Teisha Jane Rowland, Ph.D.

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Education:

2017-2019 **Post-doctoral Researcher, Department of Biochemistry**
Mentor: Thomas R. Cech, Ph.D.
University of Colorado at Boulder (CU Boulder) and Howard Hughes Medical Institute (HHMI)

2015-2017 **Post-doctoral Fellow, Department of Medicine, Cardiovascular Institute, Adult Clinical Genetics**
Mentors: Luisa Mestroni, M.D., and Matthew Taylor, M.D., Ph.D.
University of Colorado Denver Anschutz Medical Campus (UCD-AMC)

2006-2011 **Ph.D. in Molecular, Cellular, & Developmental Biology** (MCDB)
Advisor: Prof. Dennis O. Clegg, University of California at Santa Barbara (UCSB)
Dissertation: Human Pluripotent Stem Cells and the Role of the Extracellular Matrix in Undifferentiated Growth and Differentiation to Retinal Pigmented Epithelium

2001-2005 **B.A. in Molecular, Cellular, & Developmental Biology and Humanities** (focuses in English & history)
Minor in Environmental, Population, and Organismic Biology
CU Boulder (3.69 GPA)

Professional Positions:

2021- **Principal Scientist, iPSC Team Lead, Umoja Biopharma, Boulder, Colorado**
Engineered Allogeneic Therapies Co-Lead and iPSC Team Lead developing cancer immunotherapies using human induced pluripotent stem cell (iPSC), precision gene-editing, and suspension technologies. Developed SOPs for differentiating iPSCs into immune cell types, including statistical indicators of differentiation success, quantified by marker expression, yields, and fold expansions. Coordinated *in vivo* studies, developed scalable protocols, and led partnership with iPSC encapsulation company TreeFrog Therapeutics, including international technology transfer. Named inventor on numerous patent applications. Pursued and evaluated CDMOs for GMP manufacturing needs. Identified, selected, and negotiated MTA for GMP-compliant iPSC line and led evaluation including technical performance, Quality/Regulatory and GMP audit compliance, and commercial/therapeutic use licensing. Prepared and gave presentations to leadership, Board of Directors, and investors. Developed and prioritized team goals while coordinating and receiving approval from leadership, adapted timelines, aligned and coordinated team efforts, co-managed team budget (annually ≈$5M). Developed job descriptions, onboarded new hires, and directly managed four scientists and consultants (Process Scalability Eng., Assoc. Scientist, Scientist, and Sr. Scientist). Reported directly to VP, Head of Translational Sciences, Ryan Larson.

2019-2021 **Founding Director, Stem Cell Research and Technology Resource Center, CU Boulder**
Founding director of campus-wide shared facility with the mission of promoting interdisciplinary research utilizing human induced pluripotent stem cells (iPSCs). Outfitted Center space (1,250 ft^2) with equipment and consumables ideal for iPSC culture on limited startup budget ($150K). Developed 5-yr revenue forecast model to secure ~$475,000 in additional funding through CU's Financial Futures program to fully equip the Center and hire FTE technician. Served as a consultant on iPSCs, including by attending conferences and staying current on iPSC findings, technologies, products, and developing specialized iPSC SOPs, including targeted differentiation and CRISPR/Cas9 gene-editing. Served as a consultant for editing/writing grant applications and scientific manuscripts, including teaching a graduate-level grant proposal writing course. Created and managed regular hands-on/remote workshops in human iPSC culture for those at the CU Boulder campus, other campuses, and external/industry users, training 61 researchers total. Organized a monthly stem cell seminar series (SCORE) between the Boulder/Anschutz campuses, advertised to 300+ researchers, and had ~30-50 monthly attendees. Organized lab space to be easily accessible by users, including creating informative signage, labels, and notices, online shared spreadsheets, etc. Advertised for the Center through fliers, mailings, Center website, as well as by representing the Center at professional conferences. Housed in MCDB. Supervisor: Lee Niswander, Ph.D.

2017-2019 **Post-doctoral Researcher, CU Boulder**
Investigated molecular and epigenetic regulation of telomerase expression and activity in cancerous cells and human iPSCs. Trained others in culturing iPSCs, including presenting a workshop. Funded by NIH, HHMI, Department of Biochemistry, and BioFrontiers Institute. Laboratory: Thomas R. Cech, Ph.D.

2015-2017 **Post-doctoral Fellow, UCD-AMC**
Researched genetic mechanisms of cardiomyopathies, including high-throughput screening of compound libraries on patient-based iPSC-derived cardiomyocytes. Established iPSC culture space and trained others. Funded by the Leducq Foundation, in the Department of Medicine, Division of Cardiology. Laboratory: Luisa Mestroni, M.D. and Matthew Taylor, M.D., Ph.D.

2011-2015 **Scientist/Science Writer for Science Buddies (**http://www.sciencebuddies.org**)**
Conceived of, tested, wrote, and edited science project ideas and other K-12 science material, pursued grant and sponsor funding, and developed collaborations with universities (including the Arabidopsis Biological Resource Center at the Ohio State University and the Center for Environmental Implications of Nanotechnology at the University of California, Los Angeles). Wrote home science activities for *Scientific American*'s series "Bring Science Home" (http://www.scientificamerican.com/education/) and for National Public Radio's *Science Friday* (https://sciencefriday.com/educate/).

