct therapeutic delivery to the cellular cytoplasm," *Annual Meeting of the Biomedical Engineering Society*, San Antonio, TX, October **2014**.
14. W. T. Snead, N. Momin, V. Bora, J. C. Stachowiak, "Helix insertion drives membrane bending by enabling protein crowding," *Annual Meeting of the Biophysical Society*, Baltimore, MD, February **2015**.
15. *J. C. Stachowiak, "Protein crowding modulates the shape and content of curved membranes and coated vesicles," *Annual Meeting of the Biophysical Society*, Baltimore, MD, February **2015**.
16. A. K. Gadok, J. C. Stachowiak, "Gap junction liposomes for direct therapeutic delivery to the cellular cytoplasm," *Annual Meeting of the Society for Biomaterials*, Charlotte, NC, April **2015**.
17. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Washington**, Department of Chemistry, Seminar Series, Spring **2015**.
18. D. J. Busch, J. R. Houser, C. C. Hayden, M. B. Sherman, E. M. Lafer, J. C. Stachowiak "Intrinsically disordered proteins drive membrane curvature and modulate the cargo content of coated vesicles," *Annual Meeting of the American Society of Cell Biology*, San Diego, CA, December **2015**.
19. *J. C. Stachowiak, "Role of Molecular Crowding in Organizing Cellular Membranes," *American Chemical*

Society Pacifichem Meeting, Honoloulu, HI, December **2015**.

20. D. J. Busch, J. R. Houser, C. C. Hayden, M. B. Sherman, E. M. Lafer, J. C. Stachowiak, "Intrinsically disordered proteins drive membrane curvature," *Annual Meeting of the Biophysical Society*, Los Angeles, CA, February **2016**.
21. C. Zhao, D. J. Busch C. P. Vershel, J. C. Stachowiak, "Plasma membrane-derived vesicles with engineered transmembrane protein ligands – a new system for cellular targeting," *Annual Meeting of the American Chemical Society*, San Diego, CA, March **2016**.
22. A. K. Gadok, J. C. Stachowiak, "Connectosomes for direct intracellular drug delivery," *Annual Meeting of the American Chemical Society*, San Diego, CA, March **2016**.
23. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of California, San Diego**, Department of Mechanical Engineering, Seminar Series, Spring **2016**.
24. J. C. Stachowiak, "Intrinsically Disordered Proteins as Physical Drivers of Membrane Traffic," *American Chemical Society National Meeting*, Philadelphia, PA, August **2016**.
25. *J. C. Stachowiak, "Stochastic Mechanisms in Membrane Traffic," *Gordon Research Conference on Active, Adaptive, and Responsive Biointerfaces*, Les Diableretes, Switzerland, June **2016**.
26. *J. C. Stachowiak, *Invited Seminar***, Max Planck Institute of Biophysics, Frankfurt Germany**, August **2016**.
27. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Michigan**, Department of Biophysics, October 7, **2016**.
28. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Washington in St. Louis**, Department of Bioengineering, October 13, **2016**.
29. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Maryland**, Department of Bioengineering, December 5, **2016**.
30. W. T. Snead, C. C. Hayden, A. K. Gadok, P. Rangamani, J. C. Stachowiak, "Membrane fission by protein crowding," *Annual Meeting of American Society for Cell Biology*, San Francisco, CA, December **2016**.
31. W. T. Snead, C. C. Hayden, A. K. Gadok, P. Rangamani, J. C. Stachowiak, "Membrane fission by protein crowding," *Annual Meeting of the Biophysical Society*, New Orleans, LA, February **2017**.
32. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Texas Health Sciences Center**, San Antonio, Department of Biochemistry, Seminar Series, Spring **2017**.
33. J. C. Stachowiak, "Stochastic Molecular Mechanisms in Membrane Traffic," *American Chemical Society National Meeting*, San Francisco, CA, April **2017**.
34. Z. I. Imam, L. E. Kenyon, G. Ashby, F. Nagib, M. Mendicino, J. C. Stachowiak, "Lipid Phase Separation Enhances Fusion," *Annual Meeting of the American Chemical Society*, San Francisco, CA, April **2017**.
35. *J. C. Stachowiak, *Invited Seminar*, Steenbock Symposium on Protein in the Secretory Pathway, University of Wisconsin, Madison, June **2017**.
36. *J. C. Stachowiak, *Invited Seminar*, Telluride Workshop on Intrinsically Disordered Proteins, July **2017**.
37. *J. C. Stachowiak, *Invited Departmental Seminar*, **Lehigh University**, Department of Chemistry, Seminar Series, Fall **2017**.
38. *J. C. Stachowiak, *Invited Departmental Seminar*, **Johns Hopkins University**, Department of Biophysics, Seminar Series, Fall **2017**.
39. *J. C. Stachowiak, *Annual Student Selected Speaker in the Structural and Quantitative Biology Seminar Series*, **University of California, Berkeley**, Fall **2017**.
40. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Texas Health Science Center at Houston**, Department of Physiology, Seminar Series, Spring **2018**.

