CURRICULUM VITAE

Danielle Tullman-Ercek
Website: dtelab.northwestern.edu

EDUCATION

2006 PhD Chemical Engineering, University of Texas at Austin, Supervisor: George Georgiou
2000 BS Chemical Engineering, Biotechnology Specialization, Illinois Institute of Technology

CURRENT POSITION

2021-present	Professor, Chemical and Biological Engineering, Northwestern University
	Co-Director, Center for Synthetic Biology
	Director, MS Biotechnology Program

PREVIOUS POSITIONS

2016-2021	Associate Professor, Chemical and Biological Engineering, Northwestern University
2009-2016	Assistant Professor, Chemical Engineering, University of California Berkeley
2011-2016	Staff Scientist, Lawrence Berkeley National Laboratory
2008-2009	Postdoctoral Researcher, Lawrence Berkeley National Laboratory
2007-2008	Postdoctoral Researcher, University of California, San Francisco

HONORS, AWARDS, AND FELLOWSHIPS

2023	American Institute of Medical and Biological Engineering, Inducted to College of Fellows for "Developing new methods to engineer supramolecular protein assemblies and for fostering a diverse, inclusive synthetic biology community"
2022	Equalize Pitch Competition, MedTech Division, First Place
2020	Biochemical Engineering Journal Young Investigator Award
2018	Outstanding Young Alumna Award, Illinois Institute of Technology ChBE
2015	Searle Leadership Award
2015-16	Merck Chair in Biochemical Engineering
2015-16	Exxon Knowledge Build Award
2012	NSF CAREER Award
2012	Hellman Family Faculty Award
2010	Paper of the Year, Journal of the Taiwan Institute of Chemical Engineers
2009-14	Charles Wilke Endowed Chair in Chemical Engineering
2002-05	National Science Foundation Graduate Research Fellow
2002	Howard Hughes Medical Institute Predoctoral Fellowship Alternate
2001-02	National Institute of Health Predoctoral Training Grant
1997-00	Illinois Institute of Technology Camras/NEXT Scholarship
1996	Rensselaer Polytechnic Institute Medalist

RESEARCH SUPERVISION

2008-2023	13 Current PhD students
	20 PhD Students Graduated (7 Northwestern, 13 UC Berkeley): current 1 professor, 2 consultants, 1 government lab, 12 industry, 2 startup executives, 2 postdocs
2009-2023	1 Current Postdoc
	6 Postdocs Supervised (3 Northwestern, 3 UC Berkeley): current positions - 2 professors, 1 academic staff scientist, 1 national lab, 1 consultant, 1 government policy
2013-2023	17 MS Students Graduated (16 Northwestern, 1 UC Berkeley): 3 PhD, 1 policy, 1 science communication, 12 industry
2009-2023	68 BS Students Mentored (24 Northwestern, 44 UC Berkeley): 22 graduate school (1 professor)

TEACHING ACTIVITIES

2009-2016 Undergraduate courses in thermodynamics, biochemical engineering upstream and downstream processes, protein engineering.

2016-2023 Undergraduate courses in thermodynamics, biochemical engineering upstream processes, protein engineering. Graduate courses in biochemical engineering upstream processes, molecular folding and function. Summer short courses in synthetic biology in England, Italy, US (guest lecturer).

ORGANIZATION OF SCIENTIFIC MEETINGS (SELECTED)

2021-2022 American Chemical Society, 263rd National Meeting Division Programming Chair, Biotechnology Division (BIOT)
2020 Central US Synthetic Biology Workshop, Co-Chair of Organizing Committee
2014-2021 American Chemical Society, 3xNational Meeting BIOT Area Coordinator
2019 Organizing Committee, International Conference on Biomolecular Engineering
2017 American Society of Microbiology, Annual Meeting Plenary Session Organizer
2013 American Chemical Society, Theme Committee
2012 American Society of Microbiology, Annual Meeting Plenary Session Organizer

EXTERNAL LEADERSHIP ACTIVITIES (SELECTED)

2022-present Opera Bioscience, Chief Scientific Advisor and Co-Founder
2021-2022 Opera Bioscience, Chief Technology Officer and Co-Founder
2020-present Trends in Biotechnology, Advisory Board Member
2017-present ASM mSystems, Editor
2011-2023 ACS Synthetic Biology, Editorial Board Member
2017-2021 Current Opinion in Biotechnology, Editor, special issues
2017-2023 Engineering Biology Research Consortium, Council Member; Education Chair and Steering Committee Member (2017-2021)