2011-2012 **Medical Writer/Editor for the UCD-AMC**
Wrote and edited grant proposals, medical manuscripts, protocols, and other documents for the Department of Radiation Oncology. Created and maintained a centralized resource listing funding opportunities, and worked with individual faculty to identify relevant opportunities based on their research, to increase the number and quality of proposals submitted. Gave presentation on writing grant proposals
Supervisors: Dr. Moyed Miften and Dr. Laurie Gaspar

2006-2011 **Ph.D. Graduate Student in Molecular, Cellular, & Developmental Biology, UCSB**
Examined expression of integrins in human embryonic stem cells (hESCs), iPSCs, and derived retinal pigment epithelium to optimize synthetic matrices for directed differentiation.
Laboratory: Prof. Dennis O. Clegg

Publications:

33. **Rowland, T.J.**, O'Hara, S.D., Vereide, D., Koning, R., Yingst, A., Jarrell, D., Arnold, C.A., Hernandez, S., Mittelsteadt, K., Nicolai, C., Leung, W., Beitz, L., Ryu, B., Crisman, R., Scharenberg, A., Garbe, C., Larson, R.P. (*in preparation*) Using a synthetic cytokine receptor platform with human iPSCs to produce cytotoxic innate lymphocytes as off-the-shelf cancer therapeutics.

32. Yang, Q., Warren, C.J., Barbachano-Guerrero, A., Fairchild, L.M., **Rowland, T.J.**, Allen, M.A., Dowell, R.D., Sawyer, S.L. (*in preparation*) Macrophages derived from human induced pluripotent stem cells (iPSCs) serve as a high-fidelity humanized cellular model for investigating HIV-1, dengue, influenza, and other viruses.

31. Quansah, M., Fetter, M., Fineran, A., Colling, H., **Rowland, T.J.**, Bonham, A.J. (*submitted*) Rapid and quantitative detection of lung cancer biomarker ENOX2 using an aptamer in an electrochemical DNA-based (E-DNA) biosensor.

30. Pooch, D.J., **Rowland, T.J.**, Bonham, A.J. (*submitted*) Pyllelic: Software for the individual read-level analysis of bisulfite-sequencing data.

29. Barnes, A.M., Holmstoen, T.B., Bonham, A.J., **Rowland, T.J.** (2022) Differentiating human pluripotent stem cells to cardiomyocytes using purified extracellular matrix proteins. *Bioengineering.* 9(720):1-17.

28. Nguyen, A.B.N., Maldonado, M., Poch, D., Sodia, T., Smith, A., **Rowland, T.J.**, Bonham, A.J. (2021) Electrochemical DNA Biosensor that Detects Early Celiac Disease Autoantibodies. *Sensors.* 21(2671):1-8.

27**. Rowland, T,J.**, Bonham, A.J., Cech, T.R. (2020) Allele-specific proximal promoter hypomethylation of the telomerase reverse transcriptase gene (*TERT*) associates with *TERT* expression in multiple cancers. *Mol. Oncol.* 14(10):2358-2374.

26. Del Favero, G., Bonifacio, A., **Rowland, T.J.**, Gao, S., Song, K., Sergo, V., Adler, E.D., Mestroni, L., Sbaizero, O., Taylor, M.R.G. (2020) Danon disease-associated LAMP-2 deficiency drives metabolic signature indicative of mitochondrial aging and fibrosis in cardiac tissue and hiPSC-derived cardiomyocytes. *J. Clin. Med.* 9(8):2457.

25**. Rowland, T.J.**, Dumbovic, G., Hass, E.P., Rinn, J.L., Cech, T.R. (2019) Single-Cell Imaging Reveals Unexpected Heterogeneity of Telomerase Reverse Transcriptase Expression Across Cancer Cell Lines. *Proc. Natl. Acad. Sci*., 116(337):18488-18497.

24. Gigli, M., Merlo, M., Graw, S., Barbati, G., **Rowland, T.J.**, Slavov, D., Stolfo, D., Sweet, M., Dal Ferro, M., Altinier, A., Ramani, F., Brun, F., Cocciolo, A., Puggia, I., Morea, G., McKenna, W., La Rosa, F.G., Taylor, M.R.G., Sinagra, G., Mestroni, L. (2019) Genetic Risks for Arrhythmia Phenotypes in Dilated Cardiomyopathy. *J. Amer. Coll. Card.*, 74(11):1480-1490.

23. Peña, B., Maldonado, M., Bonham, A.J., Aguado, B.A., Dominguez-Alfaro, A., Laughter, M., **Rowland, T.J.**, Bardill, J., Farnsworth, N.L., Ramon, N.A., Taylor, M.R.G., Anseth, K.S., Prato, M., Shandas, R., McKinsey, T., Park, D., Mestroni, L., (2019) Gold Nanoparticle-Functionalized Reverse Thermal Gel for Tissue Engineering Applications. *ACS Appl. Mater. Interfaces*, 11(20):18671-18680.

22. Puggia, I., **Rowland, T.J.**, Miyamoto, S.D., Sinagra, G., Mestroni, L. (2018) Molecular and Cellular Mechanisms in Heart Failure, in *Heart Failure in the Child and Young Adult: From Bench to Bedside*, Elsevier.

