

## Bil Clemons

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### Education

#### Ph.D. Biochemistry (December 2000) University of Utah

Salt Lake City, Utah and MRC Laboratory of Molecular Biology, Cambridge, United Kingdom

#### B.S. Biochemistry (May 1995) Virginia Tech

Blacksburg, Virginia, Minors in Chemistry and Biology

### Appointments

2013 – Present	<b>Professor of Biochemistry</b>
2018 – 2019	<b>Visiting Professor of Biochemistry</b> Institute of Organic Chemistry & Biochemistry, Prague, Czech Republic
2005 – 2013	<b>Assistant Professor of Biochemistry</b> Division of Chemistry and Chemical Engineering California Institute of Technology, Pasadena, California, USA
2001 – 2005	<b>Damon Runyon Cancer Research Fellow</b> Harvard Medical School, Boston, Massachusetts
1999 – 2001	<b>Visiting Student</b> Laboratory of Molecular Biology, Cambridge, UK
1995 – 2000	<b>Ph. D. Candidate</b> Biochemistry Department, University of Utah, Salt Lake City, Utah

### Research Experience

2001 – 2005	Research Fellow: Structural studies of the bacterial protein translocation channel using X-ray crystallography and electron microscopy in the lab of Prof. Tom Rapoport, Ph.D., Cell Biology Dept., Harvard Medical School, Boston, Massachusetts
1996 – 2000	Graduate research: Crystallographic studies of the bacterial small ribosomal subunit and protein structures involved in translation in the lab of Prof. Venki Ramakrishnan, Ph.D. Structural Studies Division, MRC Laboratory of Molecular Biology, Cambridge UK and the Biochemistry Department, University of Utah, Salt Lake City, Utah.
1993 - 1995	Undergraduate research: Enzyme kinetics experiments of enzymes involved in the pathogenic life cycle of the yeast <i>C. albicans</i> in the lab of Prof. Walter Niehaus, Ph.D., Biochemistry Department, Virginia Tech, Blacksburg, Virginia.

### Honors

Caltech GSC mentoring award	2020
Virginia Tech Biochemistry - Distinguished Alumni	2018
Dr. Fred Shair Award for Programming Diversity	2017
NIH Pioneer Award	2011-2016
Searle Scholar Fellow	2007-2010
Burroughs Wellcome Career Award in the Biomedical Sciences	2005-2010
Damon Runyon Cancer Research Foundation Fellowship	2002-2004
Max Perutz Award, LMB, Cambridge	2001
NIH Predoctoral Fellowship	1997-2000
NIH Biological Chemistry Training Grant	1996-1997

### Publications (<https://scholar.google.com/citations?user=DTijWhgAAAAJ&hl=en>)

- 53 Michelle Y. Fry, Shyam M. Saladi, **William M. Clemons, Jr.**, “The ST11-domain is a flexible alpha-helical fold with a hydrophobic groove.” (2021) *Protein Sci* <https://doi.org/10.1002/pro.4049>
- 52 Ku-Feng Lin, Michelle Y. Fry\*, Shyam M. Saladi\*, **William M. Clemons, Jr.**, “Molecular basis of tail-anchored integral membrane protein recognition by the cochaperone Sgt2.” (2021) *J Biol Chem* <https://doi.org/10.1016/j.jbc.2021.100441>.
- 51 **Shyam M. Saladi**, Ailiena Maggiolo, Kate Radford, William M. Clemons, Jr., “Structural Biologists, Let's Mind Our Colors” (2020) *bioRxiv* <https://doi.org/10.1101/2020.09.22.308593>
- 50 Hyun Gi Yun, Kyoung-soon Jang, Shiho Tanaka, **William M. Clemons, Jr.**, “The structure of the UDP-Glc/GlcNAc 4-epimerase from the human pathogen *Campylobacter jejuni*” (2020) *bioRxiv* <https://doi.org/10.1101/2020.09.22.308395>
- 49 Katsuhiko Mitachi, Hyun Gi Yun, Cody D. Gillman, Karolina Skorupinska-Tudek, Ewa Swiezewska, William M. Clemons Jr., & **Michio Kurosu**, “Substrate Tolerance of Bacterial Glycosyltransferase MurG: Novel Fluorescence-based Assays” (2019) *ACS Infect Dis* <https://doi.org/10.1021/acsinfectdis.9b00242>.