41. *J. C. Stachowiak, *Invited Speaker*, Symposium on Membrane Curvature, Annual Meeting of the Biophysical Society, San Francisco, CA, February **2018**.

42. *J. C. Stachowiak, *Invited Speaker*, Gordon Research Conference on "Lysosomes and Endocytosis", Proctor Academy, Andover, NH, June **2018**.

43. *J. C. Stachowiak, *Invited Speaker*, Gordon Research Conference on "Intrinsically Disordered Proteins", Les Diableretes, Switzerland, July **2018**.

44. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Pennsylvania**, Department of Chemistry, Seminar Series, Fall **2018**.

45. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Wisconsin, Madison**, Department of Chemistry, Physical Chemistry Seminar Series, Fall **2018**.

46. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Washington**, Department of Biochemistry, Seminar Series, Fall **2018**.

47. *J. C. Stachowiak, *Invited Departmental Seminar*, **Weill Cornell Medical School**, Seminar Series, Fall **2018**.

48. *J. C. Stachowiak, *Invited Speaker*, American Society for Cell Biology Annual Meeting, Special Interest Subgroup meeting on "Bottom-Up Cell Biology", San Diego, CA, December, **2018**.

49. *J. C. Stachowiak, *Invited Departmental Seminar*, **National Institutes of Health Intramural Program**, Department of Biophysics, Seminar Series, Spring **2019**.

50. *J. C. Stachowiak, *Invited Departmental Seminar*, **UT Southwestern Medical Center**, Department of Biophysics, Seminar Series, Spring **2019**.

51. *J. C. Stachowiak, *Invited Speaker*, Biophysical Society Meeting on "Quantitative aspects of membrane fusion and fission", Padova, Italy, May **2019**.

52. *J. C. Stachowiak, *Invited Plenary Speaker*, University of Utah "What's the big idea?" symposium, Salt Lake City, Utah, May **2019**.

53. *J. C. Stachowiak, *Invited Departmental Seminar*, Wayne State University Medical School, Center for Molecular Medicine and Genetics, Seminar Series, Summer **2019**.

54. *J. C. Stachowiak, *Invited Speaker*, Protein Society Annual Meeting, Seattle, WA, July **2019**.

55. *J. C. Stachowiak, *Invited Speaker*, European Molecular Biology Organization (EMBO) Meeting on "The physics and chemistry of endocytosis on multiple scales", Ischia Island, Italy, September **2019**.

56. *J. C. Stachowiak, *Invited Departmental Seminar*, **Case Western Reserve University Medical School**, Department of Biochemistry, Seminar Series, Fall **2019**.

57. *J. C. Stachowiak, *Keynote Speaker*, **National Science Foundation Conference for CAREER Awardees**, BIO/MCB Program, October **2019**.

58. *J. C. Stachowiak, *Invited Speaker*, Max Planck Society, "Membrane Days", Berlin, Germany, December **2019**.

59. *J. C. Stachowiak, *Invited Departmental Seminar*, **Gladstone Institute**, Seminar Series, January **2019**.