21. Peña, B., Laughter, M., Jett, S., **Rowland, T.J.**, Taylor, M.R.G., Mestroni, L., Park, D. (2018) Injectable Hydrogels for Cardiac Tissue Engineering. *Macromolecular Bioscience*, 18(1800079):1-22.

20. Begay, R.L., Graw, S.L., Sinagra, G., Asimaki, A., **Rowland, T.J.**, Slavov, D. B., Gowan, K., Jones, K. L., Brun, F., Merlo, M., Miani, D., Sweet, M., Devaraj, K., Wartchow, E. P., Gigli, M., Puggia, I., Salcedo, E. E., Garrity, D. M.,

Ambardekar, A. V., Buttrick, P., Reece, T. B., Bristow, M. R., Saffitz, J. E., Mestroni, L., Taylor, M.R.G. (2018) *Filamin C* Truncation Mutations Are Associated With Arrhythmogenic Dilated Cardiomyopathy and Changes in the Cell-Cell Adhesion Structures. *JACC: Clinical Electrophysiology*, 4(4):504-514.

19. **Rowland, T.J.**, Friedlander, M., Hinton, D.R., Gamm, D.M., Clegg, D.O. (2017) Stem Cells and Cellular Therapy, in *Ryan's Retina*, 6th edition, Elsevier.

18. Hashem, S.I., Murphy, A.N., Divakaruni, A.S., Klos, M.L., Nelson, B.C., Gault, E.C., **Rowland, T.J.**, Perry, C.N., Gu, Y., Dalton, N.D., Bradford, W.H., Devaney, E.J., Peterson, K.L., Jones, J.L., Taylor, M.R.G., Chen, J., Chi, N.C., Adler, E.D. (2017) Impaired Mitophagy Facilitates Mitochondrial Damage in Danon Disease. *Journal of Molecular and Cellular Cardiology*, 108:86-94.

17. Peña, B., Bosi, S., Aguado, B., Borin, D., Farnsworth, N., Dobrinskikh, E., **Rowland, T.J.**, Martinelli, V., Jeong, M., Taylor, M.R.G., Long, C.S., Shandas, R., Sbaizero, O., Prato, M., Anseth, K.S., Park, D., Mestroni, L. (2017) Injectable Carbon Nanotube-Functionalized Reverse Thermal Gel Promotes Cardiomyocyte Survival and Maturation. *ACS Applied Materials & Interfaces*, 9(37):31645-31656.

16. Daniel, J., Fetter, L., Jett, S., **Rowland, T.J.**, Bonham, A.J. (2017) Electrochemical Aptamer Scaffold Biosensors for Detection of Botulism and Ricin Proteins, in *Methods in Molecular Biology*, Second Edition, O. Holst, Ed., Springer.

15. **Rowland, T.J.**, Graw, S.L., Sweet, M.E., Gigli, M., Taylor, M.R.G., Mestroni, L. (2016) Obscurin Variants in Patients with Left Ventricular Noncompaction. *Journal of the American College of Cardiology*, 68(20): 2237-38.

14. **Rowland, T.J.**, Mestroni, L., Taylor, M.R.G. (2016) Danon Disease: Dysregulation of Autophagy in a Multisystem Cardiomyopathy. *Journal of Cell Science*, 129(11): 2135-43.

13. Puggia, I., Merlo, M., Barbati, G., **Rowland, T.J.**, Stolfo, D., Gigli, M., Ramani, F., Di Lenarda, A., Sinagra, G. (2016) Natural History of Dilated Cardiomyopathy in Children. *Journal of the American Heart Association*, 5 (7): 1-10.

12. Begay, R.L., Tharp, C.A., Martin, A., Graw, S.L., Sinagra, G., Miani, D., Slavov, D.B., **Rowland, T.J.**, Stafford, N., Sweet, M.E., Brun, F., Jones, K.L., Gowan, K., Mestroni, L., Garrity, D.M., Taylor, M.R.G. (2016) *FLNC* Gene Splice Mutations Cause Dilated Cardiomyopathy. *Journal of the American College of Cardiology: Basic to Translational Science*, 1 (5): 344-359.

11. Fetter, L., Richards, J., Daniel, J., Roon, L., **Rowland, T.J.**, Bonham, A.J. (2015) Electrochemical Aptamer Scaffold Biosensors for Detection of Botulism and Ricin Toxins. *Chemical Communications*, 51: 15137-15140.

10. Hossein, N., Zhang, L., Zhu, D., Chader, G., Falabella, P., Stefanini, F., **Rowland, T.J.**, Clegg, D.O., Kashani, A., Hinton, D., Humayun, M. (2015) Stem Cell Based Therapies for Age-Related Macular Degeneration: The Promises and the Challenges. *Progress in Retinal and Eye Research*, 48: 1-39.

9. Clegg, D.O., Hikita, S.T., Buchholz, D.E., **Rowland, T.J.**, Conti, L., Pennington, B., Croze, R., Leach, L., Tsie, M., and Johnson, L.V. (2013) Derivation of retinal pigmented epithelial cells from pluripotent stem cells, in *Stem Cells Handbook*, Second Edition, S. Sell, Ed., Springer.