48. Katsuhiko Mitachi, Shou M. Kurosu, Shakiba Eslamimehr, Maddie R. Lemieux, Yoshimasa Ishizaki, William M. Clemons, Jr., **Michio Kurosu**, “Semisynthesis of an Anticancer DPAGT1 Inhibitor from a Muraymycin Biosynthetic Intermediate” (2019) *Organic Letters* v21 n4 pp 876-9. doi: 10.1021/acs.orglett.8b03716
47. Katsuhiko Mitachi, Hyun Gi Yun, Sara Kurosu, Shakiba Eslamimehr, Maddie Lemieux, Lada Klaić, William Clemons Jr., & **Michio Kurosu**. “Novel FR-900493 analogs that inhibit germination of *Clostridium difficile* spores” (2018) *ACS Omega* v3 n2 pp 1726-39. doi: 10.1021/acsomega.7b01740
46. Shyam Saladi, Nauman Javed, Axel Müller, **William Clemons, Jr.** “A statistical model for improved membrane protein expression using sequence-derived features” (2018) *J Biol Chem*. doi: 10.1074/jbc.RA117.001052. Epub 2018 Jan 29. PMID: 29378850.
45. Jee-Young Mock, Yue Xu, Yihong Ye, **William Clemons, Jr.** “The structural basis for regulation of the nucleocytoplasmic distribution of Bag6 by TRC35” (2017) *PNAS* v114 n44 pp11679-84. doi: 10.1073/pnas.1702940114 Epub 2017 Oct 17. PMID: 29042515.
44. Michiel Niesen\*, Stephen Marshall\*, **Thomas Miller III**, & **William Clemons Jr.** “Improving membrane protein expression by optimizing integration efficiency.” (2017) *J Biol Chem*. v292 n47 pp19537-19545. doi: 10.1074/jbc.M117.813469. Epub 2017 Sep 16. PMID: 28918393.
43. Stephen Marshall\*, Michiel Niesen\*, Axel Müller, Katrin Tiemann, Shyam Saladi, Rachel Galimidi, Bin Zhang, **William Clemons Jr.**, & **Tom Miller III**. “A link between integral membrane protein expression and simulated integration efficiency.” (2016) *Cell Rep.* v16 n8 pp2169-77. doi: 10.1016/j.celrep.2016.07.042. Epub 2016 Aug 11. PMID: 27524616.
42. Harry Gristick\*, Michael Rome\*, Justin Chartron, Meera Rao, Sonja Hess, Shu-ou Shan & **William Clemons Jr.** “Mechanism of assembly of a substrate transfer complex during tail-anchored protein targeting.” (2015) *J Biol Chem*. v290 n50 pp30006-17. doi: 10.1074/jbc.M115.677328. Epub 2015 Oct 7<sup>th</sup>. PMID:26100547.
41. Kyoung-Soon Jang, Roger Nani, Anastasia Kalli, Sergiy Levin, Axel Müller, Sonja Hess, **Sarah Reisman & William Clemons Jr.** “A cationic cysteine-hydrazide as an enrichment tool for the mass spectrometric characterization of bacterial free oligosaccharides.” (2015) *Anal Bioanal Chem*. v407 n20 pp6181-90. doi: 10.1007/s00216-015-8798-8. PMID:26100547.
40. Kasuhiko Mitachi, Shajila Siricilla, Lada Klaić, William Clemons, Jr. & **Michio Kurosu**. “Chemoenzymatic syntheses of water-soluble lipid I fluorescent probes.” (2015) *Tetrahedron Lett* v56 n23 pp3441-6. Epub Jan 12<sup>th</sup>. doi:10.1016/j.tetlet.2015.01.044. PMID:26190869.
39. Jee-Young Mock, Justin Chartron, Ma’ayan Zaslaver, Yue Xue, Yihong Ye & **William Clemons, Jr.** “Bag6 complex contains a minimal tail-anchor-targeting module and a mock BAG domain.” (2015) *PNAS* v112 n1 pp106-11. Epub Dec 22<sup>nd</sup>, 2014. PMID: 25535373.
