

CAITLIN DAVIS

EDUCATION

- 2015 **Emory University** Atlanta, GA
PhD, Physical Chemistry, Department of Chemistry
Dissertation: *Heterogeneity in Fast Folding Beta Proteins*
Advisor: Professor R. Brian Dyer
- 2007 **University of Michigan** Ann Arbor, MI
Bachelor of Science with a Concentration in Chemistry and Mathematics

RESEARCH SCHOLARSHIPS AND AWARDS

- **Center for the Physics of Living Cells (CPLC) Postdoctoral Fellowship** – NSF 2015 - present
Awards several postdoctoral fellowships in experimental and theoretical biophysics at the National Science Foundation's CPLC at the University of Illinois Urbana-Champaign. Fellowships are expected to last a minimum of two years.
- **Achievement Rewards for College Scientists (ARCS) Scholarship** – ARCS Atlanta Chapter 2013, 2014
The ARCS Atlanta Chapter supports ten students from the Laney Graduate School at Emory University. The ARCS foundation advances science and technology in the United States by providing financial awards to academically outstanding students studying to complete degrees in science, engineering and medicine.
- **Johnston Award** - Emory Chemistry Department (declined to accept ARCS Scholarship) 2014
Awarded to two students in his/her 3rd year or above. To qualify, the student must have demonstrated continued excellence in graduate research.
- **Three Minute Thesis (3MT®), Public Dissertation Abstract Winner** – Emory University 2014
3MT challenges graduate students to perfect the skill of communicating their scholarship to the general public. Abstracts are judged on their ability to engage the public and communicate why their scholarship is interesting and impactful.

RESEARCH EXPERIENCE

- 8/15-Present **CPLC Postdoctoral Fellow – University of Illinois at Urbana-Champaign** Urbana, IL
Professor Martin Gruebele – Chemistry Department
- Designed and investigated transgenic fish model for *in vivo* thermodynamic and kinetic studies of protein folding
 - Demonstrated the relationship between *in vitro* and live cell measurements of RNA-protein binding
- 2/10-7/15 **Graduate Student Researcher – Emory University** Atlanta, GA
Professor R. Brian Dyer – Chemistry Department
- Discovered the fastest folding linear β -hairpin
 - Demonstrated that fast folding subdomains can be used to speed folding of large subdomains
 - Integrated infrared spectroscopy and molecular dynamic simulations for study of small ultrafast folding proteins
- 1/08-7/09 **Research Assistant – University of Michigan** Ann Arbor, MI
Professor Nils Walter – Chemistry Department
- Optimized radio labeled transcription and RNA Ligase mediated ligation of the Hepatitis Delta Virus Ribozyme
 - Studied the acid-base mechanism of the Hepatitis Delta Virus by molecular dynamic simulation
- 2/07-10/07 **Chemistry Intern - NSF International** Ann Arbor, MI
- Performed routine testing to analyze various analytes in food and dietary supplements
 - Authored internal Standard Operating Procedures actively used in dietary supplement testing
 - Became familiar with GMP, GLP and FDA regulations
- 9/04-5/05 **Research Scholar – Undergraduate Research Opportunities Program** Ann Arbor, MI
Professor William Giannobile - Periodontics Department, University of Michigan
- Studied periodontal disease progression in an animal model after gene therapy with TNFR Fc (tumor necrosis factor-alpha receptor FC fusion protein) in an AAV (adeno-associated virus) vector
- 9/03-5/04 **Research Scientist – Undergraduate Research Opportunities Program** Ann Arbor, MI
Professor Aline Cotel - Environmental and Water Resources Engineering Department, University of Michigan
- Investigated the effect of Reynolds number on *E. coli* viability in model sewage systems

PEER REVIEWED PUBLICATIONS †Indicates Equal Contribution, *Indicates Co-Corresponding Author