8. **Rowland, T.J.**, Blaschke, A.J., Buchholz, D.E., Hikita, S.T., Johnson, L.V., Clegg, D.O. (2013) Differentiation of Human Pluripotent Stem Cells to Retinal Pigmented Epithelium in Defined Conditions Using Purified Extracellular Matrix Proteins. *Journal of Tissue Engineering and Regenerative Medicine*, 7 (8): 642-653.

7. **Rowland, T.J.**, Buchholz, D.E., Clegg, D.O. (2012) Pluripotent Human Stem Cells for the Treatment of Retinal Disease. *Journal of Cellular Physiology*, 227 (2): 457-466.

6. **Rowland, T.J.** (2011) Human Pluripotent Stem Cells and the Role of the Extracellular Matrix in Undifferentiated Growth and Differentiation to Retinal Pigmented Epithelium. Dissertation.

5. **Rowland, T.J.**, Miller, L.M., Blaschke, A.J., Doss, E.L., Bonham, A.J., Hikita, S.T., Johnson, L.V., Clegg, D.O. (2010) Roles of Integrins in Human Induced Pluripotent Stem Cell Growth on Matrigel and Vitronectin. *Stem Cells and Development*, 19 (8): 1231-1240.

4. Clegg, D.O., **Rowland, T.J.** (2010) Dan E. Koshland, Jr. *Proceedings of the American Philosophical Society*, 154 (4): 478-483.

3. Buchholz, D.E., Hikita, S.T., **Rowland, T.J.**, Friedrich, A.M., Hinman, C.R., Johnson, L.V., Clegg, D.O. (2009) Derivation of Functional Retinal Pigmented Epithelium from Induced Pluripotent Stem Cells. *Stem Cells*, 27 (10): 2427-2434.

2. Clegg, D.O., Buchholz, D., Hikita, S.H., **Rowland, T.J.**, Hu, Q., Johnson, L.V. (2008) Retinal Pigment Epithelial Cells: Development *in vivo* and Derivation from Human Embryonic Stem Cells *in vitro* for Treatment of Age-Related Macular Degeneration, in *Stem Cell Research and Therapeutics*, Springer.

1. Hamilton, E.P., Dear, P.H., **Rowland, T.J.**, Saks, K., Eisen, J.A., Orias, E. (2006) Use of HAPPY Mapping for the Higher Order Assembly of the *Tetrahymena* Genome. *Genomics*, 88: 443-451.

Research Skills:

Extensive background in molecular, cellular, and developmental biology and next-generation sequencing (NGS) genomics analysis: comprehensive mammalian cell culture; stem cell culture (hESCs, hiPSCs, and MSCs); targeted iPSC differentiation to retinal cells, cardiomyocytes, and different immune cell types; cell type phenotyping; CRISPR/Cas9 gene-editing; 3D, bioreactor, and biomimetic polymer culture systems; isolation of stem cells from tissues; handling patient tissue samples and materials; cell adhesion assays; cell proliferation assays; immunocytochemistry and fluorescence microscopy; protein expression detection via Western blot; flow cytometry; fluorescence activated cell sorting (FACS); NGS bioinformatics data analysis; RNA-Sequencing (RNA-Seq); RNA-Seq and bisChIP-Seq data; PCR; qRT-PCR; ChIP; bisulfite conversion cloning; protein purification; human cell transfection; precision medicine approaches, including designing high-throughput screening (HTS) of small-molecule compound libraries.

Teaching Experience:

2019-2020 **Part-Time Instructor at CU Boulder, Dept. of MCDB**
Co-taught Writing Skills for Scientists (MCDB 6440) in Fall 2019 and 2020 to help graduate students improve grant proposal writing skills (using NIH F31-style individual research fellowship proposal). Course is required by 2nd-year MCDB graduate students; graduate students from other departments also enrolled. Prepared lectures, in-class activities, and homework; gave extensive feedback on and editing of writing assignments; managed discussions of proper writing and editing styles. Co-instructor: Paul Muhlrad

2017 **Affiliate / Part-Time Instructor at UCD, Dept. of Integrative Biology**
Taught General Genetics lecture (BIOL 3832) in summer 2017 and helped students master the course materials by preparing lectures, i>Clicker discussion questions, exams, quizzes, syllabus, homework, worksheets, and study aids. Mentored teaching assistants. Student FCQs rated the course overall as 4.7/6, instructor overall as 4.9/6, how much learned as 5.0/6, instructor's respect as 5.6/6 (6 is highest).

2015 **Affiliate / Part-Time Instructor at Metropolitan State University (MSU) of Denver, Dept. of Biology**
Taught General Biology I Lecture and Laboratory (BIO 1080 and 1081) in the spring 2015 semester and helped students master the course materials by preparing lectures, exams, quizzes, syllabi, online homework, and other study aids. Student evaluations for both the lecture and the lab rated the instructor's contribution and course as a whole as being between "Excellent" and "Very Good" on average.

Grants/Funding:

2020 **Core Facility Assistance Grant Program (CFAG) FY21, CU Boulder**
Received funding for three CFAG proposals: Improving remote operations and safety of the Stem Cell Research and Technology Resource Center ($10,589); Novel use of electrophysiology to study Alzheimer's disease-associated sleep-related pathology in human pluripotent stem cell-derived neurons ($4,560; co-PI with Chris Link [IPHY]); Production and characterization of monocytes and macrophages from human pluripotent stem cells ($7,680; co-PI with Sara Sawyer [MCDB]).

