

# MARCELO C. SOUSA • CURRICULUM VITAE

## CURRENT POSITION

Professor

Department of Biochemistry

Jennie Smoly Caruthers Biotechnology Building, Room A417

3415 Colorado Avenue

596 UCB

University of Colorado at Boulder

Boulder, CO 80309

Phone: (303)735-4341

Fax: (303)492-5894

Email: [marcelo.sousa@colorado.edu](mailto:marcelo.sousa@colorado.edu)

## EDUCATION AND ACADEMIC POSITIONS

Pharm.D.

School of Pharmacy and Biochemistry.

University of Buenos Aires. Buenos Aires. Argentina (1983-1989).

Ph.D. Chemistry.

School of Exact and Natural Sciences.

University of Buenos Aires. Buenos Aires. Argentina (1990-1995).

Thesis advisor: Dr. Armando J. Parodi

Postdoctoral Scholar.

Department of Structural Biology.

Stanford University School of Medicine. Stanford, California (1995-2001)

Advisor: Dr. David B. McKay

Assistant Professor (2001-2008)

Associate Professor (2008-2016)

Professor (2016-present)

Director of Biochemistry (2016-2017)

Transitional Chair of Biochemistry (2017-2018)

Department of Chemistry and Biochemistry, Department of Biochemistry.

University of Colorado at Boulder

## OTHER POSITIONS

Senior Teaching Assistant. Institute for Biochemical Research. School of Sciences.

University of Buenos Aires. (1993–1995)

Visiting Fellow. Department of Protein Structure. Ludwig Institute for Cancer Research.

Uppsala, Sweden (1992 and 1993).

Research Assistant. Dep. of Phytochemistry. School of Pharmacy and Biochemistry.

University of Buenos Aires. Buenos Aires, Argentina (1988).

Teaching Assistant. Department of Physics. School of Pharmacy and Biochemistry.

University of Buenos Aires. (1985–1988)

## FELLOWSHIPS AND AWARDS

New Scholar in Global Infectious Disease. The Ellison Medical Foundation (2004-2008).

Junior Faculty Development Award. University of Colorado at Boulder (2003).

Scientist Development Award. American Heart Association (2003-2005).

Long Term Fellowship. Human Frontier Science Program Organization (1996-1998).

Jane Coffin-Childs Postdoctoral Fellowship. (Declined).

Student Travel Award. The Protein Society (1994).

Senior Research Fellowship. University of Buenos Aires (1994-1995).

Student Travel Award. UNESCO/FASEB (1993).

Initiation in Research Fellowship. University of Buenos Aires (1991-1993).

Research Fellowship. National Research Council. Argentina (1991).

## PUBLICATIONS (RESULTING FROM WORK PRIOR TO BECOMING AN ASSISTANT PROFESSOR):

### *Publications as a Graduate Student*

1. Sousa MC, Ferrero-Garcia MA, Parodi AJ. [Recognition of the oligosaccharide and protein moieties of glycoproteins by the UDP-Glc:glycoprotein glucosyltransferase](#). *Biochemistry*. 1992 Jan 14;31(1):97-105. doi: 10.1021/bi00116a015. PubMed PMID: 1531024.
2. Labriola C, Sousa M, Cazzulo JJ. [Purification of the major cysteine proteinase \(cruzipain\) from Trypanosoma cruzi by affinity chromatography](#). *Biol Res*. 1993;26(1-2):101-7. PubMed PMID: 7670520.
3. Pollevick GD, Sanchez DO, Campetella O, Trombetta S, Sousa M, Henriksson J, Hellman U, Pettersson U, Cazzulo JJ, Frasch AC. [Members of the SAPA/trans-sialidase protein family have identical N-terminal sequences and a putative signal peptide](#). *Mol Biochem Parasitol*. 1993 May;59(1):171-4. doi: 10.1016/0166-6851(93)90018-s. PubMed PMID: 8515779.
4. Sousa M, Parodi AJ. [The molecular basis for the recognition of misfolded glycoproteins by the UDP-Glc:glycoprotein glucosyltransferase](#). *EMBO J*. 1995 Sep 1;14(17):4196-203. PubMed PMID: 7556060; PubMed Central PMCID: PMC394502.
5. Sousa MC, Parodi AJ. [The interaction of the UDP-GLC:glycoprotein glucosyltransferase with the acceptor glycoprotein](#). *Cell Mol Biol (Noisy-le-grand)*. 1996 Jul;42(5):609-16. PubMed PMID: 8832090.

6. Metzner SI, Sousa MC, Hellman U, Cazzulo JJ, Parodi AJ. [The use of UDP-Glc:glycoprotein glucosyltransferase for radiolabeling protein-linked high mannose-type oligosaccharides.](#) Cell Mol Biol (Noisy-le-grand). 1996 Jul;42(5):631-5. PubMed PMID: 8832092.

*Publications resulting from postdoctoral work*

7. Ha JH, Hellman U, Johnson ER, Li L, McKay DB, Sousa MC, Takeda S, Wernstedt C, Wilbanks SM. [Destabilization of peptide binding and interdomain communication by an E543K mutation in the bovine 70-kDa heat shock cognate protein, a molecular chaperone.](#) J Biol Chem. 1997 Oct 31;272(44):27796-803. doi: 10.1074/jbc.272.44.27796. PubMed PMID: 9346924.
8. J.-H. Ha, E. R. Johnson, D. B. McKay, **M. C. Sousa**, S. Takeda & S. M. Wilbanks. "Structure and Properties of the Seventy Kilodalton Heat Shock Proteins" [REVIEW] *Molecular Chaperones in Proteins: The Role of Chaperones in the Life Cycle of Proteins* (A. L. Fink and Y. Goto, eds.) Marcel Dekker, Inc., New York (1996)
9. Sousa MC, McKay DB. [The hydroxyl of threonine 13 of the bovine 70-kDa heat shock cognate protein is essential for transducing the ATP-induced conformational change.](#) Biochemistry. 1998 Nov 3;37(44):15392-9. doi: 10.1021/bi981510x. PubMed PMID: 9799500.
10. J.-H. Ha, E. R. Johnson, D. B. McKay, **M. C. Sousa**, S. Takeda and S. M. Wilbanks. "Structure and Mechanism of the Hsp70s" [REVIEW] *Molecular Biology of Chaperones and Folding Catalysts. Regulation, Cellular Function and Mechanisms* (B. Bukau, ed.) Vol. pp.573-608, Harwood A.P. GMBH, Amsterdam (1999).
11. Sousa MC, Trame CB, Tsuruta H, Wilbanks SM, Reddy VS, McKay DB. [Crystal and solution structures of an HslUV protease-chaperone complex.](#) Cell. 2000 Nov 10;103(4):633-43. doi: 10.1016/s0092-8674(00)00166-5. PubMed PMID: 11106733.
12. Sousa MC, McKay DB. [Structure of the universal stress protein of Haemophilus influenzae.](#) Structure. 2001 Dec;9(12):1135-41. doi: 10.1016/s0969-2126(01)00680-3. PubMed PMID: 11738040.
13. Sousa MC, McKay DB. [Structure of Haemophilus influenzae HslV protein at 1.9 Å resolution, revealing a cation-binding site near the catalytic site.](#) Acta Crystallogr D Biol Crystallogr. 2001 Dec;57(Pt 12):1950-4. doi: 10.1107/s090744490101575x. Epub 2001 Nov 21. PubMed PMID: 11717526.
14. Sousa MC, Kessler BM, Overkleeft HS, McKay DB. [Crystal structure of HslUV complexed with a vinyl sulfone inhibitor: corroboration of a proposed mechanism of allosteric activation of HslV by HslU.](#) J Mol Biol. 2002 May 3;318(3):779-85. doi: 10.1016/S0022-2836(02)00145-6. PubMed PMID: 12054822.

