

Curriculum Vitae

Enrique M. De La Cruz, Ph.D.

Professor

Department of Molecular Biophysics and Biochemistry

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Born: September 15, 1969

Date of CV: January 1, 2016

Education:

<u>Years</u>	<u>Institution</u>	<u>Field</u>	<u>Degree</u>
1992-1997	Johns Hopkins University School of Medicine Baltimore, MD	Cell Biology	Ph.D.
1987-1991	Rutgers University, Newark, NJ	Biology/Chemistry	B.A.

Research and Professional Experience:

2015	Mayent-Rothschild Senior Researcher Fellow, Institut Curie, Paris, France
2012-current	Professor, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT
2009	Visiting Scientist, Centre National de la Recherche Scientifique (CNRS), Commissariat à l'Énergie Atomique & Université Joseph Fourier, Grenoble, France
2008-2012	Associate Professor with tenure, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT
2006-2008	Associate Professor on term, Department of Molecular Biophysics and Biochemistry Yale University, New Haven, CT
2001-2006	Assistant Professor, Department of Molecular Biophysics and Biochemistry Yale University, New Haven, CT
1997-2001	Post-doctoral fellow, Mentors: Dr. E. Michael Ostap & H. Lee Sweeney, University of Pennsylvania School of Medicine, Philadelphia, PA.
1997	Graduate Student, Mentor: Dr. Thomas D. Pollard, The Salk Institute for Biological Studies, La Jolla, CA.
1992-1997	Graduate Student, Mentor: Dr. Thomas D. Pollard, Johns Hopkins University Medical School, Baltimore, MD.
1991-1992	Research Assistant. Drs. Richard Mendelsohn and Harvey H. Feder, Rutgers University, Newark, NJ.
1987-1991	Research Assistant. Dr. Harvey H. Feder, Rutgers University, Newark, NJ.
1986-1987	Research Assistant. Dr. Ann Goldstein, Hoffman La-Roche, Nutley, NJ.

Honors and Awards:

2015	Rothschild-Yvette-Mayent Fellowship (Institut Curie)
2014	Keynote Speaker, Dept. of Molecular Physiology & Biophysics Annual Retreat, University of Vermont College of Medicine, Trapp Family Lodge, Stowe, VT.
2014	John V. O'Connor Lectureship, 19 th Annual Biochemistry Research and Education Conference, University of Notre Dame, Notre Dame, IN.
2014	4 th Annual Robert Davis Lecture in Cell and Molecular Biology, Federated Department of Biological Science at Rutgers University and NJIT, Newark, NJ.
2014	Keynote Speaker, 10th Annual Biophysics and Computational Biology

- Symposium, Illinois Biophysics Society, University of Illinois Urbana Champaign, Urbana, IL.
- 2013 Distinguished Lecturer (invited by graduate students and post-doctoral fellows), Cell Biology and Physiology Center (CBPC), NHLBI, NIH, Bethesda, MD.
- 2013 Invited Lecturer (invited by graduate students), UNC Molecular and Cellular Biophysics Program, University of North Carolina, Chapel Hill, NC.
- 2012 Distinguished Alumnus Speaker, *Biochemistry, Cell & Molecular Biology* graduate program, Johns Hopkins University School of Medicine, Baltimore, MD.
- 2012 Keynote Speaker, *Biochemistry and Computational and Molecular Biophysics* graduate program retreat, Washington University in St. Louis, St. Louis, MO.
- 2009 Established Investigator, American Heart Association
- 2009 Visiting Scientist, Centre National de la Recherche Scientifique (CNRS), Commissariat à l'Énergie Atomique & Université Joseph Fourier, Grenoble, France
- 2006 Plenary Lecturer, 44th Annual Meeting of the Biophysical Society of Japan
- 2006 NSF CAREER Award
- 2003 Plenary Lecturer, Ibero-American Congress of Biophysics Meeting, Brazil
- 2002 Abbott Distinguished Lecturer (awarded by Purdue University)
- 2002 Hellman Family Fellow
- 2001 Keith R. Porter Symposium Award, Society for General Physiologists
- 1998 Life Sciences Research Foundation Postdoctoral Fellowship Award
- 1997 Commencement Speaker, Johns Hopkins University School of Medicine
- 1997 Young Investigator Award, Molecular Interactions of Actin, Maui, HI
- 1995 Biophysical Society Travel Award, San Francisco, CA
- 1993 National Science Foundation Pre-doctoral Fellowship Award
- 1992 *Phi Beta Kappa* National Honor Society (#313730)
- 1991 *Beta Beta Beta* Biological Honor Society
- 1987-1991 National Dean's List
- 1987-1991 Rutgers University Scholars Award (4 year fellowship)