- [15] Feng, R.; Gruebele, M.*; **Davis, C.M.*** “Quantifying protein dynamics and stability in a living organism,” *Nat. Commun.* **2019**, *10*, 1179. DOI: 10.1038/s41467-019-09088-y
- [14] Wang, Y.†; Sukenik, S.*†; **Davis, C.M.**; Gruebele, M.* “Cell volume controls protein stability and compactness of the unfolded state,” *J. Phys. Chem. B* **2018**, *122* (49), 11762-11770. DOI: 10.1021/acs.jpcc.8b08216
- [13] **Davis, C.M.†**; Polzi, L.Z.†; Gruebele, M.; Amadei, A.; Dyer, R.B.*; Daidone, I.* “A quantitative connection of experimental and simulated folding landscapes by vibrational spectroscopy,” *Chem. Sci.* **2018**, *9*, 9002-9011. DOI: 10.1039/C8SC03786H
- [12] Kiskey, L.; Serrano, K.M.; **Davis, C.M.**; Guin, D.; Murphy, E.; Gruebele, M.*; Leckband, D.E.* “Soluble zwitterionic poly(sulfobetaine) destabilizes proteins,” *Biomacromolecules* **2018**, *19* (9), 3894-3901. DOI: 10.1021/acs.biomac.8b01120 [featured on the cover]
- [11] **Davis, C.M.**; Gruebele, M. “Non-steric interactions predict the trend and steric interactions the offset of protein stability in cells,” *ChemPhysChem* **2018**, *19* (18), 2290-2294. DOI: 10.1002/cphc.201800534
- [10] **Davis, C.M.***; Gruebele, M.* “Labeling for quantitative comparison of imaging measurements in vitro and in cells,” *Biochemistry* **2018**, *57* (13), 1929-1938. DOI: 10.1021/acs.biochem.8b00141
- [9] Reid, K.; **Davis, C.M.**; Dyer, R.B.; Kindt, J.T. “Binding, folding, and insertion of a β -hairpin peptide at a lipid bilayer surface: influence of electrostatics and lipid tail packing,” *Biochim. Biophys. Acta Biomembr.* **2018**, *1860* (3), 792-800. DOI: 10.1016/j.bbmem.2017.12.019
- [8] **Davis, C.M.**; Gruebele, M.; Sukenik, S. “How does solvation in the cell affect protein folding and binding?” *Curr. Opin. Struct. Biol.* **2018**, *48*, 23-29. DOI: 10.1016/j.sbi.2017.09.003 [featured on the cover of the Folding and Binding themed issue]
- [7] Polzi, L.Z.; **Davis, C.M.**; Gruebele, M.; Dyer, R.B.; Amadei, A.; Daidone, I. “Parallel folding pathways of Fip35 WW domain explained by infrared spectra and their computer simulation,” *FEBS Lett.* **2017**, *591* (20), 3265-3275. DOI: 10.1002/1873-3468.12836
- [6] **Davis, C.M.**; Reddish, M.J.; Dyer, R.B. “Dual time-resolved temperature-jump fluorescence and infrared spectroscopy for the study of fast protein dynamics,” *Spectrochim. Acta A* **2017**, *178*, 185-191. DOI: 10.1016/j.saa.2017.01.069. [included in special issue on “Infrared spectroscopy of biological molecules using quantum cascade lasers”]
- [5] **Davis, C.M.**; Dyer, R.B. “The role of electrostatic interactions in folding of β -proteins,” *J. Am. Chem. Soc.* **2016**, *138* (4), 1456-1464. DOI: 10.1021/jacs.5b13201
- [4] **Davis, C.M.**; Cooper, A.K.; Dyer, R.B. “Fast helix formation in the B domain of protein A revealed by site-specific infrared probes,” *Biochemistry* **2015**, *54* (9), 1758-1766. DOI: 10.1021/acs.biochem.5b00037
- [3] **Davis, C.M.**; Dyer, R. B. “WW Domain folding complexity revealed by infrared spectroscopy,” *Biochemistry* **2014**, *53* (34), 5476-5484. DOI: 10.1021/bi500556h
- [2] **Davis, C.M.**; Dyer, R. B. “Dynamics of an ultrafast folding subdomain in the context of a larger protein fold,” *J. Am. Chem. Soc.* **2013**, *135* (51), 19260-19267. DOI: 10.1021/ja409608r [featured in *JACS Select* issue on “Protein dynamics in simulation and experiment” published on *JACS*^B December 3, **2014**]
- [1] **Davis, C.M.**; Xiao, S.; Raleigh, D.P.*; Dyer, R. B.* “Raising the speed limit for β -hairpin formation,” *J. Am. Chem. Soc.* **2012**, *134* (35), 14476-14482. DOI: 10.1021/ja3046734

NON-PEER REVIEWED PUBLICATIONS

- [1] “Off the beaten path at the ACS National Meeting,” **Davis, C. M.** *Graduate and Postdoctoral Chemist Magazine* **2014**, *1* (5), 28.