60. *J. C. Stachowiak, *Invited Departmental Seminar*, University of Chicago, Department of Biophysics, Seminar Series, Spring **2020**.

61. *J. C. Stachowiak, *Invited Departmental Seminar*, University of Washington in St. Louis, Medical School, Department of Neuroscience, Seminar Series, Fall **2020 (virtual)**.

62. *J. C. Stachowiak, *Invited Departmental Seminar*, University of Toronto, Department of Chemistry, Seminar Series, Fall **2020 (virtual)**.

63. *J. C. Stachowiak, *Invited Departmental Seminar*, Dartmouth University, Department of Molecular and Cell Biology, Seminar Series, Spring **2021 (virtual)**.

64. *J. C. Stachowiak, *Invited Speaker, "100 Years of Biophysics" Symposium*, Max Planck Institute for

Biophysics, Frankfurt, Spring **2021 (virtual)**.

Oral Presentations prior to joining UT Austin

1. M. Yue, J. C. Stachowiak, A. Chakraborty, A. Majumdar, "Nanomechanical sensor array for detection of biomolecular bindings," *ASME Integrated Nanosystems Conference*, Pasadena, CA, September, **2004**.
2. J.C. Stachowiak, E.E. Fischer, P. Caton, et. al., "Automated sample preparation system for rapid biological threat detection," *ASME Annual Meeting*, Orlando, FL, November, **2005**. (Talk)
3. J. C. Stachowiak, J. Rasooly, D. A. Fletcher, "Design of a piezoelectric microjet for needleless drug delivery," *ASME Summer Bioengineering Conference*, Amelia Island, FL, June **2006**. (Talk)
4. J. C. Stachowiak, *Invited Seminar Series,* University of California, Berkeley Sensor and Actuator Center, Seminar Series, Spring, **2006**.
5. J. C. Stachowiak, *Research Seminar,* University of California, San Francisco, NIH Nano Medicine Center Symposium, PI: Wendell Lim, Fall, **2007**.
6. J. C. Stachowiak, *Research Seminar,* SRI International, Menlo Park, CA, Spring, **2008**.
7. J. C. Stachowiak, *Research Seminar,* Palo Alto Research Center, Palo Alto, CA, Spring, **2008**.
8. J. C. Stachowiak, *Invited Research Seminar,* Stanford University, Professor Nicholas Melosh's and Steven Boxer's Laboratories, Spring, **2008**.
9. J. C. Stachowiak, Sandia National Laboratories Bioscience External Advisory Panel Symposium, Fall, **2009**.
10. J. C. Stachowiak, Research Presentation for Albert Romig, Chief Operations Officer, Sandia National Laboratories, Fall, **2010**.
11. J. C. Stachowiak, Research Presentation for Dr. Eric Moore, Division Chief, Basic and Supporting Science Division, DTRA, **2010**
12. D. L. Richmond, E. M. Schmid, S. Martens, J. C. Stachowiak, N. Liska, D. A. Fletcher, "Engineering vesicle membranes for cellular reconstitutions," *Biophysical Society Annual Meeting,* San Francisco, CA, February **2010**.
13. J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Steric confinement of proteins in lipid domains can drive membrane curvature and tubulation," *Biophysical Society Annual Meeting*, San Francisco, CA, February **2010**.
14. D. Y. Sasaki, H. Liu, A. Carroll-Portillo, G. D. Bachand, C. C. Hayden, J. C. Stachowiak, "Formation of lipid nanotubular networks via surface affinity and pulling of giant vesicles with gliding microtubules," *American Chemical Society National Meeting*, San Francisco, CA, March **2010**.
15. J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Formation of lipid membrane domains and tubules using reversible metal and protein affinity," *American Chemical Society National Meeting,* San Francisco, CA, March **2010**.
16. J. C. Stachowiak, C. C. Hayden, D. Y. Sasaki, "Recognition-driven actuation of lipid domains, nano-tubules, and self-assembled networks," *Materials Research Society National Meeting,* April **2010**.
17. D. Y. Sasaki, H. Liu, A. Carroll-Portillo, G. D. Bachand, C. C. Hayden, J. C. Stachowiak, "Inverted microtubule-kinesin activity in the formation of lipid nanotubular structures," *American Chemical Society Pacifichem Meeting,* Honoloulu, HI, December **2010**.
18. C. C. Hayden, J. C. Stachowiak, J. S. Hwang, E. A. Abate, M. S. Kent; D. Y. Sasaki, "Directed formation of lipid micro-domains functioning as high affinity His-tagged protein binding sites," *American Chemical Society Pacifichem Meeting*, Honolulu, HI, December **2010**.
19. J. Stachowiak, E. M. Schmid, M. B. Sherman, D. A. Fletcher, C. C. Hayden, D. Y. Sasaki, "Confinement of protein binding to lipid domains as a tool for directed assembly of 3-D architectures," *American Chemical Society Pacifichem Meeting*, Honolulu, HI, December **2010**.