2020 **The Stem cells for Undergraduate Research Engagement (SURE) Fellowship Program, CU Boulder**
Received funding from the Undergraduate Research Opportunities Program (UROP) ($4,000) to establish a fellowship program for undergraduate students to receive training and be paired with a faculty mentor to undertake their own stem cell-based research project utilizing the Center's laboratory space.

2020 **Professional Development Funds Award for Ashlynn Barnes (Summer 2020), CU Boulder**
Received funding ($3000) to mentor Ashlynn Barnes, an undergraduate student, on creating a systematic literature review on the effects of the ECM on heart development and iPSC cardiomyocyte differentiation.

2020 **UROP Grant Award for Ashlynn Barnes (Academic Year 2020-2021), CU Boulder**
Received funding ($1500) to mentor Ashlynn Barnes, an undergraduate student, on a research project identifying ECM proteins that will enhance iPSC differentiation to cardiomyocytes. (Delayed from Summer 2020 due to COVID19 research delays.)

2019 **Financial Futures Award, CU Boulder**
Awarded funding ($475,000 over five years) to fully equip the Stem Cell Research and Technology Resource Center and hire a full-time technician.

2019 **Conference Award, 2019 International Institute for Sustainable Laboratories (I2SL)**
Registration award ($825) given to applying attendees for the 2019 I2SL Annual Conference.

2018 **Travel Award, Postdoctoral Association of Colorado (PAC), CU Boulder**
Travel award ($300) given to postdoctoral researcher to present their research at a conference.

2016 **Travel Award, American Heart Association's Functional Genomics & Translational Biology Council**
Travel award ($500) given to trainee to present at the AHA Scientific Sessions 2016.

2016 **Team Science Award, UCD-AMC, Department of Medicine**
Awarded funding ($40,000 over one year) for "High-Throughput Screening of Patient iPSC-Derived Cardiomyocytes for Precision Medicine Treatments of Cardiomyopathy." Role: Co-PI

2016 **Travel Award, UCD Postdoc Association**
Travel award ($500) given to a postdoctoral student to present at a scientific meeting.

2015-2017 **Leducq Foundation Postdoctoral Fellow**
Award focusing on training successful junior/postdoctoral researchers.

2009-2011 **California Institute for Regenerative Medicine (CIRM) Scholarship**
Awarded to experienced predoctoral and postdoctoral stem cell researchers. Annual $25,000 stipend and $5,000 for research support.

2009-2010 **Academic Senate Doctoral Student Travel Grant Award**
Graduate award ($1000) for a Ph.D. graduate student to present at a relevant international meeting.

2009-2010 **Ellen Schamberg Burley Graduate Award**
Graduate award ($500) for a Ph.D. biological sciences graduate student to present at a scientific meeting.

2007 **Sigma Xi Grant Award**
Research award ($500) given to a Ph.D. graduate student to support a research proposal.

2006-2007 **Amgen Fellowship**
Assists outstanding Ph.D. students in the MCDB program.

Awards/Honors:

2020 **CU Green Labs Award Recipient; Category: Partnership for Lab Sustainability**
Received sustainability award for the efforts of the Stem Cell Research and Technology Resource Center.

2017 **Invited Keynote Speaker for MSU Denver WiSE Banquet**
Gave an inspirational keynote presentation on my experiences in the sciences to the MSU Denver WiSE chapter for their annual banquet.

2016 **Peer Mentor Award, UCD Graduate School, Broadening Experiences in Scientific Training (BEST)**
Award given to a postdoctoral researcher for outstanding mentoring of a graduate student.

2016 **1st Place Oral Presentation in Translational Research, UCD Postdoctoral Research Day**
Award given at Postdoctoral Research Day 2016 for best oral research presentation.

2014 **Next Generation Indie Book Awards Finalist**
Awards finalist for *Biology Bytes: Digestible Essays on Stem Cells and Modern Medicine* book.

2011 **ScienceLine Outstanding Answerer Award in Life Sciences**
Award given by UCSB for excellence in answering science questions from students K-12.

2007-2008 **Jean Devlin Fellowship**
Graduate award ($1000) given to a Ph.D. MCDB graduate student for best qualifying exam performance.

Presented Research:

Rowland, T.J., Vereide, D., O'Hara, S.D., Koning, R., Hoffmann, M., Yingst, A., Nicolai, C., Pankau, M., Mittelsteadt, K., Michels, K., Shin, S., Beitz, L., Ryu, B., Crisman, R., Scharenberg, A., Garbe, C., Larson, R.P. (2022) Engineering iPSCs with synthetic receptors to drive differentiation compatible with scale-up. Oral presentation at the iPSC Manufacturing Summit in 2022, Boston, MA.

Rowland, T.J., Vereide, D., O'Hara, S.D., Koning, R., Hoffmann, M., Yingst, A., Nicolai, C., Pankau, M., Mittelsteadt, K., Michels, K., Shin, S., Beitz, L., Ryu, B., Crisman, R., Scharenberg, A., Garbe, C., Larson, R.P. (2022) A synthetic cytokine receptor platform for producing cytotoxic innate lymphocytes as off-the-shelf cancer therapeutics. Poster presentation at the International Society for Stem Cell Research (ISSCR) 2022, San Francisco, CA.