38. Axel Müller, Morgan Beeby, Alasdair W. McDowall, Janet Chow, Grant Jensen & **William M. Clemons, Jr.** “Ultrastructure and complex polar architecture of the human pathogen *Campylobacter jejuni*.” (2014) *Microbiology Open* doi: 10.1002/mbo3.200 PMID:25065852
37. Harry Gristick, Meera Rao, Justin Chartron, Michael Rome, Shu-ou Shan & **William Clemons, Jr.** “The structure of a tail-anchor membrane protein-binding complex reveals the regulation of Get3 by Get4.” (2014) *Nature Struct Mol Biol* v21 n5 pp437-42. Epub Apr 13<sup>th</sup>. PMID: 24727835.
36. Yanfen Liu, Nia Soetandyo, Jin-gu Lee, Liping Liu, Yue Xu, William M. Clemons Jr & **Yihong Ye**. “USP13 antagonizes gp78 to maintain functionality of a chaperone in ER-associated degradation.” (2014) *eLife* 3:e01369. Epub Jan 14<sup>th</sup>. PMID: 24424410.
35. Kyoung-Soon Jang, Michael Sweredoski, Robert Graham, Sonja Hess & **William Clemons, Jr.** “Comprehensive proteomic profiling of outer membrane vesicles from *Campylobacter jejuni*.” *J Proteomics* (2014) v96 pp90-8. Epub Dec. 29<sup>th</sup>, 2013. PMID: 24382552.
34. Sureshkumar Ramasamy, Ravinder Abrol, Christian Suloway & **William Clemons, Jr.** “The glove-like structure of the conserved membrane protein TatC provides insight into signal sequence recognition in twin-arginine translocation.” *Structure* (2013) v21 n5 pp777-88. Epub Apr. 9<sup>th</sup>. PMID: 23583035.
33. Michael Rome, Meera Rao, William Clemons, Jr. & **Shu-ou Shan** “Precise timing of ATPase activation drives targeting of tail-anchored proteins.” *PNAS* (2013) v110 n19 pp7666-71. Epub Apr. 22<sup>nd</sup>. PMID: 23610396.
32. Justin Chartron, David Vandervelde, **William Clemons, Jr.** “Structures of the Sgt2/SGTA dimerization domain with the Get5/UBL4A UBL domain reveal an interaction that forms a conserved dynamic interface.” *Cell Reports* (2012) v2 n6 pp1620-32. Epub Nov 8<sup>th</sup>, 2012. PMID: 23142665.
31. Shiho Tanaka and **William Clemons, Jr.** Minimal requirements for inhibition of MraY by lysis protein E from bacteriophage ΦX174. *Mol Microbiol* (2012) v85 n5 pp975-85. Epub Jul 13<sup>th</sup>. PMID: 22742425
30. Justin Chartron, **William Clemons, Jr.** and Christian Suloway. “The complex process of GETting tail-anchored proteins to the membrane. (REVIEW)” *Curr Op Struct Biol* (2012) v22 n2 pp217-24 Epub Mar 21<sup>st</sup>. PMID:22444563
29. Justin Chartron, David Vandervelde, Michael Rao and **William Clemons, Jr.** “The Get5 carboxyl terminal domain is a novel dimerization motif that tethers an extended Get4/Get5 complex.” *J Biol Chem* (2012) v287 n11 pp8310-7 Epub Jan 17<sup>th</sup>. PMID: 22262836
28. Christian Suloway, Michael Rome, **William Clemons, Jr.** “Tail-anchor targeting by a Get3 tetramer: the structure of an archaeal homologue.” *EMBO J* (2012) v31 n3 pp707-19. Epub Nov 29<sup>th</sup>, 2011. PMID: 22124326
27. Justin Chartron, Grecia Gonzalez and **William Clemons, Jr.** “A structural model of Sgt2 and its interactions with chaperones and Get4/Get5.” *J Biol Chem* (2011) 286(39):34325-34. *Published* Aug 10<sup>th</sup>. PMID: 20554915