**PUBLICATIONS (AS AN INDEPENDENT PI):**

15. Ridge KD, Abdulaev NG, Sousa M, Palczewski K. [Phototransduction: crystal clear.](#) Trends Biochem Sci. 2003 Sep;28(9):479-87. doi: 10.1016/S0968-0004(03)00172-5. Review. PubMed PMID: 13678959. [Cover Feature]

16. Walton TA, Sousa MC. [Crystal structure of Skp, a prefoldin-like chaperone that protects soluble and membrane proteins from aggregation.](#) Mol Cell. 2004 Aug 13;15(3):367-74. doi: 10.1016/j.molcel.2004.07.023. PubMed PMID: 15304217.
17. Gatzeva-Topalova PZ, May AP, Sousa MC. [Crystal structure of Escherichia coli ArnA \(PmrI\) decarboxylase domain. A key enzyme for lipid A modification with 4-amino-4-deoxy-L-arabinose and polymyxin resistance.](#) Biochemistry. 2004 Oct 26;43(42):13370-9. doi: 10.1021/bi048551f. PubMed PMID: 15491143; PubMed Central PMCID: PMC2680612.
18. Gatzeva-Topalova PZ, May AP, Sousa MC. [Crystal structure and mechanism of the Escherichia coli ArnA \(PmrI\) transformylase domain. An enzyme for lipid A modification with 4-amino-4-deoxy-L-arabinose and polymyxin resistance.](#) Biochemistry. 2005 Apr 12;44(14):5328-38. doi: 10.1021/bi047384g. PubMed PMID: 15807526; PubMed Central PMCID: PMC2583347.
19. Gatzeva-Topalova PZ, May AP, Sousa MC. [Structure and mechanism of ArnA: conformational change implies ordered dehydrogenase mechanism in key enzyme for polymyxin resistance.](#) Structure. 2005 Jun;13(6):929-42. doi: 10.1016/j.str.2005.03.018. PubMed PMID: 15939024; PubMed Central PMCID: PMC2997725.
20. Stephen R, Palczewski K, Sousa MC. [The crystal structure of GCAP3 suggests molecular mechanism of GCAP-linked cone dystrophies.](#) J Mol Biol. 2006 Jun 2;359(2):266-75. doi: 10.1016/j.jmb.2006.03.042. Epub 2006 Apr 3. PubMed PMID: 16626734; PubMed Central PMCID: PMC4291230.
21. Stephen R, Bereta G, Golczak M, Palczewski K, Sousa MC. [Stabilizing function for myristoyl group revealed by the crystal structure of a neuronal calcium sensor, guanylate cyclase-activating protein 1.](#) Structure. 2007 Nov;15(11):1392-402. doi: 10.1016/j.str.2007.09.013. PubMed PMID: 17997965; PubMed Central PMCID: PMC2556213.
22. Kline T, Trent MS, Stead CM, Lee MS, Sousa MC, Felise HB, Nguyen HV, Miller SI. [Synthesis of and evaluation of lipid A modification by 4-substituted 4-deoxy arabinose analogs as potential inhibitors of bacterial polymyxin resistance.](#) Bioorg Med Chem Lett. 2008 Feb 15;18(4):1507-10. doi: 10.1016/j.bmcl.2007.12.061. Epub 2007 Dec 27. PubMed PMID: 18187325; PubMed Central PMCID: PMC2516481.
23. Stephen R, Filipek S, Palczewski K, Sousa MC. [Ca<sup>2+</sup> -dependent regulation of phototransduction.](#) Photochem Photobiol. 2008 Jul-Aug;84(4):903-10. doi: 10.1111/j.1751-1097.2008.00323.x. Epub 2008 Mar 12. Review. PubMed PMID: 18346093; PubMed Central PMCID: PMC4118144.
24. Gatzeva-Topalova PZ, Walton TA, Sousa MC. [Crystal structure of YaeT: conformational flexibility and substrate recognition.](#) Structure. 2008 Dec 10;16(12):1873-81. doi: 10.1016/j.str.2008.09.014. PubMed PMID: 19081063; PubMed Central PMCID: PMC2642521.
25. Walton TA, Sandoval CM, Fowler CA, Pardi A, Sousa MC. [The cavity-chaperone Skp protects its substrate from aggregation but allows independent folding of substrate domains.](#) Proc Natl Acad Sci U S A. 2009 Feb 10;106(6):1772-7. doi: 10.1073/pnas.0809275106. Epub 2009 Jan 30. PubMed PMID: 19181847; PubMed Central PMCID: PMC2644113.