Professional Activities:

- 2016-21 Editorial Board, *Journal of Biological Chemistry*
- 2016-19 Meetings Committee, American Society for Biochemistry & Molecular Biology (ASBMB) (2nd term)
- 2016-19 Publications Committee, American Society for Biochemistry & Molecular Biology (ASBMB) (2nd term)
- 2015-18 Editorial Board, *Biophysical Journal* (2nd term)
- 2015-current Mentor, National Research Mentoring Network (NRMN)
- 2014 NIH, ZGM1 TWD-3 (SC) NIGMS Special Emphasis Panel (SCORE proposals)
- 2013-current Executive Committee, Center for Multiscale Theory and Simulation, Univ. Chicago
- 2014-15 Program Committee, 2016 Annual Biophysical Society Meeting
- 2013-14 Chair, Program Committee, 2015 Annual Biophysical Society Meeting
- 2013 Secondary Chair, NIH, Macromolecular Structure & Function C Study Section
- 2013-16 Meetings Committee, American Society for Biochemistry & Molecular Biology (ASBMB)
- 2013-current Virtual Mentor; Building Research Infrastructure and Capacity (BRIC) Program, University of Puerto Rico in Cayey.
- 2012-15 Publications Committee, American Society for Biochemistry & Molecular Biology (ASBMB)
- 2012-15 Editorial Board, *Biophysical Journal*

2012-current Scientific Advisory Board, Myokardia, Inc., San Francisco, CA
 2010-14 NIH, Macromolecular Structure & Function C Study Section
 2012-13 Biophysical Society Nominating Committee
 2011-12 Chair, Biophysical Society Nominating Committee
 2010-current Editorial Board, *Biophysical Reviews*
 2009 National Science Foundation, *Cellular Organization* Panel
 2009 Bernfield and Gilula Awards Joint Selection Committee, ASCB
 2009 Grant Reviewer for Agence Nationale de la Recherche (ANR), France
 2009 NIH, Macromolecular Structure & Function C Study Section
 2009-12 Elected Council Member, Biophysical Society
 2008 External Review Committee, Molecular & Cellular Biology Graduate Program, University of Massachusetts, Amherst, MA.
 2007 Grant Reviewer for Philip Morris External Research Program
 2006-07 Co-Chair, Biophysical Society Motility Subgroup
 2006-07 American Heart Association, National Center, Basic Cell & Molecular Biology 3 Study Group
 2006 Grant Reviewer, Israel Science Foundation
 2005 Grant Reviewer, Biotechnology and Biological Sciences Research Council (U.K.)
 2005 Grant Reviewer, American Chemical Society, Petroleum Research Fund
 2003-08 Grant Reviewer for the National Science Foundation

Meeting and Symposia Organization:

Co-Organizer, 2015 Biophysical Society Annual Meeting, Baltimore, MD, Feb. 7-11, 2015.

Co-Organizer, 2014 American Society for Biochemistry & Molecular Biology (ASBMB) Annual Meeting, San Diego, CA, April 26-30, 2014.

Co-Organizer, *Catalytic Mechanisms* Thematic Meeting, American Society for Biochemistry & Molecular Biology Annual Meeting, Boston, MA, Apr. 20-24, 2013.

Co-Chair, *Actin Organization and Dynamics* Mini-Symposium, American Society for Cell Biology Annual Meeting, San Francisco, CA, Dec. 15-19, 2012.

Chair and Organizer, *Physical Properties of Proteins* Symposium, Protein Society Annual Meeting, San Diego, CA, Aug. 15-19, 2012.

Co-Organizer, *Gordon Research Conference on Biopolymers*, Newport, RI, Jun 10-14, 2012.

Co-Chair, *Diversity of Motors*, Biophysical Society Annual Meeting, March 8, 2011.