26. Justin Chartron, Christian Suloway, Ma'ayan Zaslaver and **William Clemons, Jr.** "Structural characterization of the Get4/Get5 complex and its interaction with Get3." *PNAS* (2010) 107(27):12127-32 *Epublished* June 16<sup>th</sup>. PMID: 20554915
25. Christian Suloway, Justin Chartron, Ma'ayan Zaslaver and **William Clemons, Jr.** "Model for eukaryotic tail-anchored protein binding based on the structure of Get3." *PNAS* (2009) v106 n35 pp14849-54. Epub August 14. PMID:19706470
24. Suresh Ramasamy and **William Clemons, Jr.** "Structure of the twin-arginine signal binding protein DmsD from *Escherichia coli*." *Acta Cryst F* (2009) v65 n8 pp746-50.

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23. Denison, Stephen Gygi, Steven Ludtke, **Tom Rapoport** and **Christopher Akey**. "Ribosome binding of a single copy of the SecY complex: implications for the initiation of protein translocation." *Mol Cell* (2007) v28 n6 pp1083-92.
22. Margaret Smith, William Clemons, Jr., Catherine DeMars, **Ann Flower**. "Modeling the effects of *prl* mutations on the *Escherichia coli* SecY complex" (2005) *J Bact* v187 n18 pp6454-65.
21. Kurt Cannon, Eran Or, William Clemons, Jr., Yoko Shibata, and **Tom Rapoport**. "Disulfide bridge formation between SecY and a translocating polypeptide localizes the translocation pore to the center of SecY." (2005) *J Cell Biol* v169 n2 pp219-25.
20. William Clemons, Jr., Jean-François Ménétret, Christopher Akey, and **Tom Rapoport**. "Structural insight into the protein translocation channel (REVIEW)." (2004) *Curr Op Struct Biol* v14 n4 pp390-6.
19. Andrew Osborne, William Clemons, Jr., **Tom Rapoport**. "A large conformational change of the translocation ATPase SecA." (2004) *PNAS* v101 n30 pp10937-42.
18. Bert van den Berg, Paul Black, William Clemons, Jr., and **Tom Rapoport**. "Crystal structure of the long-chain fatty acid transporter FadL." (2004) *Science* v304 n5676 pp1506-9.
17. Bert van den Berg\*, William Clemons, Jr.\*, Ian Collinson, Yorgo Modis, Enno Hartmann, Stephen Harrison, and **Tom Rapoport**. "X-ray structure of a protein conducting channel."(2004) *Nature* v427 n6969 pp36-44.
16. Ditlev Brodersen, William Clemons, Jr., Andrew Carter, Brian Wimberly, and **Venki Ramakrishnan**. "Phasing the 30S ribosomal subunit structure." (2003) *Acta Cryst D* D59 Pt 11 pp2044-50.
15. Ditlev Brodersen, William Clemons, Jr., Andrew Carter, Brian Wimberly, and **Venki Ramakrishnan**. "Crystal structure of the 30S ribosomal Subunit from *Thermus thermophilus*. Structure of the proteins and their interactions with 16S RNA." (2002) *J Mol Biol* v316 n3 pp725-68.
14. William Clemons, Jr., Ditlev Brodersen, John McCutcheon, Joanna May, Brian Wimberly, Andrew Carter, Robert Morgan-Warren, and **Venki Ramakrishnan**. "Crystal structure of the 30S ribosomal subunit from *Thermus thermophilus* I. Purification, crystallization and structure determination." (2001) *J Mol Biol* v310 n4 pp827-43.
13. James Ogle, Ditlev Brodersen, William Clemons, Jr., Michael Tarry, Andrew Carter, and **Venki Ramakrishnan**. "Recognition of cognate transfer RNA by the 30S ribosomal subunit." (2001) *Science* v292 n5518 pp897-902.
12. Andrew Carter, William Clemons, Jr., Ditlev Brodersen, Robert Morgan-Warren, Thomas Hartsch, Brian Wimberly and **Venki Ramakrishnan**. "Crystal structure of an initiation factor bound to the 30S ribosomal subunit." (2001) *Science* v291 n5503 pp498-501.
11. Ditlev Brodersen, William Clemons, Jr., Andrew Carter, Robert Morgan-Warren, Brian Wimberly & **Venki Ramakrishnan**. "The structural basis for the action of the antibiotics tetracycline, pactamycin, and hygromycin B on the 30S ribosomal subunit." (2000) *Cell* v103 n7 pp1143-54.
10. Brian Wimberly\*, Ditlev Brodersen\*, William Clemons, Jr.\*, Robert Morgan-Warren\*, Andrew Carter\*, Clemens Vornrhein, Thomas Hartsch, & **Venki Ramakrishnan**. "The Structure of the 30S Ribosomal Subunit." (2000) *Nature* v407 n6802 pp327-39.
9. Andrew Carter\*, William Clemons, Jr.\*, Ditlev Brodersen\*, Robert Morgan-Warren, Brian Wimberly, & **Venki Ramakrishnan**. "Functional insights from the structure of the 30S ribosomal subunit and its interactions with antibiotics." (2000) *Nature* v407 n6802 pp340-8.
8. Peter Allard, Alexey Rak, Brian Wimberly, William Clemons, Jr., Alexander Kalinin, Magnus Helgstrand, Maria Garber, Venki Ramakrishnan, & **Torleif Hård**. "Another piece of the ribosome: solution structure of S16 and its location in the 30S subunit." (2000) *Structure*. v8 n8 pp875-82.
7. **Venki Ramakrishnan**, Malcolm Capel, William Clemons, Jr., Joanna May, Brian Wimberly. "Progress toward the crystal structure of a bacterial 30S ribosomal subunit." (2000) In Garrett et al (eds). *The Ribosome* ASM Press, Washington D.C. pp3-10.
6. Stephen White, William Clemons Jr., Christopher Davies, **Venki Ramakrishnan**, & Brian Wimberly. "Structures of bacterial ribosomal proteins: High resolution probes of the architecture and mechanism of the ribosome." (2000) In Garrett et al (eds). *The Ribosome* ASM Press, Washington D.C. pp66-72.
5. William Clemons Jr, Krishne Gowda, Shaun Black, Christian Zweib, & **Venki Ramakrishnan**. "Crystal structure of the conserved subdomain of human protein SRP54m at 2.1Å resolution: Evidence for the mechanism of signal peptide binding." *J Mol Biol* (1999) v292 n3 pp697-705.
4. William Clemons Jr.\*, Joanna May\*, Brian Wimberly\*, John McCutcheon, Malcolm Capel, & **Venki Ramakrishnan**. "Structure of a bacterial 30S ribosomal subunit at 5.5Å resolution." (1999) *Nature*. v400 n6747 pp833-40.
3. Krishne Gowda, William Clemons Jr., Shaun Black, & **Christian Zweib**. "Expression, purification, & crystallography of the conserved methionine-rich domain of human signal recognition particle 54kDa protein." (1999) *Protein Sci* v8 n5 pp1144-51.