Vereide, D., O'Hara, S.D., Rowland, T.J., Koning, R., Hoffmann, M., Yingst, A., Nicolai, C., Pankau, M., Mittelsteadt, K., Michels, K., Shin, S., Beitz, L., Ryu, B., Crisman, R., Scharenberg, A., Garbe, C., Larson, R.P. (2022) A synthetic cytokine receptor platform for producing cytotoxic innate lymphocytes as "off-the-shelf" cancer therapeutics. Oral presentation at International Society for Cell & Gene Therapy (ISCT) 2022, San Francisco, CA.

O'Hara, S.D., Rowland, T.J., Koning, R., Vereide, D., Hoffmann, M., Yingst, A., Nicolai, C., Pankau, M., Mittelsteadt, K., Michels, K., Shin, S., Beitz, L., Ryu, B., Crisman, R., Scharenberg, A., Garbe, C., Larson, R.P. (2022) Engineered differentiation and expansion of iPSC-derived synthetic cytolytic innate lymphoid

(iCILs) effector cells as “off-the-shelf” cancer therapeutics. Oral presentation at The American Association for Cancer Research (AACR) 2022, New Orleans, LA.

Pooch, D.J., Rowland, T.J., Bonham, A.J. (2022) Pyllelic, a Software Suite for Examining Allelic DNA CpG Methylation Patterns in Genomic Datasets. Poster presentation at American Society for Biochemistry and Molecular Biology (ASBMB) 2022, Philadelphia, PA.

Rowland, T.J., Cech, T.R. (2018) Epigenetic Regulation of Allelic *TERT* Expression in Cancer Cells. Presented as a poster at multiple conferences: Chromatin Structure and Function, Gordon Research Conference 2018, Newry, ME; ASBMB 2018, San Diego, CA; Colorado Chromatin and Genome Regulation Meeting 2018, Anschutz Medical Campus, Aurora, CO.

Rowland, T.J., Hashem, S.I., Jones, J., Adler, E.D., Mestroni, L., Taylor, M.R.G. (2016-2017) Characterization and High-Throughput Drug Screening of a Cardiomyopathy Using Cardiomyocytes from Patient-Derived Induced Pluripotent Stem Cells. Presented as a poster at multiple conferences: ASBMB 2017 Annual Meeting at Experimental Biology 2017, Chicago, IL; American Heart Association Scientific Sessions 2016 in New Orleans, LA.

Rowland, T.J., Graw, S.L., Gigli, M., Taylor, M.R.G., Mestroni, L. (2016) Obscurin Variants in Patients with Left Ventricular Noncompaction. (2016) The American Society of Human Genetics 2016, Vancouver, CA.

Rowland, T.J., Hashem, S.I., Jones, J., Adler, E.D., Mestroni, L., Taylor, M.R.G. (2015-2016) Characterization of a Cardiomyopathy Using Cardiomyocytes from Patient-Derived Induced Pluripotent Stem Cells. Presented as a poster or oral presentation* at multiple conferences: 2016 Keystone Symposia Conference: Heart Failure: Genetics, Genomics and Epigenetics, joint meeting with Cardiac Development, Regeneration and Repair, Snowbird, UT; UCD Postdoctoral Research Day 2016, Aurora, CO*; UCD-AMC Department of Medicine Research Day (2015), Aurora, CO.

Begay, R.L., Rowland, T.J., Tharp, C.A., Martin, A., Graw, S.L., Sinagra, G., Miani, D., Slavov, D.B., Stafford, N., Sweet, M.E., Brun, F., Jones, K.L., Gowan, K., Mestroni, L., Garrity, D.M., Taylor, M.R.G. (2015) Characterization of Arrhythmogenic Dilated Cardiomyopathy Caused by Novel Filamin C Splice Variant in a Zebrafish Model. The Basic Cardiovascular Sciences Scientific Sessions, New Orleans, Louisiana.

Rowland, T.J., Blaschke, A.J., Buchholz, D.E., Clegg, D.O. (2010-2011) Differentiation of Human Pluripotent Stem Cells to Retinal Pigmented Epithelium using Purified Extracellular Matrix Proteins. Presented at multiple conferences: 12th Annual University of California Systemwide Bioengineering Symposium (2011), Santa Barbara, CA; 2011 Institute for Collaborative Biotechnologies Army-Industry Collaborative Conference, Santa Barbara, CA; 3rd International Congress on Stem Cells and Tissue Formation (2010), Dresden, Germany.

Rowland, T.J., Blaschke, A.J., Buchholz, D.E., Clegg, D.O. (2010) The Function of the Extracellular Matrix in the Differentiation of Human Induced Pluripotent Stem Cells to Retinal Pigment Epithelium. Presented at multiple conferences: International Society for Stem Cell Research 8th Annual Meeting, San Francisco, CA; CIRM Grantee Meeting, San Francisco, CA.

Rowland, T.J., Miller, L., Hikita, S.T., Blaschke, A.J., Johnson, L.V., and Clegg, D.O. (2009) Integrin Expression and Function in Human Induced Pluripotent Stem Cells and the Ability of Purified Vitronectin to Support Long-Term Undifferentiated Growth, International Society for Stem Cell Research 7th Annual Meeting, Barcelona, Spain.