26. Kabuyama Y, Litman ES, Templeton PD, Metzner SI, Witze ES, Argast GM, Langer SJ, Polvinen K, Shellman Y, Chan D, Shabb JB, Fitzpatrick JE, Resing KA, Sousa MC, Ahn NG. [A mediator of Rho-dependent invasion moonlights as a methionine salvage enzyme.](#) Mol Cell Proteomics. 2009 Oct;8(10):2308-20. doi: 10.1074/mcp.M900178-MCP200. Epub 2009 Jul 20. PubMed PMID: 19620624; PubMed Central PMCID: PMC2758758.
27. Orban T, Bereta G, Miyagi M, Wang B, Chance MR, Sousa MC, Palczewski K. [Conformational changes in guanylate cyclase-activating protein 1 induced by Ca<sup>2+</sup> and N-terminal fatty acid acylation.](#) Structure. 2010 Jan 13;18(1):116-26. doi: 10.1016/j.str.2009.11.008. PubMed PMID: 20152158; PubMed Central PMCID: PMC2822722.
28. Gatzeva-Topalova PZ, Warner LR, Pardi A, Sousa MC. [Structure and flexibility of the complete periplasmic domain of BamA: the protein insertion machine of the outer membrane.](#) Structure. 2010 Nov 10;18(11):1492-501. doi: 10.1016/j.str.2010.08.012. PubMed PMID: 21070948; PubMed Central PMCID: PMC2991101.
29. Sandoval CM, Baker SL, Jansen K, Metzner SI, Sousa MC. [Crystal structure of BamD: an essential component of the  \$\beta\$ -Barrel assembly machinery of gram-negative bacteria.](#) J Mol Biol. 2011 Jun 10;409(3):348-57. doi: 10.1016/j.jmb.2011.03.035. Epub 2011 Apr 2. PubMed PMID: 21463635; PubMed Central PMCID: PMC3098899.
30. Warner LR, Varga K, Lange OF, Baker SL, Baker D, Sousa MC, Pardi A. [Structure of the BamC two-domain protein obtained by Rosetta with a limited NMR data set.](#) J Mol Biol. 2011 Aug 5;411(1):83-95. doi: 10.1016/j.jmb.2011.05.022. Epub 2011 May 23. PubMed PMID: 21624375; PubMed Central PMCID: PMC3182476.
31. Jansen KB, Baker SL, Sousa MC. [Crystal structure of BamB from Pseudomonas aeruginosa and functional evaluation of its conserved structural features.](#) PLoS One. 2012;7(11):e49749. doi: 10.1371/journal.pone.0049749. Epub 2012 Nov 26. PubMed PMID: 23189157; PubMed Central PMCID: PMC3506653.
32. Templeton PD, Litman ES, Metzner SI, Ahn NG, Sousa MC. [Structure of mediator of RhoA-dependent invasion \(MRDI\) explains its dual function as a metabolic enzyme and a mediator of cell invasion.](#) Biochemistry. 2013 Aug 20;52(33):5675-84. doi: 10.1021/bi400556e. Epub 2013 Jul 31. PubMed PMID: 23859498; PubMed Central PMCID: PMC3831603.
33. Lee M, Sousa MC. [Structural basis for substrate specificity in ArnB. A key enzyme in the polymyxin resistance pathway of Gram-negative bacteria.](#) Biochemistry. 2014 Feb 4;53(4):796-805. doi: 10.1021/bi4015677. Epub 2014 Jan 24. PubMed PMID: 24460375; PubMed Central PMCID: PMC3985747.
34. Turco MM, Sousa MC. [The structure and specificity of the type III secretion system effector NleC suggest a DNA mimicry mechanism of substrate recognition.](#) Biochemistry. 2014 Aug 12;53(31):5131-9. doi: 10.1021/bi500593e. Epub 2014 Jul 28. PubMed PMID: 25040221; PubMed Central PMCID: PMC4131895.
35. Doerner PA, Sousa MC. [Small Angle X-ray Scattering \(SAXS\) Characterization of the POTRA Domains of BamA.](#) Methods Mol Biol. 2015;1329:149-55. doi: 10.1007/978-1-4939-2871-2\_11. PubMed PMID: 26427682; PubMed Central PMCID: PMC4646726.

36. Jansen KB, Baker SL, Sousa MC. [Crystal structure of BamB bound to a periplasmic domain fragment of BamA, the central component of the  \$\beta\$ -barrel assembly machine.](#) *J Biol Chem.* 2015 Jan 23;290(4):2126-36. doi: 10.1074/jbc.M114.584524. Epub 2014 Dec 2. PubMed PMID: 25468906; PubMed Central PMCID: PMC4303665.
37. Edwards DT, Faulk JK, Sanders AW, Bull MS, Walder R, LeBlanc MA, Sousa MC, Perkins TT. [Optimizing 1- \$\mu\$ s-Resolution Single-Molecule Force Spectroscopy on a Commercial Atomic Force Microscope.](#) *Nano Lett.* 2015 Oct 14;15(10):7091-8. doi: 10.1021/acs.nanolett.5b03166. Epub 2015 Oct 5. PubMed PMID: 26421945; PubMed Central PMCID: PMC4663051.
38. Nordwald EM, Plaks JG, Snell JR, Sousa MC, Kaar JL. [Crystallographic Investigation of Imidazolium Ionic Liquid Effects on Enzyme Structure.](#) *Chembiochem.* 2015 Nov;16(17):2456-9. doi: 10.1002/cbic.201500398. Epub 2015 Oct 14. PubMed PMID: 26388426; PubMed Central PMCID: PMC4827357.
39. Bergal HT, Hopkins AH, Metzner SI, Sousa MC. [The Structure of a BamA-BamD Fusion Illuminates the Architecture of the  \$\beta\$ -Barrel Assembly Machine Core.](#) *Structure.* 2016 Feb 2;24(2):243-51. doi: 10.1016/j.str.2015.10.030. Epub 2015 Dec 31. PubMed PMID: 26749448; PubMed Central PMCID: PMC4740259.
40. Fleming PJ, Patel DS, Wu EL, Qi Y, Yeom MS, Sousa MC, Fleming KG, Im W. [BamA POTRA Domain Interacts with a Native Lipid Membrane Surface.](#) *Biophys J.* 2016 Jun 21;110(12):2698-2709. doi: 10.1016/j.bpj.2016.05.010. PubMed PMID: 27332128; PubMed Central PMCID: PMC4919588.
41. Warner LR, Gatzeva-Topalova PZ, Doerner PA, Pardi A, Sousa MC. [Flexibility in the Periplasmic Domain of BamA Is Important for Function.](#) *Structure.* 2017 Jan 3;25(1):94-106. doi: 10.1016/j.str.2016.11.013. Epub 2016 Dec 15. PubMed PMID: 27989620; PubMed Central PMCID: PMC5235167.
42. Doerner PA, Sousa MC. [Extreme Dynamics in the BamA  \$\beta\$ -Barrel Seam.](#) *Biochemistry.* 2017 Jun 20;56(24):3142-3149. doi: 10.1021/acs.biochem.7b00281. Epub 2017 Jun 12. PubMed PMID: 28569500; PubMed Central PMCID: PMC5995120.
43. Walder R, LeBlanc MA, Van Patten WJ, Edwards DT, Greenberg JA, Adhikari A, Okoniewski SR, Sullan RMA, Rabuka D, Sousa MC\*, Perkins TT\*. [Rapid Characterization of a Mechanically Labile  \$\alpha\$ -Helical Protein Enabled by Efficient Site-Specific Bioconjugation.](#) *J Am Chem Soc.* 2017 Jul 26;139(29):9867-9875. doi: 10.1021/jacs.7b02958. Epub 2017 Jul 17. PubMed PMID: 28677396; PubMed Central PMCID: PMC5679022. \*co-corresponding Authors
44. Hjortness MK, Riccardi L, Hongdusit A, Ruppe A, Zhao M, Kim EY, Zwart PH, Sankaran B, Arthanari H, Sousa MC, De Vivo M, Fox JM. [Abietane-Type Diterpenoids Inhibit Protein Tyrosine Phosphatases by Stabilizing an Inactive Enzyme Conformation.](#) *Biochemistry.* 2018 Oct 9;57(40):5886-5896. doi: 10.1021/acs.biochem.8b00655. Epub 2018 Sep 14. PubMed PMID: 30169954; PubMed Central PMCID: PMC6219988. Correction: *Biochemistry.* 2019 Jun 18;58(24):2797. doi: 10.1021/acs.biochem.9b00423. Epub 2019 Jun 5. PubMed PMID: 31181901.