PROFESSIONAL DEVELOPMENT

Grant Writing

- Prepared full draft of grant and included as key personnel for NIH grant with Dr. Martin Gruebele and Dr. Kathleen Hall
- Contributed a specific aim and edited Dr. Martin Gruebele’s NIH (R01 GM093318) and NSF (MCB 1803786) grants
- Experience writing post-doctoral grants for university (UIUC [awarded CPLC fellowship], University of Michigan [alternate for President’s Postdoctoral Fellowship Program, declined]) and private funding (Helen Hay Whitney Foundation [Finalist], Burroughs Wellcome Fund [1 of 85 selected out of 287 to submit full proposal], L’Oreal)

Postdoc to Faculty Workshop 2018 – American Chemical Society

Boston, MA

- Competitive workshop for prospective chemistry faculty hosted prior to the fall National ACS Meeting

Illinois Female Engineers in Academia Training (iFEAT) 2017-2018 – UIUC

Urbana, IL

- Competitive yearlong program to assist female graduate students and postdocs in STEM fields prepare faculty applications

NextProf Science 2017 – University of Michigan

Ann Arbor, MI

- Selected from competitive applications to attend workshop designed to encourage talented scientist with a demonstrated commitment to diversity to consider academia; hosted by Biophysics and Chemistry departments

SERVICE AND LEADERSHIP EXPERIENCE

Research Community

- 2015-present **Peer-Review Referee, Article Reviewing**
- *Adv. Theory Simul., ChemBioChem, FEBS Letters, J. Am. Chem. Soc., J. Phys. Chem. B, Nucleic Acids Res.*
- 2016, 2018 **Facilitator and Panelist, Protein Folding Consortium Meeting**
- Facilitated round table discussion on “Women in Science” (2018)
 - Served on a Q&A career transitions panel for graduate students in the protein folding field (2016)
- 2014 **Student Volunteer, National American Chemical Society Meeting** Dallas, TX
- Served as timekeeper at the Graduate and Postdoctoral Scholars Reception. Assisted with setup and cleanup.
- 2014 **Student Volunteer, Biophysical Society National Meeting** San Francisco, CA
- Completed six hours of service throughout the meeting. Volunteer assignments included monitoring scientific session attendance and hosting the “Biomolecular Discovery Dome.”

Community Outreach

- 2017-present **Volunteer, American Chemical Society – UIUC** Urbana, IL
- Younger Chemist’s Committee Parkland Community College Chemistry Job Shadowing (2018)
 - Women Chemist’s Committee Bonding with Chemistry Girl’s Day Camp “Special Effects” activity (2018)
- 2015-present **Volunteer, Center for the Physics of Living Cells – UIUC** Urbana, IL
- NIH-Sponsored National DNA Day: Delivered introductory lecture on the history of DNA and designed and led an activity based on the “DNA Optical Transform Kit” (2016) <https://www.istem.illinois.edu/news/DNA.Day.html>
 - Volunteer at Genome Day booth on “Karyotype and Disease” (2016)
- 2010-2015 **Event Supervisor, Division C Science Olympiad Competition-Emory University** Atlanta GA
- Trajectory (2010), Mousetrap Vehicle (2011), Tower (2012), Mission Possible (2015)
 - Organized materials, set up event, and provided volunteer orientation
- 2008-2009 **Volunteer, SOS Community Services After School Tutoring** Ypsilanti MI
- Volunteered 2 hrs/wk building a mentor relationship and providing after-school tutoring for at-risk students