Co-Organizer, *Motility Research Symposium*, March 3, 2007.

Co-Chair, *Motility Subgroup*, Biophysical Society, 2006-2007.

Co-Chair, *Actin, Microtubules and their Binding Proteins*, Biophysical Society Annual Meeting, Salt Lake City, UT, Feb., 2006.

Co-Organizer, *Pan-American Advanced Study Institute on Unconventional Myosins*, Great Falls, Montana, August 13-19, 2005.

Discussion Chair, *Gordon Research Conference, Muscle: Contractile Proteins*, New London, NH, June 9-14, 2002.

Ongoing Research Grant Support:

RO1-GM097348 De La Cruz (PI) National Institutes of Health <i>Actin filament elasticity and actin-binding protein function.</i>	09/01/11-08/31/19
De La Cruz (Co-PI with M. Gardel, U. Chicago) Army Research Office <i>MURI: Mechanisms of force sensing in adherent cells as inspiration for new materials.</i>	08/01/14-07/31/19
Burroughs Wellcome Fund De La Cruz (PI) <i>Design and characterization of in vitro cytoskeletal contractile systems inspired by cells.</i>	05/14/14-12/31/15
Hellman Family Fellowship De La Cruz (PI)	Ongoing

Lab personnel:

Current Trainees

1. Wenxiang Cao (research scientist)
2. Austin Elam (post-doctoral associate)
3. John S. Graham (associate research scientist)
4. Eric M. Johnson Chavarria (post-doctoral associate)
5. Emily Wong (MB&B graduate student); 2011 Gruber Science Fellow; NSF predoctoral fellowship (08/01/12-07/31/15)
6. Sandy Hernandez (PEB/BME graduate student); NSF Graduate Research Fellowship (09/01/14-08/30/19)
7. Grace Peters (MB&B graduate student)
8. Anthony Schramm (MB&B graduate student)
9. Nandan Pandit (MB&B/PEB graduate student)

Former Trainees and their Current Positions

Post-doctoral Investigators:

1. Arnon Henn (post-doctoral associate), AHA postdoctoral fellowship (07/01/03-06/30/05); Faculty of Biology (Assistant Prof.), Technion - Israel Institute of Technology, Haifa, Israel
2. Robert Rambo (post-doctoral associate); Staff Scientist, Lawrence Berkeley National Lab, Berkeley, CA.
3. Michael Bradley (post-doctoral associate); Senior Scientist – Biochemistry, Syros Pharmaceuticals, Watertown, MA.
4. Hyeran Kang (post-doctoral associate); Assistant Professor, NanoScience Technology Center, Materials Science & Engineering, and Biomedical Sciences, University of Central Florida.

Graduate Students:

1. Miguel Talavera (MB&B graduate student, NIH predoctoral fellowship 09/15/01-08/31/04); Sr. Scientist, Denosumab - Analytical Sciences Team Leader, Amgen, Puerto Rico.
2. Diane Hannemann (MB&B graduate student); Science Policy Advisor, Bureau of East Asian & Pacific Affairs at U.S. Department of State, Washington D.C.

3. James Robblee (MB&B graduate student); Postdoctoral Fellow, Univ. Colorado (David Bain)
4. Adrian Olivares (MB&B graduate student, NIH predoctoral fellowship 09/15/04-08/31/07; recipient of the 2008 Mary Ellen Jones dissertation prize); Postdoctoral Fellow, M.I.T. (Tania Baker & Bob Sauer)
5. Nicholas Licciardello (MB&B graduate student); Medical Student, Univ Dominican Republic
6. Kendra Frederick (MB&B graduate student), HHMI predoctoral fellowship (9/01/03-05/31/08); Scientist, Process Development, Protein Sciences Corporation, Meriden, CT;
Current position: Manager, Quality Assurance, Two Roads Brewing Company, Stratford, CT.
7. Harvey Chin (MB&B graduate student, NIH predoctoral fellowship 09/01/07-08/31/09; recipient of the 2010 Mary Ellen Jones dissertation prize); Life Sciences Research Foundation Postdoctoral Fellow, Columbia University (Ben O'Shaughnessy)
8. Lauren Saunders (MB&B graduate student); AHA predoctoral fellowship (07/01/09-06/30/11); Postdoctoral Fellow, University of Illinois; Current position: Research Molecular Biologist, U.S. Dept. Agriculture, National Center for Agricultural Utilization Research, Peoria, IL
9. Brannon McCullough (MB&B graduate student); AHA predoctoral fellowship (07/01/09-06/30/11; recipient of the 2012 Mary Ellen Jones dissertation prize); Postdoctoral Fellow, University of Minnesota (David Odde); Current position: Assistant Professor at Northern Arizona University
10. William Chang (MB&B graduate student; co-advisor with D. Braddock, Pathology), Postdoctoral Fellow, NIH