45. Sousa MC. [New antibiotics target the outer membrane of bacteria](#). Nature. 2019 Dec;576(7787):389-390. doi: 10.1038/d41586-019-03730-x. PubMed PMID: 31844257
46. LeBlanc MA, Fink MR, Perkins TT\*, Sousa MC\*. [Type III secretion system effector proteins are mechanically labile](#). Proc Natl Acad Sci U S A. 2021 Mar 23;118(12). doi: 10.1073/pnas.2019566118. PubMed PMID: 33723050. \*co-corresponding Authors.

## **RESEARCH SUPPORT (AS AN INDEPENDENT PI)**

### *Current Support*

1. Awarding agency: National Institutes of Health (NIH 1R01GM127462)  
Principal Investigator: Marcelo Sousa  
Title: Mechanisms of Transport and Folding of Outer Membrane Proteins  
Project Period: 04/01/2018 – 03/31/2023  
Total costs: \$1,220,210
2. Awarding agency: National Institutes of Health (NIH 3R01GM127462-01S1)  
Principal Investigator: Marcelo Sousa  
Title: Administrative Supplement for Equipment to NIH 1R01GM127462  
Project Period: 05/01/2018 – 03/31/2023  
Total costs: \$72,543
3. Awarding agency: National Science Foundation  
Principal Investigator: Marcelo Sousa      Co-PI: Tajkhorshid (U of Illinois)  
Title: Collaborative Research: Understanding Protein Mechanical Stability and its Impact on Secretion  
Project Period: 01/01/2022 – 12/31/2024  
Total awarded costs: \$785,201 (plus \$199,511 to Co-PI)

### *Pending Support*

1. Awarding agency: National Institutes of Health  
Principal Investigator: Marcelo Sousa  
Title: Imaging Single Transmembrane Proteins in Supported Lipid Bilayers  
Project Period: 10/01/2022 – 09/30/2024  
Total requested costs: \$416,000
2. Awarding agency: National Institutes of Health  
Principal Investigator: Marcelo Sousa  
Title: Mechanism of ArnA and its impact on polymyxin resistance  
Project Period: 07/01/2023 – 06/30/2025  
Total requested costs: \$413,242

### *Past Support (as an Independent PI)*

1. Awarding agency: Cystic Fibrosis Foundation  
Principal Investigator: Marcelo C. Sousa  
Title: Biosynthesis of virulence related changes to Lipid A  
Project Period: 06/01/2002 – 05/31/2004  
Total costs: \$128,000

2. Awarding agency: University of Colorado Junior Faculty Development Award  
Principal Investigator: Marcelo C. Sousa  
Title: Structural and Biochemical Characterization of PmrI. A Potential Target for the Treatment of Lung Infections in Cystic Fibrosis.  
Project Period: 07/01/2003 – 06/30/2004  
Total costs: \$5,000
3. Awarding agency: University of Colorado/Keck Grant Committee  
Principal Investigator: Marcelo Sousa (Shared instrumentation grant)  
Title: Purchase of a Micro-fluidics Crystallization Device. (Shared instrumentation grant).  
Project Period: 8/01/2004 – 12/31/2004  
Total costs: \$22,500
4. Awarding agency: American Heart Association  
Principal Investigator: Marcelo C. Sousa  
Title: Structure and Mechanism of Ca<sup>2+</sup>/Calmodulin Dependent Kinase II. A Key Regulator of Calcium-Dependent Cardiac Contraction.  
Project Period: 01/01/2003 – 12/31/2005  
Total costs: \$260,000
5. Awarding agency: National Institutes of Health (Shared instrumentation grant)  
Principal Investigator: Lin Chen. Co-Principal Investigator: Marcelo C. Sousa  
Title: X-Ray Optics and Area Detector  
Project Period: 04/01/2004 – 03/31/2005  
Total costs: \$208,000
6. Awarding agency: National Institutes of Health (NIH 5R01AI060841)  
Principal Investigator: Marcelo Sousa  
Title: Mechanism of Enzymes Mediating Resistance in Pseudomonas  
Project Period: 07/01/2004 – 06/30/2007  
Total costs: \$1,410,151
7. Awarding agency: Ellison Medical Foundation  
Principal Investigator: Marcelo Sousa  
Title: Identifying and Overcoming Antimicrobial Resistance in Bacteria  
Project Period: 12/01/2004 – 11/31/2008  
Total costs: \$200,000
8. Awarding agency: National Science Foundation (NSF 0719225)  
Principal Investigator: Marcelo Sousa  
Title: Bacterial Outer Membrane Biogenesis: The Role of Molecular Chaperones.  
Project Period: 08/01/2007 – 07/31/2011  
Total costs: \$495,000
9. Awarding agency: National Institutes of Health (NIH 1R01AI080709)\*  
Principal Investigator: Marcelo Sousa  
Title: Transport and Insertion of Outer Membrane Proteins  
Project Period: 06/01/2009 – 02/1/2012  
Total costs: \$740,796