Department and University

- 2018 **Judge, Biophysics Graduate Research Networking Symposium - UIUC** Urbana, IL
- 2017 **Invited Speaker, WCC Annual Retreat for Graduate Women in Chemistry - UIUC** Urbana, IL
- Invited speaker on “Time Management and Organization Skills” for first year graduate students in chemistry
- 2014-2015 **Treasurer, Association for Women in Science – Emory University** Atlanta, GA
- Responsible for managing club budget for invited speakers, professional networking, and outreach events
- 2014 **Panelist, Jones Program in Ethics – Emory University** Atlanta, GA
- Co-designed “Ethical Wisdom from Graduate Students” panel covering common ethical issues students encounter, resources and approaches to resolve issues and how to anticipate scholarly ethical challenges
- 2012 **Co-Coordinator, GSMST Internship Program – Emory University** Atlanta, GA
- Developed a syllabus for a pilot 5 week high school internship program
 - Designed and led the session “Research Facilities Field Trip” highlighting Emory’s research centers
- 2005-2006 **Resident Advisor, Michigan Research Community-a residential affiliate of UROP** Ann Arbor, MI
- Directly responsible for 33 co-ed residents and enforcing policy
 - Planned monthly research forums, workshops and community building events

Laboratory

- 2015-present **Lab Cleaning Coordinator, Gruebele Research Group – UIUC** Urbana, IL
- Lab Cleaning Coordinator: Responsible for scheduling monthly lab cleanings, assigning cleaning tasks, addressing cleaning issues and reporting any safety violations
 - Instrument Manager: Training and repairs of Eppendorf FemtoJet Microinjector and Beckman Coulter Centrifuge
- 2010-2015 **Instrument Manager, Dyer Research Group – Emory University** Atlanta, GA
- Responsible for IR T-jump Spectrometer, CEM Liberty1 Peptide Synthesizer, and Agilent 1260 Infinity HPLC

TEACHING AND MENTORSHIP FELLOWSHIPS AND AWARDS

- **Clare Boothe Luce (CBL) Scholar Program Graduate Fellowship** 2013
- Emory College of Arts and Sciences and Emory College Center for Science Education
Awards one fellowship to an advanced graduate student who works with the CBL Scholars committee to implement weekly workshops for eight undergraduate scholars. This includes planning, designing and implementing the workshop curriculum as well as regular one-on-one meetings with the scholars for support and guidance through the academic year.
- **Scholarly Inquiry and Research (SIRE) at Emory-HHMI Fellowship** 2011, 2012
- Laney Graduate School, the Dean's Office of Emory College of Arts and Sciences and Howard Hughes Medical Institute
Awards up to four fellowships to advanced graduate students in the natural sciences at Emory University. Fellows are responsible for developing programming for and working with undergraduate students in the SIRE Research Partners Program.
- **Outstanding Teaching Assistant Award, Physical Chemistry** – Emory Chemistry Department 2010
The lab director chooses one student from their lab who demonstrates strong communication, interpersonal skills, and professionalism in the lab.