20. J. C. Stachowiak, "Bio-based Future" workshop at UC Berkeley Synthetic Biology Institute, Spring **2011**.

21. F. J. Zendejas, R. Meagher, J. C. Stachowiak, C. C. Hayden, J. Wang, D. Y. Sasaki, "Orientation of lipid domains in giant vesicles by electric field," *American Chemical Society National Meeting*, Anaheim, CA, March **2011**.

22. E. M. Schmid, D. L. Richmond, J. C. Stachowiak, D. A. Fletcher, "Bending membranes with proteins: Lessons from cellular reconstitution," *American Chemical Society National Meeting*, Anaheim, CA, March **2011**.

23. J. C. Stachowiak, C. C. Hayden, M. A. A. Sanchez, J. Wang, D. Y. Sasaki, "**Selective protein affinity and structure** transformation of domains in lipid membranes," *American Chemical Society National Meeting*, Anaheim, CA, March **2011**.

24. J. C. Stachowiak, E. M. Schmid, C. J. Ryan, H. S. Ann, D. Y. Sasaki, P. L. Geissler, D. A. Fletcher, C. C. Hayden, "Epsin1 bends membranes by molecular crowding," *Gordon Research Conference on Molecular Membrane Biology*, Andover, NH, July **2011**. (Talk)

25. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Texas at Austin**, Department of Biomedical Engineering, Seminar Series, Spring **2011**.

26. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of California, Berkeley**, Department of Bioengineering, Seminar Series, Fall **2011**.

27. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Pennsylvania**, Department of Bioengineering, Seminar Series, Spring **2011**.

28. *J. C. Stachowiak, *Invited Departmental Seminar*, **Lawrence Berkeley National Laboratory**, Physical Biosciences Division, Spring **2011**.

29. *J. C. Stachowiak, *Invited Departmental Seminar*, **Georgia Institute of Technology**, Department of Mechanical Engineering, Seminar Series, Spring **2011**.

30. *J. C. Stachowiak, *Invited Departmental Seminar*, **Boston University**, Department of Bioengineering, Seminar Series, Spring 2011.

31. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Illinois Urbana-Champaign**, Department of Mechanical Engineering, Seminar Series, Spring **2011.**

32. *J. C. Stachowiak, *Invited Departmental Seminar*, **Tufts University**, Department of Chemical and Biological Engineering, Seminar Series, Spring **2011**.

33. *J. C. Stachowiak, *Invited Departmental Seminar*, **University of Maryland**, Departments of Bioengineering and Chemical Engineering, Seminar Series, Spring **2011**.