Rowland, T.J. and Clegg, D.O. (2008-2010) Presented multiple posters on using integrin expression and function to develop defined systems for human embryonic stem cells and induced pluripotent stem cells, UCSB Molecular, Cellular, and Developmental Biology Annual Retreat & Symposium, Santa Barbara, CA.

Additional Teaching Experience:

2019 **Invited Speaker for Alternative Careers to Academia (NRSC 2101/6602, Fall) at CU Boulder**
Lectured on my stem cell research and careers in science writing, teaching, and iPSC research to undergraduate and graduate students, and research associates. Instructor: Linda Watkins

2019 **Invited Speaker for Biology of Stem Cells course (MCDB 4615/5615, Fall) at CU Boulder**
Lectured on my stem cell research to undergraduate and graduate students. Instructor: Prof. Rui Yi

2019 **Invited Speaker for CU Boulder’s Neuroscience Academy through CU Science Discovery**
Lectured on careers in science writing, teaching, and iPSC research, to high school students and gave tours of the Stem Cell Research and Technology Resource Center.

2019 **Invited for interview by *The Scientist* as an iPSC expert**
Interviewed for the article “Clinical Trial Underway for a Natural Killer Cell Therapy,” published May 7, 2019, with Chia-Yi Hou, as an expert on human iPSC biology.

2018-2021 **Mentor for CU Boulder Women in Science and Engineering (WiSE) Undergrad Mentoring Program**
Providing career and research advice for an undergraduate and graduate student in MCDB.

2018 **Presented workshop on Introduction to Culturing Human iPSCs at CU Boulder**
Planned and presented workshop for graduate students, postdocs, and research assistants learning how to culture iPSCs at CU Boulder, BioFrontiers Institute.

2018 **Invited Speaker for CU Boulder Annual SciComm Symposium**
Presented a TED-style research talk for the general public on how telomerase makes cancer cells "immortal." Symposium organized by CU Boulder WiSE.

2018 **Invited Speaker for CU Boulder WiSE Seminar Series**
Lectured on careers in science writing, teaching, and research to graduate students and postdocs.

2015 **Invited Speaker for Careers in Science Club at UCD-AMC**
Lectured on careers in science writing, teaching, and research to graduate students and postdocs.

2015 **Invited Speaker for Biology CS 10: Perceptions of Public Health: Communicating Science, UCSB**
Lectured on how to effectively communicate health-related science with the general public at UCSB.

2014 **Invited Speaker for the Norlin Scholars Program at CU Boulder**
Gave readings from the *Biology Bytes* books I authored and discussed process of self-publishing books.

2010, 2011 **Invited Speaker for INT 184KF: Research Bench to Paper to Media Outlet, How Much Spin?, UCSB**
Shared perspectives and led discussion for an honors seminar series on science and the media at UCSB.

2008, 2009 **Lecture Teaching Assistant for MCDB 246: Stem Cell Biology in Health and Disease, UCSB**
Lectured on effective proposal writing, presented case studies, served as an ongoing student resource, developing grading rubrics, and graded proposals in this graduate student-level stem cell course at UCSB.

2008-2012 **ScienceLine Answerer for Life Science Questions, UCSB**
Answer science questions for UCSB internet project from children K-12. Received ScienceLine Answered Award in Life Sciences.

2007 **Lecture Teaching Assistant for MCDB1A and MCDB1B: Introductory Biology, UCSB**
Wrote and graded exams, held review sessions, led student discussions, and answered student questions at UCSB.

2006 **Laboratory Teaching Assistant for MCDB/EEMB 2L: Introductory Biology Laboratory II, UCSB**
Instructed two weekly laboratory sections, guiding students through inquiry-based biology experiments. Wrote quizzes, answered student questions, and graded reports at UCSB.

Professional Memberships:

2021- **Associate Member, The American Association of Immunologists (AAI)**

2016- **Associate Member, The American Association for Cancer Research (AACR)**

2009- **Member, International Society for Stem Cell Research (ISSCR)**

2019-2021 **Associate Member, Sigma Xi, Scientific Research Honor Society**

2016-2019 **Member, The American Society for Biochemistry and Molecular Biology (ASBMB)**

2016-2017 **Member, The American Society of Human Genetics (ASHG)**

2015-2017 **Member, American Heart Association (AHA), Functional Genomics & Translational Biology Council**

Professional Science Writing and Editing Experience:

2013 **Author of *Biology Bytes* books**
Updated, formatted, and self-published two science books for the general public, *Biology Bytes: Digestible Essays on Stem Cells and Modern Medicine* and *Biology Bytes: Digestible Essays on Animals Both Commonplace and Bizarre.* Available at http://www.amazon.com/Teisha-J.-Rowland/e/B00FLBBORG/
Editor: Prof. Andrew J. Bonham

2009-2011 **Creator and Writer of the Santa Barbara Independent's Column "Biology Bytes"**
Published weekly newspaper articles on different biology topics at http://www.independent.com/bio
Senior Editor: Matt Kettmann

Additional Science Writing Experience:

2019 **Project featured in HackSpace Magazine**
Project published on Instructables.com, "Candle-Powered Paper Carousel," was featured in an interview with HackSpace Magazine (issue #15, published Feb. 1st, 2019, at https://hackspace.raspberrypi.org/issues)

2010- **Contributor for *Development*'s community blog, "The Node"**
Invited volunteer blogger for coverage of stem cell news at http://thenode.biologists.com

2009-2015 **Member of the National Association for Science Writers (NASW)**
Attended the annual NASW meeting for information, exposure, and networking.