TEACHING EXPERIENCE

- 6/16, 6/17 **CPLC Postdoctoral Fellow - Physics of Life Experience for Teachers** Urbana, IL
- Worked with high school teachers to develop lesson plans that translate my research to their classrooms
 - Trained high school teachers to microinject and image fluorescent molecules in mammalian cells
 - Provided biosafety level 1 and level 2 awareness training
- 7/16 **Teaching Assistant - CPLC Summer School** Urbana, IL
- Provided hand-on training for graduate students and postdoctoral researchers in neural modeling of zebrafish locomotion. Assisted students with data collection and analysis of 2- and 3-D zebrafish swimming data
- 8/12, 8/13, 8/14 **Co-Instructor - Teaching Assistant Training and Teaching Opportunity (TATTO)** Atlanta, GA
- Co-created and ran a one hour module "Why Didn't Somebody Tell Me" for graduate teaching assistants across all disciplines at Emory using the think/pair/share technique
 - Facilitated discussion of "Microteaching", 10-12 minute lesson plans
- 8/12-5/14 **Graduate Fellow – Clare Boothe Luce (CBL) Research Scholars** Atlanta, GA
- Developed a syllabus and lesson plans to support women in natural sciences pursue careers in research
 - Held weekly seminars for Clare Boothe Luce scholarship recipients
 - Held biweekly individual meetings to practice science communication, address research/academic concerns and work on internship, fellowship/award and graduate school applications
- 6/12-8/13 **Graduate Fellow – Summer Undergraduate Research Program at Emory (SURE)** Atlanta, GA
- Facilitated weekly small group discussion of the ethics topics listed in the NIH's Instruction in the Responsible Conduct of Research (NOT-OD-10-019)
- 8/11-5/13 **Graduate Fellow – Scholarly Inquiry and Research at Emory (SIRE)** Atlanta, GA
- Developed a syllabus and lesson plans to support undergraduate researchers with a team of graduate fellows
 - Led weekly seminars and bi-weekly individual meetings for ten undergraduate researchers
 - Adapted SIRE curriculum for a pilot freshmen undergraduate research program
 - 60% of freshmen research partners returned as SIRE peer mentors
- 9/09-5/10 **Teaching Assistant – Emory University** Atlanta, GA
- General Chemistry (Fall 2009) Physical Chemistry (Winter 2010) – Chemistry Department
- Led a laboratory section for twenty undergraduate students
 - Wrote laboratory quizzes, held review sessions, graded weekly lab assignments, quizzes and exams
- 1/06-4/06 **Facilitator – Psychology 405: Social Psychology in Community Settings** Ann Arbor, MI
- University of Michigan – Psychology Department
- Attended facilitator training and weekly facilitator planning meetings
 - Conducted weekly small group meetings, individual meetings, graded course work, and held office hours

SELECTED MENTOR EXPERIENCE

- 6/16-7/16 **Pre-Doctoral Student, Andres Arango, Summer Pre-Doctoral Institute UIUC** Urbana, IL
- Provided an early introduction to graduate research at Illinois (40 hrs/week)
 - Outcome: Outstanding Researcher Award for written and oral presentation of summer research
- 11/14-7/15 **High School Intern, Ramya Srinivasan, Milton High School** Atlanta, GA
- Supervised 6 week internship summer 2015 (30 hrs/week) and 2014-2015 school year (6 hrs/week)
 - Outcome: 1st Place Honors at State Science Fair
- 5/12-6/14 **High School Intern, Daniela Ruiz, Gwinnett School of Math Science and Technology** Atlanta, GA
- Supervised research during summer 2012 (30 hrs/week) and 2012-2013, 2013-2014 school years (12 hrs/week)
 - Selected Outcomes: Questbridge Scholarship to Northwestern University, 1st Place Honors at State Science Fair, US Stockholm Water Regional Prize, 1st Place Poster at Emory Undergraduate Chemistry Poster Session
- 8/12-5/14 **Clare Boothe Luce (CBL) Research Scholars** (see Teaching Experience) Atlanta, GA
- Selected Outcomes: Carolyn Cohen, NSF GRFP to Stanford University; Lauren Ball, Robert T. Jones Graduate Scholarship to University of St. Andrews; Nellie Ochs, graduate student at ETH Zurich; Elizabeth McClure, National Renewable Energy Laboratory Internship; Cassandra Buru, DAAD-RISE German Summer Research Internship Program; Jessica Elinburg, US Department of Homeland Security – HS-STEM Internship Program

TRAVEL SUPPORT AND AWARDS

- **Gordon Research Conference in Proteins - Partial Registration Fee Support** 2017
- **Gordon Research Conference in Protein Folding Dynamics Travel Grant** 2016
- **2016 Biophysical Society Travel Support for CPLC Students and Postdocs** 2015
- **ACS BIOT Student Delegate at the Third European Congress of Applied Biotechnology - NSF** 2015
- **Gordon Research Conference in Protein Folding Dynamics - Partial Registration Fee Support** 2014
- **Gordon Research Conference in Vibrational Spectroscopy Travel Grant** 2010
- **UT/ORNL Summer School in Biophysics Travel Fellowship - Department of Energy** 2010