34. *J. C. Stachowiak, *Invited Departmental Seminar*, **Institute for Bioscience and Biotechnology** at the University of Maryland, Seminar Series, Spring **2011.**

GRANTS AND CONTRACTS:

Stachowiak	R01GM112065: Probing the Energetic Cost of Cargo Encapsulation in Coated Vesicles	National Institutes of Health / NIGMS	08/01/2014-07/31/2019	$1,548,846
			Renewal 08/01/2019-07/31/2023	$1,489,713
Stachowiak	Administrative Supplement to R01GM112065 for recruitment of diversity postdoctoral fellow, Dr. Wade Zeno	National Institutes of Health / NIGMS	08/01/2016-07/31/2018	$196,250
Stachowiak	CAREER (DMR1352487): Phase-Separating Membrane Materials for Efficient and Specific Molecular Delivery to Cells	National Science Foundation/DMR	07/01/2014-06/30/2019	$499,136
Stachowiak	Gap Junction Therapy, a Nano-particle Based Approach to Reversing Carcinogenesis	Texas 4000 Foundation	01/01/2013-12/31/2013	$25,000
Stachowiak	Permanent donation of confocal microscopy system components	Sandia National Laboratory Stevenson Wydler Gift Program	02/2015	$200,000
Stachowiak	R01GM120549: Intrinsically disordered proteins as physical drivers of membrane traffic	National Institutes of Health / NIGMS	04/01/2017-01/31/2021	$1,211,808
Stachowiak	R21EB025490: Harnessing the gap junction network for direct intracellular delivery of siRNA and chemotherapeutics	National Institutes of Health / NIBIB	03/01/2018-02/28/2020	$416,425
Stachowiak	NSF MODULUS: Modeling and experimental investigation of protein crowding on lipid bilayers	National Science Foundation/BIO	10/01/2019-09/30/22	$421,948
Stachowiak	Welch Foundation Grant: Protein liquid droplets as dynamic supramolecular catalysts for in situ self-assembly in cells	Welch Foundation	06/01/20-05/31/23	$240,000
Stachowiak	R35139531: Protein networks as synergistic drivers of membrane remodeling	National Institutes of Health / NIGMS	02/01/2021-01/31/2026	$3,029,835
Total			**2014-2021**	**$9,278,961**

PH.D. SUPERVISIONS COMPLETED:

Gadok, Avinash	2017	Biomedical Engineering	Univ. of Texas at Austin (Flagship Pioneering, Boston)
Snead, Wilton	2018	Biomedical Engineering	Univ. of Texas at Austin (postdoc, UNC Chapel Hill)
Imam, Zachary	2018	Biomedical Engineering	Univ. Of Texas at Austin (postdoc, Sandia Labs)
Zhou, Chi	2019	Biomedical Engineering	Univ. Of Texas at Austin (Emerald Cloud Lab, South San Francisco)
DeGroot, Andre	2020	Biomedical Engineering	Univ. Of Texas at Austin (Sana Biotech, Boston)

M.S. SUPERVISIONS COMPLETED:

Scheve, Christine	2013	Biomedical Engineering	Univ. of Texas at Austin
Gadok, Avinash	2014	Biomedical Engineering	Univ. of Texas at Austin
Snead, Wilton	2015	Biomedical Engineering	Univ. of Texas at Austin
Woodall, Ryan	2016	Biomedical Engineering	Univ. of Texas at Austin
Imam, Zachary	2016	Biomedical Engineering	Univ. of Texas at Austin

PH.D. IN PROGRESS:

A. Students admitted to candidacy

Houser, Justin (August 2018)
Trementozzi, Andrea (August 2018)
Gollapudi, Sadhana (July 2019)
Yuan, Feng (July 2019)
Graham, Kristin (April 2020)
Bakka, Brandon (May 2020)
Ashby, Grant (May 2020)

B. Students preparing to take Ph.D. qualifying exam

Walker, Caleb

M.S. IN PROGRESS: None

POSTDOCS:

Busch, David (September 2012-September 2016) – Currently a Senior Scientist at Merck Inc.

Ferrati, Silvia (May 2014-February 2018), co-supervised with Dr. Hugh Smyth

Zeno, Wade (August 2016-August 2020), NIH F32 fellow –Tenure Track Assistant Professor at the University of Southern California, Department of Chemical Engineering.