2. John McCutcheon, Rajendra Agrawal, Shibu Philips, Robert Grassucci, Sue Ellen Gerchman, William Clemons Jr., **Venki Ramakrishnan**, & **Joachim Frank**. "Location of translational initiation factor IF3 on the small ribosomal subunit." (1999) *PNAS*. v96 n8 pp4301-6.
  1. William Clemons Jr., Christopher Davies, Steven White, & **Venki Ramakrishnan**. "Conformational variability of an N-terminal helix in the structure of ribosomal protein S15", (1998) *Structure* v6 n4 pp429-38.
- \* denotes equal contribution, **bold** is corresponding author

### Patents

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Ditlev Brodersen, Andrew Carter, William Clemons, Jr., Venki Ramakrishnan, Brian Wimberly. "Crystal Structure of the 30S Subunit and Its Use." US Patent 7,606,670; 20020106660, GB Patents 0017376.5 and 0022943.5.

William Clemons, Jr., Kyoung-soon Jang, Sergiy Levin, Roger Nani and Sarah Reisman. "Cysteine Hydrazide Nicotinamide for Glycomics and Glycoproteomics Studies." US Patent 9,541,558, US 20140072981 A1.

Thomas Miller, III, William Clemons, Jr., Stephen Marshall, Axel Mueller, Michiel Niesen, Bin Zhang. "Translocon-associated biogenesis features and related methods, systems and products". US Patent 10,108,776 B1.

Shyam Saladi & William Clemons, Jr. "Methods and systems for predicting membrane protein expression based on sequence-level information." Application number 20170249420, Filed Aug. 31, 2017.

Michio Kurosu & William Clemons. "Glycosyltransferase Inhibitors". Provisional Patent Application No. 62/616,657, Filed Jan. 11, 2019. International patent PCT/US2019/013152, Filed Jan. 30, 2019.

### Teaching

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Bi/Ch 110: Introduction to Biochemistry 2019 – Current  
 BMB202abc: Biochemistry Seminar Course 2010 – Current  
 BMB170abc: Biochemistry and biophysics of macromolecules & molecular assemblies 2008 – 2017  
 BMB170: Principles of three-dimensional protein structure 2006 & 2007

### Service

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#### Internal

Campus: President's Diversity Council (Chair, 2019-2022, Member, 2015-Present); Grad Student Council for Caltech (2013-present); Molecular Observatory advisory committee (2007-Present); EM facility advisory committee (Chair 2018, 2015-present); Graduate Dean Search Committee (2019-20); CEMI steering committee (2019-present), Rosen Bioengineering Steering Committee (2018-2020); Undergraduate Academic Standards and Honors Committee (2019-2020); Faculty Board (2015-18); Student Life and Housing Committee (2013-16)

CCE Division: BMB Graduate Option Representative (2013-present); Admissions/Grad Student Council for BMB option (2006 - present); CCE DEI Committee (2020-present); CCE Space committee (2018-present); Biochemistry seminar organizer (2007-2020); 11 faculty search committees (Andre Hoelz, Mitch Guttman, Dan Semlow, & Shasha Chong); Grad Student Council for Chemistry option (2011- present); CCE Instrumentation Committee (2016-2019)