10. Awarding agency: National Institutes of Health (NIH 2R56AI060841-06)  
Principal Investigator: Marcelo Sousa  
Title: Mechanism of Resistance in Gram-Negative Bacteria  
Project Period: 07/01/2009 – 06/30/2012  
Total costs: \$747,144
11. Awarding agency: National Institutes of Health (Shared instrumentation grant)  
Principal Investigator: David B. McKay. Co-Principal Investigators (Major Users): Thomas Cech, Robert Batey and Marcelo C. Sousa  
Title: X-ray Source Upgrade for Macromolecular Crystallography  
Project Period: 09/30/2011-09/29/2012  
Total costs: \$112,203
12. Awarding agency: National Institutes of Health (NIH 1R01EY019050)  
Principal Investigator: Marcelo Sousa  
Title: Molecular Mechanism of Retinal Guanylate Cyclase Activation by GCAPs  
Project Period: 05/01/2009 – 04/30/2013  
Total costs: \$873,964
13. Awarding agency: Colorado Clinical & Translational Sciences Institute  
Principal Investigator: Marcelo C. Sousa. Co-Principal Investigator: Tarek Sammakia  
Title: ArnA inhibitors to defeat Pseudomonas antibiotic resistance in Cystic Fibrosis  
Project Period: 06/01/2013-05/31/2014  
Total costs: \$60,000
14. Awarding agency: National Institutes of Health (NIH 1R01AI080709)  
Principal Investigator: Marcelo Sousa  
Title: Transport and Insertion of Outer Membrane Proteins  
Project Period: 02/15/2012 – 01/31/2018  
Total costs: \$1,851,930
15. Awarding agency: American Heart Association (17GRNT33700291)  
Principal Investigator: Marcelo Sousa  
Title: Novel antimicrobial targets against cardiovascular-disease-related pathogens.  
Project Period: 07/01/2017 – 06/30/2020  
Total costs: \$154,000

#### **MEMBERS OF RESEARCH GROUP (POSITION, TIME IN LAB, AND DEGREES ARE GIVEN)**

##### *Current*

Megan Mitchell	Graduate Student	05/2017 – present
Stephen Upton	Graduate Student	05/2019 – present
Katherine Dapron	Graduate Student	05/2019 – present
Daniel Escudero	Graduate Student	05/2019 – present
Whitney Bergman	Graduate Student	05/2020 – present
Ezra Weible	Undergraduate	12/2021 – present
Wesley Beckham	Undergraduate	12/2021 – present

**Previous**

Morgan Fink	Research Assistant	01/2018 – 06/2020
Matthew A. Brown	Undergraduate	01/2018 – 05/2020 Grad. <i>Summa Cum Laude</i>
Jacob Howshar	Undergraduate	02/2019 – 08/2019
Daniel Schemenauer	Research Assistant	07/2018 – 02/2019
Morgan Fink	Undergraduate	02/2019 – 08/2019 Grad. <i>Summa Cum Laude</i>
Arden Doerner	Graduate Student	05/2013 – 08/2018 Grad. with Ph.D. 05/2018
Marc Andre LeBlanc	Graduate Student	05/2014 – 05/2018 Grad. with Ph.D. 05/2018
Alex Hopkins	Graduate Student	05/2013 – 05/2017 Grad. with Ph.D. 05/2017
Jacob Greenberg	Graduate Student	09/2012 – 05/2017 (co-advisor) Ph.D. 07/2017
Hans Bergal	Undergraduate	05/2014 – 05/2017 Grad. <i>Summa Cum Laude</i>
Daniel Beideman	Graduate Student	05/2015 – 08/2016 Grad. With M.S. 08/2016
Sandra Metzner	Research Assistant	08/2001 – 03/2017
Nicole Sandberg	Undergraduate	02/2015 – 05/2016
Elaine Shults	Undergraduate	05/2014 – 07/2014
Katarina Jansen	Graduate Student	05/2008 – 03/2014 Grad. with Ph.D. 01/2014
Michelle Turco	Graduate Student	05/2008 – 04/2014 Grad. with Ph.D. 12/2013
Cristina Sandoval	Graduate Student	05/2007 – 12/2013 Grad. with Ph.D. 01/2014
Myeongseon Lee	Postdoctoral Fellow	01/2006 – 12/2013
Danielle Castagneri	Undergraduate	08/2012 – 12/2013 Grad. <i>Summa Cum Laude</i>
Susan Baker	Research Assistant	07/2009 – 08/2013
Blake Snyder	Undergraduate	07/2011 – 12/2012 Grad. <i>Summa Cum Laude</i>
An (Mike) Tran	Postdoctoral Fellow	04/2010 – 06/2012
Petia Gatzeva	Postdoctoral Fellow	12/2005 – 06/2012
Chelsea Walter	Undergraduate	06/2009 – 05/2011 Grad. <i>Summa Cum Laude</i>
Amy Dear	Postdoctoral Fellow	04/2006 – 02/2011
Kevin Kohlmeier	Research Assistant	10/2009 – 10/2010
Paul Templeton	Graduate Student	05/2004 – 04/2010 Grad. with Ph.D.
Mark McClintock	Undergraduate	05/2007 – 05/2008 Grad. <i>Summa Cum Laude</i>
Andrea Monteagudo	Visiting Fellow	02/2008 – 05/2008
Nicolas Navasa	Visiting Fellow	02/2008 – 05/2008
Ricardo Stephen	Graduate Student	05/2002 – 12/2007 Grad. with Ph.D.
Troy Walton	Graduate Student	05/2003 – 12/2007 Grad. with Ph.D.
Maja Janas	Undergraduate	05/2006 – 05/2007 Grad. <i>Summa Cum Laude</i>
Ellen Roper	Research Assistant	09/2005 – 10/2006
Petia Gatzeva	Graduate Student	05/2002 – 12/2005 Grad. with Ph.D.
Anne Schwabe	Exchange Student	08/2005 – 12/2005
Brittany Holmes	Undergraduate	01/2004 – 08/2005 Grad. <i>Summa Cum Laude</i>
Daniel Perez	Undergraduate	12/2003 – 01/2005
Katherine Kennerson	Undergraduate	08/2002 – 05/2004 Grad. <i>Magna Cum Laude</i>
Pablo Castello	Postdoctoral Fellow	10/2002 – 01/2004
Steve Thompson	Undergraduate	05/2003 – 10/2003

**TEACHING EXPERIENCE (AS AN INDEPENDENT PI)****Classroom Teaching**

Classroom Teaching

Advanced General Biochemistry 1 (BCHEM 5771).