Day, Kasey (January 2018-present), NIH F32 fellow

SENIOR RESEARCH FELLOWS:

Dr. Carl Hayden (March 2015-present)

RESEARCH TECHNICIANS:

Prasad Milner (May 2018-July 2019) – now a graduate student in Chemical Engineering at Georgia Tech.

OTHER ADVISING AND RELATED STUDENT SERVICE:

DISSERTATION COMMITTEES:

Dissertation Completed – Served on the committees of more than 20 students.

Dissertation in Progress – Currently serving on the committees of more than 10 students.

PH.D. QUALIFYING EXAM COMMITTEES:

Served on the committees of more than 30 students.

UNDERGRADUATE STUDENT ADVISING:

Undergraduate Student Researchers

***indicates author of peer-reviewed publication**

1. **Beverly Red,** Biomedical Engineering (Summer 2019 – Present), continuing undergraduate
2. ***Ajay Thatte**, Biomedical Engineering (Summer 2018-Present), continuing undergraduate
3. **Jacob Hochfelder,** Biomedical Engineering (Summer 2019-Present), continuing undergraduate
4. **Sybrina Kerr**, NSF REU Summer Student (Summer 2019)
5. **Kolby Killion**, Biomedical Engineering (Summer 2018-Summer 2019), continuing undergraduate
6. **Daria Bentley**, NSF REU Summer Student (Summer 2017)
7. ***Minhao (Mike) Wu**, Biomedical Engineering (Summer 2017-May 2019)
8. ***Meghan LaMonica**, Biomedical Engineering (Spring 2017-Present), continuing undergraduate
9. ***Morgan Mendecino**, Biomedical Engineering (Fall 2016-Summer 2018)
10. ***Ryan Perkins**, Biomedical Engineering (Summer 2016-May 2018)
11. ***Amanda Merriwether**, Biomedical Engineering (Spring 2016-Summer 2018) – now a UC Berkeley grad student
12. **Natalie Miroballi**, Biomedical Engineering (Fall 2015-Summer 2017)
13. ***Hisham Ali**, Biomedical Engineering (Summer 2015-May 2019) – now in medical school at UT San Antonio

14. ***Aaron Alpar**, Biomedical Engineering (Summer 2015-Summer 2018) – now a graduate student at U Chicago
15. ***Laura Kenyon**, Biomedical Engineering (Spring 2015-May 2018) – now in medical school at UT Southwestern
16. **Belle Parizot**, Biomedical Engineering (Fall 2015-Summer 2016)
17. ***Fatema Nagib,** Biomedical Engineering (Summer 2015-Summer 2016)
18. ***Grant Ashby,** NSF REU Summer Student (Summer 2016) – now a graduate student at UT Austin
19. ***Stefan Bordovsky**, Biomedical Engineering (Spring 2015-Spring 2016)
20. **Sydney Wendt**, Biomedical Engineering (Summer 2016-Fall 2016)
21. ***Brian Li,** Biomedical Engineering (Spring 2014-Summer 2016) – now a graduate student at UC Berkeley
22. ***Connor Vershel**, Biomedical Engineering (Summer 2014-Spring 2016) – now a medical student at UT Houston
23. **Tu Cao**, Biomedical Engineering (Summer 2015)
24. **Sean Thomas,** NSF REU Summer Student (Summer 2015)
25. **Michael Bonahoom**, Biomedical Engineering (Summer 2015)
26. **Varun Bora**, Biomedical Engineering (Fall 2013-Spring 2015)
27. **Katherine Ha**, Biomedical Engineering (Spring 2014-Spring 2015) – Currently working at Smith and Nephew
28. ***Noor Momin**, Biomedical Engineering (Summer 2012-Present) – Currently a graduate student at MIT
29. **Mansi Raythatha**, Biomedical Engineering (Fall 2013-Spring 2014) – Currently working for Merck Inc.
30. **Saad Jafri**, Biomedical Engineering (Summer 2013-Spring 2014) – Currently a medical student at UNT Health Science Center
31. **Isac Lee**, Biomedical Engineering (Spring 2013-Spring 2014) – Currently a graduate student at Johns Hopkins
32. ***Justin Houser**, Biomedical Engineering (Summer 2012-Summer 2014) – Currently a research assistant at Harvard Medical School
33. **David Aguilar**, Biochemistry (Fall 2012)
34. **Jerin Jose**, Biomedical Engineering (Spring 2012-Summer 2013) – Currently a Medical Student at UT Southwestern Medical Center
35. **Jacob Sacks**, Biomedical Engineering (Fall 2012-Spring 2013) – Currently a graduate student at the University of Pennsylvania
36. **Ansel George**, Biomedical Engineering (Spring 2012-Spring 2013) – Currently a research assistant at Weill Cornell Medical College
37. ***Paul Gonzales**, Biomedical Engineering (Spring 2012-Spring 2013) – Currently working as a nurse practitioner