ORAL PRESENTATIONS

- **Highlight: Davis, C.M.**; Feng, R.; Gruebele, M. "Protein folding in single-cells of living zebrafish." 256th American Chemical Society National Meeting, Boston, MA, August 20, 2018.
- **Invited Seminar: Davis, C.M.** "Fast protein dynamics: from protein folding *in vitro* to protein-RNA interactions inside cells." Department of Biochemistry and Molecular Biophysics at Washington University in St. Louis, St. Louis, MO, January 23, 2018.
- **Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "Fast relaxation imaging (FRel) of live-cell spliceosomal binding affinity and kinetics." 2017 International Physics of Living Systems (iPoLS) Meeting, Paris, France, June 26, 2017.
- **Highlight: Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "Spliceosomal U1A protein-SL2 RNA binding affinity decreases in cells." Proteins Gordon Research Conference, Holderness, NH, June 22, 2017.
- **Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "Spliceosomal U1A protein-SL2 RNA binding affinity decreases in cells." Proteins Gordon Research Seminar, Holderness, NH, June 18, 2017.
- **Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "Live-cell RNA-protein binding affinity and kinetics by fast relaxation imaging." Protein Folding Consortium Meeting, Berkeley, CA, June 2, 2017.
- **Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "Live-cell RNA-protein binding affinity and kinetics by fast relaxation imaging." 12th Midwest Conference on Protein Folding, Assemblies, and Molecular Motions, Notre Dame, IN, April 29, 2017.
- **Invited Presentation: Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "Live-cell RNA-protein binding affinity and kinetics by fast relaxation imaging." 253rd American Chemical Society National Meeting, San Francisco, CA, April 3, 2017.
- **Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "Spliceosomal U1A protein-SL2 RNA binding affinity decreases in cells." 61st Annual Meeting of the Biophysical Society, New Orleans, LA, February 14, 2017.
- **Davis, C.M.**; Guzman, I.; Gnuttt, D.; Gruebele, M. "*In vitro* and live-cell assembly of spliceosome components." Protein Folding Consortium Meeting, St. Louis, MO, June 11, 2016.
- **Invited Presentation: Davis, C.M.** "*In vitro* and live-cell assembly of spliceosome components." Spring 2016 Center for the Physics of Living Cells and Biophysics Graduate Student and Postdoc Symposium, Urbana, IL, May 26, 2016.

- **Invited Presentation: Davis, C.M.** "Spliceosome assembly." Center for the Physics of Living Cells NSF Site Visit, Urbana, IL, April 11, 2016.
- **Davis, C.M.;** Dyer, R.B. "Protein folding complexity revealed by wavelength dependent time resolved infrared spectroscopy." ECCE10-ECAB3-EPIC5, Nice, France, October 1, 2015.
- **Davis, C.M.;** Dyer, R.B. "Protein Folding Complexity Revealed by Multiple Probes." Protein Folding Consortium Meeting, Ann Arbor, MI, May 31, 2014.
- **Davis, C.M.;** Dyer, R.B. "Protein folding complexity revealed by wavelength dependent time resolved infrared spectroscopy." 247th American Chemical Society National Meeting, Dallas, TX, March 19, 2014.
- **Highlight: Davis, C.M.;** Dyer, R.B. "Dynamics of an ultrafast folding subdomain in the context of a larger protein fold." Protein Folding Dynamics Gordon Research Conference, Galveston, TX, January 6, 2014.
- **Davis, C.M.;** Dyer, R.B. "Dynamics of an ultrafast folding beta hairpin in the context of WW-domain formation." 2013 Southeastern Regional Meeting of the American Chemical Society, Atlanta, GA, November 13, 2013.
- **Invited Presentation: Davis, C.M.** "Ultrafast folding β -proteins." Emory Chemistry Department Awards, Atlanta, GA, September 6, 2013.
- **Davis, C.M.;** Dyer, R.B. "Fast folding β -hairpin seeds formation of WW-Domain." Protein Folding Consortium Meeting, Berkeley, CA, May 31, 2013.
- **Davis, C.M.;** Dyer, R.B. "Heterogeneity in Fast Folding β -Proteins." 2012 Southeastern Regional Meeting of the American Chemical Society, Raleigh, NC, November 15, 2012.