Advanced General Biochemistry 2 (BCHEM 5781).

Fundamentals of Biochemistry I (BCHM 5770)  
 General Biochemistry II (BCHEM4731 / 5731).  
 Survey of Biochemistry (BCHEM 4611).  
 Biophysics Core Methods (BCHEM 5661).  
 Advances in Molecular Biophysics (CHEM 5661).  
 Biochemistry Laboratory (BCHEM4761).  
 Signaling and Cellular Regulation (BCHEM 5801).  
 Scientific Ethics and Responsible Conduct in Research (BCHM 5776)

### ***Non Classroom Teaching (graduate students)***

*Principal Dissertation/Thesis Advisor for graduate students (years in lab are given)*

Petia Gatzeva-Topalova.	Ph.D. Chemistry (Biochemistry)	2002 - 2005
Troy Walton	Ph.D. Chemistry (Biochemistry)	2003 - 2007
Ricardo Stephen	Ph.D. Chemistry (Biochemistry)	2002 - 2007
Paul Templeton	Ph.D. Chemistry (Biochemistry)	2004 - 2010
Michelle Turco	Ph.D. Biochemistry	2008 - 2013
Cristina Sandoval	Ph.D. Biochemistry	2007 - 2014
Katarina Jansen	Ph.D. Biochemistry	2008 - 2014
Daniel Beideman	M.S. Biochemistry	2015 - 2016
Jacob Greenberg	Ph.D. in Chemistry	2012 - 2017 (I was co-advisor)
Alex Hopkins	Ph.D. in Biochemistry	2013 - 2017
Pamela Arden Doerner	Ph.D. in Biochemistry	2013 - 2018
Marc Andre LeBlanc	Ph.D. in Biochemistry	2014 - 2018
Megan Mitchell	Candidate for Ph.D. in Biochemistry	2017 – present
Stephen Upton	Candidate for Ph.D. in Biochemistry	2019 – present
Katherine Dapron	Candidate for Ph.D. in MCD-Biology	2019 – present
Daniel Escudero	Candidate for Ph.D. in MCD-Biology	2019 – present
Whitney Bergman	Candidate for Ph.D. in Biochemistry	2020 – present

*Member of Graduate Dissertation/Thesis committee (other than principal advisor)*

Deanna Ojennus, Ph.D. in Chemistry and Biochemistry, 2002  
 Susy Kohout, Ph.D. in Chemistry and Biochemistry, 2002  
 Molly Chiamonte, Ph.D. in Chemistry and Biochemistry, 2002  
 Guinevere Murphy, Ph.D. in Chemistry and Biochemistry, 2003  
 Nathan Malmberg, Ph.D. in Chemistry and Biochemistry, 2004  
 Sarah Wise, MS in Chemistry and Biochemistry, 2004  
 Danny Strauss, Ph.D. in Chemistry and Biochemistry, 2005  
 Aaron Miller, Ph.D. in Chemistry and Biochemistry 2006  
 Michael Townsend, Ph.D. in Chemistry and Biochemistry 2006  
 Darren Bates, Ph.D. in Chemistry and Biochemistry, 2007  
 John Hardin, Ph.D. in Chemistry and Biochemistry, 2007  
 Sunny Gilbert, Ph.D. in Chemistry and Biochemistry, 2007  
 Sara Symons, M.S. in Chemistry and Biochemistry, 2007  
 Nisha Low-Nam, Ph.D. in Chemistry and Biochemistry, 2008  
 Michael Latham, Ph.D. in Chemistry and Biochemistry, 2008  
 Jennifer Roberts, Ph.D. in Chemistry and Biochemistry, 2008  
 Benjamin Barthel, Ph.D. in Chemistry and Biochemistry, 2008  
 Amy Gelinas, Ph.D. in Chemistry and Biochemistry, 2010  
 Schuyler Van Engelenburg, Ph.D. in Chemistry and Biochemistry, 2010

Andrew Libby, M.S. in Biochemistry, 2010  
Janet Mc Combs, Ph.D. in Biochemistry, 2010  
Kevin Sours, Ph.D. in Biochemistry, 2011  
Andrew Olson, Ph.D. in Biochemistry 2011  
Lisa Warner, Ph.D. in Biochemistry 2011  
Francis Reyes, Ph.D. in Biochemistry 2012  
Hsin-Jui (Ray) Wu, Ph.D. in Mechanical Engineering (collaboration with MCDB) 2012  
Carol Manhart, Ph.D. in Biochemistry 2013  
John Zinder, M.S. in Biochemistry 2013  
Pablo Ceres, Ph.D. in Biochemistry 2013  
Quan Yuan, Ph.D. in Biochemistry 2013  
Thayne Dickey, Ph.D. in Biochemistry 2014  
Jeremiah Trausch, Ph.D. in Biochemistry 2014  
Tianjing Hu, Ph.D. in Biochemistry 2015  
Yao Xiao, Ph.D. in Biochemistry 2015  
Joan Marcano, Ph.D. in Biochemistry 2015  
Jacob Polaski, Ph.D. in Biochemistry 2016  
Alexandra Young, Ph.D. in Biochemistry 2017  
David Protter, Ph.D. in Biochemistry 2017  
Marissa Mckercher, Ph.D. in Biochemistry 2017  
Jennifer Liddle, Ph.D. in Biochemistry 2017  
Sabrina Hunt, Ph.D. in Biochemistry 2017  
Steven Okoniewski, Ph.D. in Physics 2018  
Patrick Heenan, Ph.D. in Physics 2019  
Tom Buckles, Ph.D. in Biochemistry 2019  
Andres Chaparro Sosa, Ph.D. in Chemical and Biological Engineering 2021  
Moshe Gordon, Ph.D. in Biochemistry 2021  
Dylan Iverson Ph.D. in Biochemistry 2022  
Michael Kai Hjortness, candidate for Ph.D. in Chemical and Biological Engineering  
Wei-Tse Hsu, candidate for Ph.D. in Chemical and Biological Engineering  
Karl Widney, candidate for Ph.D. in Molecular, Cellular and Developmental Biology