Senior Design Project Teams (BME 371)

Spring 2013: Osteomed ELIF Interbody System

Spring 2015: Seton Scar Minimizer Device

Spring 2017: DNA Indicator Swab Device

Spring 2019: Surgical retractor device

Undergraduate Honors Theses

Ms. Jerin Jose, Spring 2013, "Understanding the role of intrinsically disordered proteins in membrane bending."

Guest Lectures

Dr. Stachowiak has given more than 25 guest lectures for courses in the Biomedical Engineering and Physics departments at UT Austin.

Student and Trainee Awards

- Kasey day, NIH/NIGMS NRSA F32 Postdoctoral Fellowship Award, 2019-2022
- Wade Zeno, NIH/NIGMS NRSA F32 Postdoctoral Fellowship Award, 2018-2020
- Grace Kago, NSF Graduate Research Fellowship Award, 2017-2020
- Wilton Snead, NIH/NIGMS NRSA F31 Graduate Research Fellowship Award, 2016-2018
- Chi Zhao, UT Graduate School Continuing Student Fellowship, 2017-2018
- Chi Zhao, American Chemical Society Outstanding Oral Presentation Award, Spring 2019 Annual Meeting
- Andre DeGroot, American Chemical Society Outstanding Oral Presentation Award, Spring 2019 Annual Meeting
- Zachary Imam, American Chemical Society Outstanding Oral Presentation Award, Spring 2018 Annual Meeting
- Wade Zeno, Travel Award to attend the 2017 Gordon Research Conference on Molecular Membrane Biology
- Wade Zeno, Travel Award to attend the 2017 meeting of the Biophysical Society
- Chi Zhao, Travel Award to attend the 2017 meeting of the Biophysical Society
- Wilton Snead, Travel Award to attend the 2016 meeting of the American Society for Cell Biology
- Amanda Meriwether, Undergraduate Research Fellowship, UT Austin Fall 2016
- Avinash Gadok, Travel Award from the American Chemical Society to attend the 2016 Spring Meeting
- Wilton Snead, Honorable Mention in the National Science Foundation Graduate Research Fellowship Program Competition, 2015
- Andre DeGroot, University of Texas at Austin Graduate School Fellowship, 2015-2016
- Wilton Snead, Travel Award from the Biophysical Society to attend the 2016 National Meeting
- Zachary Imam, Travel Award from the Biophysical Society to attend the 2016 National Meeting
- Avinash Gadok, Travel Award to attend the NSF Summer School on Biocomplexity in Antalya, Turkey
- Brian Li, Undergraduate Research Fellowship, The University of Texas at Austin, 2015
- David Busch, Travel Award from Gordon Research Conferences to attend the conference on Lysosomes and Endocytosis, Andover, NH, 2014
- Avinash Gadok, Honorable Mention in the National Science Foundation Graduate Research Fellowship Program Competition, 2014
- Ryan Woodall, National Institutes of Health T32 Graduate Training Fellowship, 2014-2015
- Zachary Imam, University of Texas at Austin Graduate School Fellowship, 2014-2015
- Noor Momin, First Place in the Cockrell School Undergraduate Research Poster Competition, 2013
- Christine Scheve, Travel Award to attend the National Meeting of the Biophysical Soceity, Philadelphia, PA, 2013
- Justin Houser, Undergraduate Research Fellowship, the University of Texas at Austin, 2013
- Isac Lee, Undergraduate Research Fellowship, the University of Texas at Austin, 2013