#### External

Editorial Boards: *Cell Reports* (2012-present); *J. Biol. Chem.* (2014-present), *J. Mol. Biol* (2020-present)

Reviewer: *Acta Cryst D*, *Biochemistry*, *Biochem J*, *BioEssays*, *Cell*, *Cell Reports*, *Current Biology*, *eLife*, *EMBO J*, *J Cell Biol*, *JACS*, *JBC*, *JMB*, *Mol Biol Cell*, *Mol Cell Phys*, *Nature*, *Nature Comm*, *Nature Struct Mol Biol*, *PLoS Biology*, *PNAS*, *Science*, *Structure* and grants for the UK BBSRC.

Society Roles: Protein Society, Executive council (2018-2021), Nomination Committee, (2014-17), DEI committee (2019-present, Chair 2020-present); ASBMB 2012 Annual Meeting Organizing Committee (2011-12), *Member of* The Protein Society, American Society of Biochemists and Molecular Biologists, The Biophysical Society

NIH Service: Study Sections - Macromolecular Structure and Function C, Member 2016-20 and *ad hoc* for June 2012 & Oct. 2014; Membrane Biology and Protein Processing, *ad hoc* February 2012; MIRA grants for NIGMS, *ad hoc* Nov. 2015; PRAT fellowships, *ad hoc* 2016; Pioneer Award Panel, *ad hoc* 2016 & 2017; Program Project Grant reviewer for NIAID *ad hoc* 2014

### Scientific Presentations (Selected)

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**2021** University of Massachusetts Medical School (Remote), Worcester, MA; The Biophysical Society Annual Symposia (Remote) "President's Symposium: Building an Inclusive Biophysical Society"

**2020** University of Massachusetts (remote), Amherst, MA; ABRCMS virtual meeting, Exhibitor; The Protein Society Webinar "Diversifying Protein Science"; Cold Spring Harbor Laboratory, NY

**2019** Annual Biomedical Research Conference for Minority Students (ABRCMS), Long Beach, CA, Exhibitor; Chemistry Summer Seminar Series, Caltech, Pasadena, CA; GRC Membrane Protein Folding, Stonehill College, MA, Presenter; 33<sup>rd</sup> Annual Symposium of the Protein Society Seattle, WA; Institute of Parasitology, University of South Bohemia, Ceske Budejovice, Czech Republic; Department of Pathology, Oxford University, Oxford, UK; Laboratory of Molecular Biology, Cambridge University, Cambridge, UK

**2018** Institute of Organic Chemistry and Biochemistry, Prague, Czech Republic; Cold Spring Harbor Laboratory course X-Ray Methods in Structural Biology, NY, Instructor; Washington University, St. Louis, MO; International School of

Biological Magnetic Resonance, Erice, Italy, Lecturer; Stanford University, Palo Alto, CA; Virginia Tech, Blacksburg, VA; GRC Protein Transport Across Membranes Galveston, TX; Oregon State University, Corvallis, OR; University of North Carolina, Chapel Hill, NC

**2017** St. Jude Children's Hospital, Memphis, TN; University of Tennessee Health Science Center, Memphis, TN; Frontiers in Membrane Protein Structural Dynamics, Argonne, IL; Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ, Exhibitor; Ohio State University, Columbus, OH, Århus University, Denmark; The Ins & Outs of Membrane Biology, Hemavan, Sweden; International School of Biological Magnetic Resonance, Erice, Italy, Lecturer; Johns Hopkins University, Baltimore, MD; Biophysical Society Annual Meeting, New Orleans, LA; Princeton University, Princeton, NJ; West Coast Crystallography Course, CA

**2016** University of Michigan, Lansing, MI; Wayne State University Medical School, Detroit, MI; Annual Biomedical Research Conference for Minority Students (ABRCMS), Tampa, FL, Exhibitor; SACNAS Annual Meeting, Long Beach, CA, Presenter; Inst. of Org. Chem. and Bioch. of the Czech Academy of Sciences, Prague, CR; 30<sup>th</sup> Anniversary Symposium of the Protein Society, Baltimore, MD, Presenter; University of Maryland, Baltimore County; International School of Biological Magnetic Resonance, Erice, Italy, Lecturer; University of Pittsburgh, PA; GRC Protein Transport Across Membranes Galveston, TX, Session leader