*Rotation Advisor for Graduate Students*

AY 2001/2002: P. Gatzeva-Topalova, D. Starrett, R. Stephen, R. Lagutaris, A. Trahan.  
AY 2002/2003: E. Pleshe, J. Roberts, T. Walton.  
AY 2003/2004: P. Templeton, Amy Gellinas, Stacey Wagner.  
AY 2004/2005: K. Sakrison, B. Barthel, C. Cahalane.  
AY 2005/2006: S. Van Engelenburg, M. Gonzalez, F. Reyes.  
AY 2006/2007: J. Cope, C. Sandoval, L. Griffin, N. Grimm.  
AY 2007/2008: T. Lund, K. Jansen, M. Turco.  
AY 2008/2009: J. Trausch, T. Dickey.  
AY 2009/2010: J. Holden, V. Bowman.  
AY 2010/2011: A. Young.  
AY 2011/2012: J. Liddle, S. Dickerson, R. Hoffman, M. Mckercher  
AY 2012/2013: A. Doerner, A. Hopkins  
AY 2013/2014: C. Fant, E. Ly, M-A LeBlanc, T. Buckles  
AY 2014/2015: D. Beideman  
AY 2015/2016: T. Rivas  
AY 2016/2017: J. Campos, J. Bocanegra, M. Mitchell  
AY 2017/2018: C. Armstrong, G. Roberts

AY 2018/2019: S. Upton, S. Archuleta, T. Jones, K. Dapron, D. Munoz-Escudero

AY 2019/2020: J. Pratt, W. Bergman, E. Kibby

AY 2020/2021: S. Siwik, N. Hammel

AY 2021/2022: A. Trudeau, D. Ocampo

***Non Classroom Teaching (undergraduate students)***

*Principal Honors Thesis Advisor*

Katherine Kennerson, Chemistry and Biochemistry 2002-2004. **Graduated Magna Cum Laude**

Brittany Holmes, Chemistry and Biochemistry 2004-2005. **Graduated Summa Cum Laude**

Maja Janas, Chemistry and Biochemistry 2006-2007. **Graduated Summa Cum Laude**

Mark MacClintock, Chemistry and Biochemistry 2007-2008. **Graduated Summa Cum Laude**

Chelsea Walter, Chemistry and Biochemistry 2009-2011. **Graduated Summa Cum Laude**

Blake Snyder, Chemistry and Biochemistry 2011-2012. **Graduated Summa Cum Laude**

Danielle Castagneri, Chemistry and Biochemistry 2012-2013. **Graduated Summa Cum Laude**

Hans Thor Bergal, Chemistry and Biochemistry 2014-2017. **Graduated Summa Cum Laude**

Morgan Fink, Biochemistry 2017-2019. **Graduated Summa Cum Laude**

Matthew Andrei Brown, Biochemistry 2018-2020. **Graduated Summa Cum Laude**

*Undergraduate Research Assistant Program (URAP), NIH/HHMI scholars, independent study advisor*

Katherine Kennerson, Chemistry and Biochemistry 2002-2003

Daniel Perez, Chemistry and Biochemistry 2003-2005

Brittany Holmes, Chemistry and Biochemistry 2004-2005

Anne Schwabe, University of Regensburg 2005

Maja Janas, Chemistry and Biochemistry 2006-2007

Mark MacClintock, Chemistry and Biochemistry 2007-2008

Blake Snyder, Chemistry and Biochemistry 2012

Danielle Castagneri, Chemistry and Biochemistry 2012-2013

Nicole Sandberg, Chemistry and Biochemistry 2015-2016

Hans Thor Bergal, Biochemistry 2015-2016

Jacob Howshar, Neuroscience 2019

Matthew Andrei Brown, Biochemistry 2018-2020

Colista Bird, Biochemistry 2019-2021

*Summer Minority Access to Research Training (SMART) program, principal advisor*

Stephanie Castillo, 2013

Diego Trujillo, 2019

*Summer Research Training Internships, principal advisor*

Isabel Lippincott, from Scripps College in Claremont, CA, Summer 2015

Isabel Lippincott, from Scripps College in Claremont, CA, Summer 2016

*Member of Honors Thesis committee (other than principal advisor)*

Wesley Walker. B.S. *Magna cum laude*. Chemistry. 2004

Dana Ungermannova. B.S. *Summa cum laude*. Biochemistry. 2003

Shannon Hibbard. B.S. *Magna cum laude*. Biochemistry. 2004

Andrew Bonham. B.S. *Magna cum laude*. Biochemistry. 2004

Jane Duplantis. B.S. *Summa cum laude*. Biochemistry. 2014

Stephanie Talder, *Magna cum laude*. MCDB. 2021

**SERVICE (AS AN INDEPENDENT PI)***Service to the University of Colorado*

- 2001– 2003 Organized the Biochemistry Seminar Series (one of 2 faculty).
- 2002 – present Reviewer of multiple “Undergraduate Research Opportunity proposals”.
- 2002 – present Training Faculty. Graduate Program in Molecular Biophysics.
- 2002 – present Training Faculty. Graduate Program in Signaling and Cellular Regulation.
- 2002 – 2004 Served as Co-Chair of the Honors Program. Chemistry and Biochemistry.
- 2004 Obtained funding to purchase a shared microfluidics crystallizer for the Department of Chemistry and Biochemistry.
- 2004 Contributed to a shared instrumentation grant proposal to upgrade the X-ray facility of the Department of Chemistry and Biochemistry.
- 2005 Obtained funding for a proposal to expand the Tissue Culture Facility in the Department of Chemistry and Biochemistry.
- 2006 – 2007 Served in the Faculty Search Committee for organic chemistry.
- 2006 – 2008 Leader of the biochemistry “Detailed Design Team” to design the new research building to house the Colorado Initiative in Molecular Biotechnology.
- 2007 Coordinator for the Stanley Gill Memorial Lecture.
- 2003 – present Coordinator of minority recruitment. Chemistry and Biochemistry.
- Attended the Annual Biomedical Research Conference for Minority Students.
  - Served as both recruiter and judge of the students research.
  - Traveled to minority serving institutions to promote our program.
  - Attended the 2009 Leadership Alliance National Symposium serving as a mentor and a recruiter.
- 2008 – 2013 Efforts to increase campus diversity: Member of the steering committee for the NSF “Alliance for Graduate Education and the Professoriate (AGEP)”.
- 2009 Member of the internal committee to revise departmental graduate rules.
- 2009 Developed, together with Prof. Deborah Wuttke, an S10 shared instrumentation grant proposal submitted to NIH to fund the purchase of a spectropolarimeter. The proposal was selected for funding and I negotiated the purchase of the instrument.
- 2009 – 2011 Member of the Executive Committee, Dept. of Chemistry and Biochemistry
- 2010 – 2013 Efforts to increase campus diversity: Member of the steering committee for the NIH “Initiative for Maximizing Student Development (IMSD)”.
- 2011 – 2012 Internal Review Committee for the program review of the Department of Molecular Cellular and Developmental Biology
- 2011 – 2012 Assisted the Acting Director of Biochemistry (Prof. Deborah Wuttke) with the financial and logistical planning associated with the move of Biochemistry to the East Campus.
- 2012 – 2013 Member of Search Committee for the Biochemistry/BioFrontiers Procurement Manager.
- 2012 – 2014 Member of the Biochemistry Oversight Committee. The committee, composed of three faculty plus the Director of biochemistry, oversees all the operations of the Biochemistry division with an emphasis on fiscal oversight.
- 2013 Chair of Search Committee for the Director of Biochemistry Teaching Labs.
- 2014 Member of the committee to help design the proposed “E wing” of the Jennie Smoly Caruthers Biotechnology Building.
- 2014 Reviewer for the Colorado Clinical & Translational Sciences Institute (CCTSI).