INSTITUTIONAL ACTIVITIES (SELECTED)

2023-present Member, International Institute for Nanotechnology Steering Committee
2019-present Member, Chemistry of Life Processes Institute Faculty Executive Committee
2018-present Director, Synthetic Biology Research Experience for Undergraduates
2018-2021 Member, Institutional Biosafety Committee
2017-2023 Member, Faculty Search Committees (6)
2017-2019 Member, Graduate Admissions Committee

PUBLICATIONS (SELECTED), *indicates corresponding author

Liang, J.M., Burdette L., Wong H.T., Tullman-Ercek D.* (2023) "Construction of a constitutively active type III secretion system for heterologous protein secretion" Appl. Microbiol. Biotechnol. 107(5-6):1785-1800. doi: 10.1007/s00253-023-12411-9

Griffith J.E., Chen Y., Liu Q., Wang Q., Richards J.J., Tullman-Ercek D., Shull K., and Wang M.* (2023) "Quantitative high-throughput measurement of bulk mechanical properties using commonly available equipment." Materials Horizons 10: 97-106.

Mills C.E., Waltmann C. Archer A.G., Kennedy N.W., Abrahamson C.H., Jackson A.D., Roth E.W., Shirman S., Jewett M.C., Mangan N.M., Olvera de la Cruz M., Tullman-Ercek D.* (2022) "Vertex protein PduN tunes encapsulated pathway performance by dictating bacterial metabolosome morphology." Nature Comm 13: 3746.

Waltmann C., Mills C.E., Wang J., Qiao B., Torkelson J.M., Tullman-Ercek D., Olvera de la Cruz M.* (2022) "Functional enzyme-polymer complexes." Proc Natl Acad Sci 119(13):e2119509119. doi: 10.1073/pnas.2119509119.

Berger O., Battistella C., Chen Y., Oktawiec J., Siwicka Z., Tullman-Ercek D., Wang M., Gianneschi N.* (2022) "A mussel adhesive-inspired proteomimetic polymer." J Amer Chem Soc 144(10): 4383–4392. doi: https://doi.org/10.1021/jacs.1c10936.

Li Y., Kennedy N.W., Li S., Mills C.E., Tullman-Ercek D.*, Olvera de la Cruz M.* (2021) "Computational and experimental approaches to controlling bacterial microcompartment assembly." ACS Central Science 7(4):658-670.

Chen Y., Wang Q., Mills C.E., Kann J.G., Shull KR, Tullman-Ercek D., Wang M.* (2021) "High-Throughput Screening Test for Adhesion in Soft Materials Using Centrifugation." ACS Central Science 7(7):1135-1143. doi: 10.1021/acscentsci.1c00414.

Brauer D.D., Hartman E.C., Bader D.L.V., Merz Z.N., Tullman-Ercek D.*, Francis M.B.* (2019) "Systematic engineering of a protein nanocage for high-yield, site-specific modification." J. Amer. Chem. Soc. 141(9): 3875-84.

Hartman E.C., Jakobson C.M., Favor A.H., Benedicto E.A., Francis M.B.*, Tullman-Ercek D.* (2018) "Quantitative characterization of all single amino acid variants of a viral capsid-based drug delivery vehicle." Nature Comm. 9(1): 1385.

Glasgow J.E., Asensio M.A., Jakobson C.M., Francis M.B., Tullman-Ercek D.* (2015) "The influence of electrostatics on small molecule flux through a protein nanoreactor." ACS Synth. Biol. 4(9):1011-9.

PATENTS

"Recombinant Strains and Media Formulation For Enhancing Secretion Titer Using a Type III Secretion System." D. Tullman-Ercek, L.A. Burdette, H.T. Wong (2019). United States Patent Application US2020/013963. (PCT application filed.)

"Inducible Feedback Promoter Systems and Uses Thereof." K. E. Tyo, B. Biggs, D. Tullman-Ercek, J. Lucks, C. Glasscock (2018). United States Patent Application 62/730,720. (PCT application filed.)

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