POSTER PRESENTATIONS

- **Davis, C.M.;** Feng, R.; Gruebele, M. "Fast relaxation imaging (FRel) of live-cell RNA-protein binding affinity and kinetics." 256th American Chemical Society National Meeting, Boston, MA, August 19-23, 2018.
- **Davis, C.M.;** Feng, R.; Gruebele, M. "Measuring protein kinetics and thermodynamics in living zebrafish." Federation of American Societies for Experimental Biology Science Research Conferences: Protein Folding in the Cell, Olean, NY, July 22-27, 2018.
- **Davis, C.M.;** Feng, R.; Gruebele, M. "Protein folding in single-cells of living zebrafish." Protein Folding Consortium Meeting, Ann Arbor, MI, June 8-10, 2018.
- **Davis, C.M.;** Guzman, I.; Ghaemi, Z.; Gnuttt, D.; Hall, K.; Luthey-Schulten, Z.; Gruebele, M. "Spliceosome assembly: *in vitro*, *in vivo*, *in silico*." iFEAT-Mavis Future Faculty Fellows Poster Session, Urbana, IL, April 25, 2018.
- **Davis, C.M.;** Guzman, I.; Ghaemi, Z.; Gnuttt, D.; Hall, K.; Luthey-Schulten, Z.; Gruebele, M. "Spliceosome assembly: *in vitro*, *in vivo*, *in silico*." Center for the Physics of Living Cells NSF Site Visit, Urbana, IL, November 16, 2017.
- **Davis, C.M.;** Guzman, I.; Gnuttt, D.; Gruebele, M. "Spliceosomal U1A protein-SL2 RNA binding affinity decreases in cells," 2017 Center for the Physics of Living Cells Summer School, Urbana, IL, July 16-22, 2017.
- **Davis, C.M.;** Guzman, I.; Gnuttt, D.; Gruebele, M. "Spliceosomal U1A protein-SL2 RNA binding affinity decreases in cells." Proteins Gordon Research Conference, Holderness, NH, June 18-23, 2017.
- **Davis, C.M.;** Guzman, I.; Gnuttt, D.; Gruebele, M. "Spliceosomal U1A protein-SL2 RNA binding affinity decreases in cells." Proteins Gordon Research Seminar, Holderness, NH, June 17-18, 2017.
- **Davis, C.M.;** Guzman, I.; Gnuttt, D.; Gruebele, M. "Live-cell RNA-protein binding affinity and kinetics by fast relaxation imaging." Protein Folding Consortium Meeting, Berkeley, CA, June 2-4, 2017.
- **Davis, C.M.;** Rickard, M.; Guzman, I.; Ghaemi, Z.; Hall, K.; Luthey-Schulten, Z.; Gruebele, M. "Assembly of Spliceosome Components." 12th Midwest Conference on Protein Folding, Assemblies, and Molecular Motions, Notre Dame, IN, April 29, 2017.
- **Davis, C.M.;** Guzman, I.; Ghaemi, Z.; Teng, K.W.; Labhsetwar, P.; Selvin, P.R.; Luthey-Schulten, Z.; Gruebele, M. "Spliceosome assembly: *in vitro*, *in vivo*, *in silico*." 2016 Center for the Physics of Living Cells Summer School, Urbana, IL, July 24-29, 2016.
- **Davis, C.M.;** Guzman, I.; Gruebele, M. "*In vitro* and live-cell assembly of spliceosome components." Protein Folding Consortium Meeting, St. Louis, MO, June 10-12, 2016.
- **Davis, C.M.;** Guzman, I.; Ghaemi, Z.; Teng, K.W.; Labhsetwar, P.; Selvin, P.R.; Luthey-Schulten, Z.; Gruebele, M. "Spliceosome assembly: *in vitro*, *in vivo*, *in silico*," Center for the Physics of Living Cells NSF Site Visit, Urbana, IL, April 11-12, 2016.
- **Davis, C.M.;** Guzman, I.; Gruebele, M. "Towards three-color live-cell imaging of spliceosome assembly." 60th Annual Meeting of the Biophysical Society, Los Angeles, CA, February 27-March 2, 2016.
- **Davis, C.M.;** Dyer, R.B. "The role of electrostatic interactions in turn stability of beta-proteins." Proteins Folding Dynamics Gordon Research Conference, Galveston, TX, January 10-15, 2016.
- **Davis, C.M.;** Dyer, R.B. "The role of electrostatic interactions in turn stability of beta-proteins," Proteins Gordon Research Conference, Holderness, NH, June 14-19, 2015.