**2015** Annual Biomedical Research Conference for Minority Students (ABRCMS), Seattle, WA, Exhibitor; ACA Annual Meeting, Philadelphia, PA, Presenter; Amgen Scholars Meeting, UCLA, Keynote speaker; GRC Membrane Protein Folding, Waltham, MA, Presenter; University of Tennessee, Knoxville, TN; Watson Lecturer, Caltech, Pasadena, CA

**2014** Indiana University, Bloomington, IA; Annual Biomedical Research Conference for Minority Students (ABRCMS), San Antonio, TX, Exhibitor; International School of Biological Magnetic Resonance, Erice, Italy, Lecturer; FASEB Protein Folding in the Cell, Saxby River, VT, Presenter; Miami University, Oxford, IL; GRC Protein Transport Across Membranes Galveston, TX, Presenter

**2013** Northwestern University, Evanston, IL; University of Chicago, Chicago, IL; University of California, Irvine, CA; University of Virginia, Charlottesville, VA; University of Maryland, Baltimore County, MD; Johns Hopkins University School of Medicine, Baltimore, MD; Massachusetts Institute of Technology, Cambridge, MA; Laboratory of Molecular Biology, Cambridge, United Kingdom; Oxford University, Oxford, United Kingdom; Imperial College, London, United Kingdom; Stanford University, Palo Alto, CA; Yale University, New Haven, CT; GRC Glycobiology, Ventura, CA, Poster; City College New York, NY; The Scripps Research Institute, San Diego, CA

**2012** Weill Cornell Medical, New York, NY; Protein Society Annual Meeting, San Diego, CA; University of San Diego, San Diego, CA; ASBMB Annual Meeting, San Diego, CA; National Institutes of Health, Bethesda, MD; GRC Protein Transport Across Membranes Galveston, TX, Poster; University of California at Los Angeles, Los Angeles, CA

**2011** University of Wisconsin, Madison, WI

**2010** University of California at Berkeley, Berkeley, CA; Texas A&M, College Station, TX; University of Toronto, Ontario, Canada; GRC Protein Transport Across Membranes Galveston, TX

**2009** Stockholm University, Sweden; California State University, Los Angeles; University of Colorado, Boulder; Protein Society Annual Meeting "Proteins in Motion", Boston

**2007** GRC Proteins, New Hampshire

**2006** 8<sup>th</sup> International School of Crystallography, MAX/INF, Como, Italy

**2005** Carlsberg Research Center, Copenhagen, Denmark; Stockholm University, Stockholm, Sweden; Århus University, Århus, Denmark; 11<sup>th</sup> DRDC-IBS Workshop, Autrans, France

**2004** University of Maryland, Baltimore County, MD; University of Utah, Salt Lake City, UT; American Crystallographic Association, Chicago, IL; GRC Endocytosis and Lysosomes, NH; Keystone Symposia, Frontiers in Structural Biology, Snowbird, UT

**2002** Vertex Pharmaceuticals Inc., Cambridge, MA; Pfizer Inc., Groton, CT

**2001** Daresbury Laboratories, Daresbury, United Kingdom; RNA Society of Cambridge, Cambridge, United Kingdom; 3<sup>rd</sup> Cell Biology Symposium on Protein Transport and Stability, Berlin, Germany

**2000** Rockefeller University, New York City, NY; Harvard Medical School, Boston, MA

## Lab Members

### *Current members:*

Victor Garcia, Grad Student, BMB, 2020  
 Karen Orta, Grad Student, BMB, 2019  
 Alexandra Barbato, Grad Student, BMB, 2018  
 Michelle Fry, Grad Student, BMB, 2016  
 Shyam Saladi, Grad Student, BMB, 2014  
 Alan Lee, Lab Manager of Rees/Clemons group

### *Former members:*

#### Graduate Students

Hyun Gi Yun, Grad Student, Chemistry, 2013-19, PharmD program, University of Michigan  
 Stephen Marshall, Grad Student, Chemistry, 2013-2017  
 Manager, Strategic Analysis at Regeneron Pharmaceuticals, Inc.