- Avinash Gadok, National Institutes of Health T32 Graduate Training Fellowship, 2012-2013
- Wilton Snead, University of Texas at Austin Graduate School Fellowship, 2013-2014
- Justin Houser, Travel Award to attend the National Meeting of the American Society for Cell Biology, San Francisco, CA, 2012
- Jerin Jose, Undergraduate Research Fellowship, the University of Texas at Austin, 2012

COMMUNITY ACTIVITIES / PUBLIC SERVICE:

- Presented at NASCENT Center nanoscience camp for high school students (Summer 2016, 2017)
- Presented on the graduate school admissions process to the Biomedical Engineering Honors Society at UT Austin (Fall 2016)
- Hosted Rockwall High School robotics team students (Summer 2016)
- Presented at WE@UT summer camp for high school women as prospective STEM undergraduates (Summer 2015)
- Hosted students from Bastrop High School (Bastrop, TX) as summer research assistants in my laboratory, as part of National Science Foundation CAREER Project (Summer 2015)
- Presented on career paths in Biomedical Engineering to Cockrell School Freshman Interest Group (Fall 2014)
- Presented to new faculty at the Cockrell School of Engineering Orientation (Fall 2014)
- Hosted students from Westwood High School (Round Rock, TX) as summer research assistants in my laboratory, as part of National Science Foundation CAREER Project (Summer 2014)
- Presented on Biomedical Engineering Careers at LASA (Liberal Arts and Science Academy) High School, Austin, TX (Spring 2014)
- Presented my research to the Lakeway Men's Breakfast Club, Lakeway, TX (Spring 2014).
- Presented at Texas 4000 Foundation student meeting (Spring 2014).
- Presented at WE@UT summer camp for high school women as prospective STEM undergraduates (Summer 2013)
- Presented to new faculty at the Cockrell School of Engineering Orientation (Fall 2013)
- Presented at UT Biomedical Engineering Graduate Women's Organization Meeting (Summer 2013)
- Judged UT BME Undergraduate Research Poster Competition (Spring 2012, 2013)
- Judged Cockrell School Undergraduate Research Poster Competition (Spring 2012)
- Judged Society for Biomaterials, "Biomaterials Day" poster competition at UT Austin (Summer 2013)
- Hosted visit of prospective minority students from UT Pan American (Spring 2013)
- Exhibited at "Explore UT" community outreach event, Spring 2013 (Spring 2014)
- Presented at University of Texas at Austin MITE Summer Program for prospective minority engineering students (Summer 2012)

VITA:

Dr. Jeanne Stachowiak completed her undergraduate education in Mechanical Engineering at the University of Texas at Austin in 2002. She received a Master's degree in Mechanical Engineering from the University of California, Berkeley in 2004, under the supervision of Professor Arun Majumdar. Her work focused on fabrication and characterization of micro-scale sensor arrays for detection of biomolecular interactions. Dr. Stachowiak received a Doctorate in Mechanical Engineering from the University of California, Berkeley in 2008. Her doctoral work, under

the supervision of Professor Daniel Fletcher, focused on development of microfluidic systems for transdermal drug delivery and encapsulation of biomolecules inside lipid membrane vesicles. After completing her Doctorate, Dr. Stachowiak served as a Senior Member of the Technical Staff at Sandia National Laboratories from 2008 to 2011, where her independent research program explored basic biophysical questions and practical applications of lipid membrane materials and systems. Dr. Stachowiak has served as a faculty member in the Department of Biomedical Engineering at the University of Texas at Austin since January 2012. She was promoted to Associate Professor with tenure in fall 2018. Through quantitative molecular-scale measurements and the design of biomimetic materials, her research program aims to elucidate the physical basis of cellular membrane organization and to design biologically-inspired materials and systems for biomedical applications.