- **Davis, C.M.;** Dyer, R.B. "WW Domain Folding Complexity Revealed by Multiple Probes." Protein Folding Consortium Meeting, Ann Arbor, MI, May 30-June 1, 2014.
- **Davis, C.M.;** Dyer, R.B. "Membrane-induced folding of a cationic anti-cancer peptide." 247th American Chemical Society National Meeting, Dallas, TX, March 16-20, 2014.
- **Davis, C.M.;** Dyer, R.B. "Dynamics of an ultrafast folding beta hairpin in the context of WW-domain formation." 58th Annual Meeting of the Biophysical Society, San Francisco, CA, February 15-19, 2014.
- **Davis, C.M.;** Dyer, R.B. "Dynamics of an ultrafast folding subdomain in the context of a larger protein fold." 2014 Protein Folding Dynamics Gordon Research Conference, Galveston, TX, January 5-10, 2014.
- **Davis, C.M.;** Dyer, R.B. "Fast folding β -hairpin seeds formation of WW-Domain." Protein Folding Consortium Meeting, Berkeley, CA, May 31-June 2, 2013.
- **Davis, C.M.;** Dyer, R.B. "Heterogeneity in Fast Folding β -Proteins." 1st Emory STEM Research and Career Symposium, Atlanta, GA, April 3-5, 2013.
- **Davis, C.M.;** Kindt, J.; Dyer, R.B. "Dynamics and Mechanism of Membrane-Induced Folding of a Small Beta-Hairpin." 57th Annual Meeting of the Biophysical Society, Philadelphia, PA, February 2-6, 2013.
- **Davis, C.M.;** Dyer, R.B. "Heterogeneity in Fast Folding β -Proteins." Sixth Peptide Engineering Meeting, Atlanta, GA, October 2-5, 2012.
- **Davis, C.M.;** Raleigh, D.P.; Dyer, R.B. "Heterogeneity in the Folding Kinetics of a 10-Residue Hairpin." Protein Folding Consortium Meeting, Stony Brook, NY, June 15-16, 2012.
- **Davis, C.M.;** Raleigh, D.P.; Dyer, R.B. "Heterogeneity in the Folding Kinetics of a 10-Residue Hairpin." 2012 Protein Folding Dynamics Gordon Research Conference, Ventura, CA, January 8-13, 2012.
- **Davis, C.M.;** Raleigh, D.P.; Dyer, R.B. "Heterogeneity in the Folding Kinetics of a 10-Residue Hairpin." 2012 Protein Folding Dynamics Gordon Research Seminar, Ventura, CA, January 7-8, 2012.
- **Davis, C.M.;** Raleigh, D.P.; Dyer, R.B. "The Mechanism of CLN025 Beta Hairpin Formation." 2010 Vibrational Spectroscopy Gordon Research Conference, Biddeford, ME, August 1-6, 2010.
- **Davis, C.M.;** Simmerling, C.L.; Raleigh, D.P.; Dyer, R.B. "The Role of Terminal Residues in Beta Hairpin Formation of Chignolin and CLN025." Summer School in Biophysics at UT/ORNL: Computational and Experimental Challenges, Knoxville, TN, July 7-10, 2010.
- **Marlatt, C.M.;** Sponer, J.; Walter, N.J. "Acid-Basic Mechanism of the Hepatitis Delta Virus Ribozyme." 11th Michigan RNA Society Meeting, Albion, MI, April 11, 2009.
- **Marlatt, C.M.;** Giannobile, W. "TNFR:Fc Gene Transfer for the treatment of Periodontitis." Research Scholars Undergraduate Research Opportunities Program Symposium, Ann Arbor, MI, April 2005.
- **Marlatt, C.M.;** Cotel, A. "*E. Coli* transport and dilution in the Great Lakes." Undergraduate Research Opportunities Program Symposium, Ann Arbor, MI, April 2004.