Amanda Jee-Young Mock, Grad Student, BMB, 2011-2017, Scientist, A2 Biotherapeutics  
 Harry Gristick, Grad Student, BMB, 2009-2015, Post-Doc at Caltech  
 Justin Chartron, Grad Student, BMB, 2006-2012, Asst. Prof at UC-Riverside

Christian Suloway, Grad Student, Biology, 2006 – 2012,  
Genomics Data Scientist, Medidata Solutions

#### Post-doctoral

Nadia Riera Faraone, Post-Doc, 2017-2020  
Aye Myat Myat Thinn, Post-Doc, 2018-2020  
Austin Rice, Ph.D. Northwestern Univ., Post-Doc, 2014-17,  
Protein Engineer, Amgen  
Geoffrey Lin, Ph.D. National Tsinghua Univ., Post-Doc,  
2012-18, Researcher, Industrial Technology Research  
Institute  
Lada Klaić, Ph.D. Northwestern Univ., Post-Doc, 2012-18,  
Principal Scientist, Cell Care Therapeutics  
Axel Müller, Ph.D. York Univ., Staff Scientist, 2011  
Eugene Chun, Ph.D. The Scripps Research Institute, Post-  
Doc, 2012, Research Scientist, Arizona State  
Vijay Somalinga, Post-Doc, 2012-14, Asst. Prof., South West  
Oklahoma State Univ  
Katrine Tieman, Post-Doc, 2011-12, Project Development  
Scientist, City of Hope  
Shiho Tanaka, Post-Doc, 2010-14, Principal Scientist,  
ImmunityBio, Thousand Oaks, CA  
Kyoung-Soon Jang, Post-Doc, 2010-13, Principal Researcher,  
Korean Basic Sci Inst  
Suresh Kumar Ramasamy, Staff Scientist, 2006-12, Asst.  
Prof., NCL-Pune, India  
Yuko Tsutsui, Post-Doc, Case Western Univ, 2007 – 2011,  
Research Associate, Yale Cancer Biology Institute  
Axel Müller, Post-Doc, York Univ, 2006 – 2011  
Alison Glazier, Post-Doc, Caltech 2006

#### Staff

Cody Gillman, Research Technician, 2017-19, Grad Student -  
UCLA  
Katrine Museth, Research Technician, 2011-14  
Ma'ayan Zaslaver, Research Technician, 2007-12  
Alice Chen, Research Technician, 2011  
Matt Thornton, Research Technician, 2006-7

#### Undergraduates, diploma and high school students

Lily DeBell, Undergraduate, 2019  
Reeti Gulati, Undergraduate, 2016  
Charles Nelson, Undergraduate, 2016

Victor Garcia, Wave, UC Riverside, 2018  
Katarzyna Zator, SURF undergrad, 2018  
Rita Aksenfeld, Undergraduate & SURF, 2017  
Tatiana Brailovskaya, SURF, Caltech, 2017  
Omoshola Aleru, Amgen, Fresno State Univ., 2016  
Nadine Bradbury, SURF, Caltech, 2016  
Alex Chu, Amgen, Brigham Young Univ., 2016  
Catherine Day, SURF, Caltech, 2016  
Romanus Hutchens, Wave, Univ. of Missouri, 2016  
Gyu Bin Jang, SURF, Caltech, 2016  
Sam Schulte, Amgen, Univ. of Iowa, 2016  
Anthony Jones, MURF, Cal State – Dominguez Hills, 2014  
Amarise Little, SURF, Caltech, 2014  
Nauman Javad, SURF, 2013, Caltech, 2014-16  
Shyam Saladi, SURF, Univ. of Illinois Urbana-Champaign,  
2012-14  
Sumin Kim, SURF, MIT, 2013  
Arun Chandra, SURF, Caltech, 2013  
Esha Wang, Caltech, 2012  
Doreen Chen, Caltech, 2012  
Jacqueline Maslyn, Caltech, 2012  
Tinyi Chu, Hong Kong Undergraduate Research Fellow, 2011  
Jaeyoon Chung, Volunteer, Caltech, Chemistry, 2011  
Katherine Brugman, SURF, UC Berkeley, 2011  
Anastasia Zinchenko, Diplom, Univ of Saarbrücken, German,  
2011  
Tamara Stegmenn, Diplom, Univ of Utrecht, The Netherlands,  
2011  
Grecia Gonzalez, MURF, Harvard Univ, 2010  
David Machejewski, Amgen, Boston College, 2010  
Jennifer Timm, Diplom, Univ of Konstanz, Germany, 2009 –  
2010  
Nadia Iqbal, Undergrad, Bioengineering, 2009 – 2011  
Alan Deng, Undergrad, Chemistry, 2009  
Yee-ra Jo, Undergrad, Biology, 2009  
Grace Wu, Amgen, Univ of Chicago, 2009  
Christine Hanna, MURF Program, Summer 2008  
Kangway Chuang, SURF, Caltech, 2008  
Caroline Nguyen, HS Student, 2008  
Tom Lampo, SURF, Caltech 2008  
Damien Soghoian, Caltech 2006 – 2008  
Sunny Chun, Caltech 2006 - 2008  
Monique Hall, MURF, 2006