- 2015 Developed the technical specifications and justification for a funding request to NIH to upgrade the Macromolecular X-Ray facility with a new X-Ray generator and Pilatus detector. The request was selected for funding.
- 2016 – 2018 Member of the Governance committee, Dept. of Chemistry and Biochemistry.
- 2016 – 2017 Director of Biochemistry.
- 2017 – 2018 Transitional Chair of Biochemistry.
- 2018 – 2019 Member of Faculty Search Committee for Biochemistry.
- 2001 – present Member (Chair since 2019) of internal study sections that review faculty grant proposals.
- 2019 – 2020 Chair, Diversity and Inclusivity Committee.
- 2010 – present Director Macromolecular Crystallography Facility.
- 2020 – 2021 Member of the “Academic Futures Working Group on the Academies”.  
University of Colorado Boulder.
- 2020 – present Chair of the Department of Biochemistry Grievance Panel.
- 2020 – present Representative of the Biochemistry Dept. to the Boulder Faculty Assembly

*Service to the scientific community outside the University of Colorado*

- 2004 Ad hoc reviewer for the Biochemistry and Biophysics Fellowships Panel. National Institutes of Health (NIH).
- 2004 Ad hoc reviewer for the Cystic Fibrosis Fellowships panel. University of Washington.
- 2005 Ad hoc reviewer for the Drug Discovery and Mechanisms of Antimicrobial Resistance Study Section. National Institutes of Health (NIH).
- 2005 Ad hoc reviewer for the Biochemistry and Biophysics Fellowships Panel. National Institutes of Health (NIH).
- 2005 Ad hoc Reviewer for the Science Foundation of Ireland.
- 2006 Ad hoc Reviewer for The Wellcome Trust.
- 2006 Ad hoc Reviewer for the Austrian Science Fund.
- 2006 Ad hoc Reviewer for the Drug Discovery and Mechanisms of Antimicrobial Resistance Study Section. National Institutes of Health (NIH).
- 2009 Ad hoc Reviewer for the Signal Transduction review panel, Cellular Systems Cluster, Molecular and Cellular Biosciences. National Science Foundation (NSF).
- 2010 Ad hoc Reviewer. Science and Technology Fund. Argentina.
- 2010 Ad hoc Reviewer for Biomolecular Systems, Molecular and Cellular Biosciences. National Science Foundation (NSF).
- 2011 Ad hoc Reviewer. Science and Technology Fund. Argentina.
- 2012 Ad hoc Reviewer for the Signal Transduction review panel, Cellular Processes Program Cluster, Molecular and Cellular Biosciences. National Science Foundation (NSF).
- 2012 Ad hoc reviewer. Special Emphasis Panel: Anti-pathogen drug development and resistance. NIH.
- 2013 Ad hoc Reviewer for the National Science Foundation's "Catalyzing New International Collaborations" (CNIC) program, NSF 13-605.
- 2013 Ad hoc reviewer. Special Emphasis Panel on Bacterial Pathogenesis. NIH.
- 2014 Ad hoc Reviewer. Deutsche Forschungsgemeinschaft (German Research Foundation).
- 2015 Ad hoc Reviewer for The Wellcome Trust.

2012 – 2016	Regular Member. Biochemistry & Biophysics of Membranes Study Section, Center for Scientific Review, NIH
2016	External Evaluator for Ph.D. dissertation. Monash University, Australia
2017	Ad hoc reviewer. National Institute of General Medical Sciences (NIGMS) intramural PRAT program. March 2017.
2018	Ad hoc Reviewer for The Wellcome Trust.
2018	Ad hoc reviewer. “Prokaryotic Cell and Molecular Biology” Study Section, Center for Scientific Review, NIH
2019	Reviewer for the Intramural Program. National Institutes of Health.
2020	Ad hoc reviewer. “Shared and High-End Instruments: Crystallography and NMR” Study Section, Center for Scientific Review, NIH
2020	Ad hoc reviewer. “Topics in Bacterial Pathogenesis” Study Section, Center for Scientific Review, NIH
2021	Ad hoc reviewer. “Shared and High-End Instruments: Crystallography and NMR” Study Section, Center for Scientific Review, NIH
2021	Ad hoc reviewer. “Antimicrobial Therapeutics and Resistance ” Study Section, Center for Scientific Review, NIH
2021	Member organizing committee: Magalhães - Elcano Conferences
2022	Ad hoc reviewer. “Antimicrobial Therapeutics and Resistance ” Study Section, Center for Scientific Review, NIH
2022	Ad hoc Reviewer for Molecular Biophysics Program Cluster, Molecular and Cellular Biosciences. National Science Foundation (NSF)
2020 – present	Member of the Pan-American Association for Biochemistry and Molecular Biology (PABMB) Committee for Symposia.
2004-present	Peer reviewer for the journals: Nature, Cell, Cell Reports, Nature Reports, Nature Structural and Molecular Biology, Molecular Cell, PNAS, Biochemistry, Journal of Molecular Biology, Proteins, Journal of Structural Biology, ASM press, Molecular and Cellular Proteomics, Structure, Acta Crystallographica etc.