2011-2015 **Founder and Coordinator of Colorado Science Writers**
Founded a professional networking group for Colorado science writers and organize periodic meetings.

2013-2014 **Creator and Writer of the Butterfly Pavilion's series "Critter Close-Ups"**
Publish articles on different invertebrates found in Colorado

2013-2014 **Creator, Writer, and Editor of "Biology Bytes" Blog**
Publish news and insightful commentary weekly on biology topics at http://www.biology-bytes.com

2009-2014 **Creator, Writer, and Editor of "All Things Stem Cell" Blog**
Publish articles on different aspects of stem cell biology at http://www.allthingsstemcell.com

2008-2010 **Web Content Editor for UCSB Center for Stem Cell Biology and Engineering Website**
Wrote, assembled, and edited original textual content and updates for http://www.stemcell.ucsb.edu

2009 **Contributor for *Nature*'s Stem Cell Blog, "The Niche"**
Volunteer blogger for coverage of the International Society for Stem Cell Research 7th Annual Meeting for http://blogs.nature.com/reports/theniche

Other Professional Experience:

2022 **Guest Editor for Special Issue in *Bioengineering***
Guest editor for Special Issue: "Bioengineering in Human Induced Pluripotent Stem Cells (iPSCs)"

2021 **Attended the AAI 2021 Introductory Course in Immunology (virtual)**

2021 **Attended the International Society for Stem Cell Research 19th Annual Meeting (virtual)**

2021 **Attended Allogeneic Cell Therapies Summit 2021 (virtual)**

2021 **Presented at Association of Biomolecular Resources Facilities (ABRF) 2021 Meeting (virtual)**
Poster title: "University Internal Funding Mechanisms: Microfinancing Core Facility Operations and Spurring Innovations"

2020 **Judge for the 2020 BVSD Corden Pharma Science Fair**

2019 **Attended the 2019 I²SL Annual Conference, Denver, CO, and CU Boulder**
Served as moderator for a session of speakers.

2019 **Attended the International Society for Stem Cell Research 17th Annual Meeting, Los Angeles, CA**

2018, 2019 **Attended the Front Range Industry & Postdoc Summit, CU Boulder**

2015- **Science Mentor for the Urban Advantage Science Celebration**
Served as a science mentor at a capstone event for a year-long program that allows 7th grade students from Denver and Aurora to present their science projects.

2012- **Judge for the Denver Metro Regional Science and Engineering Fair**
Served as a judge four times for the fair, including serving as a team captain three times.

2018 **Participated in 2018 BioFrontiers Short-Read Workshop, CU Boulder**
Two-week, day-long workshop arranged by Mary Allen, PhD; covered topics including command line, VIM text editor, running quality control (FastQC and Trimmomatic), short read alignment (Bowtie2), and visualization (IGV) for RNA-Seq, ChIP-Seq, and other Seq techniques.

2017 **Participated in Team Building & Leadership Development Workshop, UCD-AMC**
Arranged by the UCD-AMC BEST Program and Judith Albino, PhD; five-session workshop covered topics including leadership styles, how different personality types can work effectively in teams, how to influence outcomes, successful conflict resolution and negotiation, and effective networking.

2016 **Participated in the Leadership Series workshop "Finding Your Strengths," UCD-AMC**
Arranged by the UCD-AMC Postdoctoral and Career Development Office; utilized the Clifton StrengthsFinder assessment to give insight into leadership skills.

2016 **Attended the BioFrontiers Symposium, CU Boulder**

2015-2016 **2016 Postdoctoral Research Day Planning Committee Member, UCD-AMC**
Helped organize 2016 Postdoctoral Research Day for the nearly 300 postdocs on the two University of Colorado Denver campuses, including recruiting speakers, sponsors, and postdocs to present research.

2014-2016 **Member of the Arvada Sustainability Advisory Committee (Chair: 2015-2016)**
Helped advise City Council on sustainability initiatives, monitor progress of sustainability goals (including establishing composting in restaurants), and plan and organize the Sustain Arvada Festival.

2015 **Attended American Heart Association Scientific Sessions 2015 in Orlando, FL**

2015 **Attended Colorado Clinical and Translational Sciences Institute (CCTSI) Summit in Longmont, CO**

2015 **Attended NIH NHLBI Symposium on Cardiovascular Regenerative Medicine in Washington, D.C.**

2015 **Attended 249th American Chemical Society Meeting & Exposition in Denver, CO**

2014 **Attended Colorado Learning and Teaching with Technology (COLTT) Conference at CU Boulder**
Attended conference aimed at engaging participants in learning about using technology in classrooms.

2014 **Managed Exhibit at the USA Science & Engineering Festival**
Helped organize and run a booth for Science Buddies at the festival in Washington, D.C.

2007-2011 **Graduate Union of Molecular Biology Investigators (GUMBI) Co-President**
Co-President of graduate student organization.

2007 **Completed Introduction to hESC Culture Methods Course at WiCell Research Institute**