Yale University Undergraduate Students and Subsequent Positions:

1. Magni Homsa (Yale undergraduate student); Medical Student, Columbia University College of Physicians & Surgeons
2. Peter Barkett (Yale undergraduate BS/MS student); Medical Student, University of Michigan
3. Joshua Au (Yale undergraduate); Medical Student, Yale University School of Medicine
4. Sarah Marks (Yale undergraduate); Yale University undergraduate student
5. Melissa Lee (Yale undergraduate); Yale University undergraduate student
6. Meredith Redick (Yale undergraduate); Yale University undergraduate student
7. Alan Hutchison (Yale undergraduate); MD/PhD Student, Pritzker School of Medicine, University of Chicago
8. Vivienne Hay (Yale undergraduate)
9. Catherine Harmer (Yale undergraduate)

International student interns:

1. Sofia Espinoza-Sanchez, Universidad Peruana Cayetano Heredia, Lima, Perú; 01/01 - 03/30/11
-Currently an MB&B Graduate Student at Yale University (Tom Pollard lab)
2. Anaëlle Pierre, École Normale Supérieure, Cachan, France; 04/15/11 - 08/30/11
-Currently a Graduate Student at Institut Jacques Monod, Paris (Nicolas Minc lab)
3. Michael Beuwer, Eindhoven University of Technology, Netherlands; 04/23/12 - 07/30/12
-Currently a Graduate Student at Eindhoven University of Technology
4. Karina Nieves (University of Puerto Rico, Cayey undergraduate); 06/01/13-07/31/13; Recipient of the Most Outstanding Oral Presentation of the 2013 Sackler/NSF REU: Integrated Research at the Frontiers of the Biological, Physical, and Engineering Sciences Summer Program
-Currently a Graduate Student at Johns Hopkins University School of Medicine
5. Jean Garcia (Turabo University, Puerto Rico undergraduate); 06/01/14-07/31/14; Recipient of the Most Outstanding a) Oral Presentation and b) Poster Presentation of the 2014 Sackler/NSF REU: Integrated Research at the Frontiers of the Biological, Physical, and Engineering Sciences Summer Program

Invited Research Seminars & Oral Presentations:

Invited Speaker, *School & Practical Course on Cell and Molecular Physiopathology of Diverse Biological Paradigms Symposium*, Montevideo, Uruguay, Nov. 13-15.

Invited Speaker, *Polymers and Self-Assembly: From Biology to Nanomaterials*, Rio de Janeiro, Brazil, Oct. 25-30, 2015

Department of Mechanics, Ecole Polytechnique (Paris), Palaiseau France Sept 17, 2015

Institut Curie Paris, Paris, France, September 9, 2015.

Institut Européen de Chimie et Biologie (CNRS, the Inserm and the Université de Bordeaux), Bordeaux, France September 4, 2015

Institut Curie Paris, Paris, France, July 8, 2015.

Institut Curie Orsay, Orsay, France, June 25, 2015.

Frontiers in Biology Seminar Series, Department of Biochemistry, Stanford University, Palo Alto, CA, May 20, 2015.

Dept. of Molecular Genetics & Cell Biology, University of Chicago, Chicago, IL, April 29, 2015.

Molecular Life Sciences Seminar Series (Biochemistry and Molecular and Cellular Developmental Biology programs), Ohio State University, Columbus OH, Nov. 25, 2014.

Keynote Speaker, *Dept. of Molecular Physiology & Biophysics Annual Retreat*, University of Vermont College of Medicine, Trapp Family Lodge, Stowe, VT, Nov. 20-21, 2014.

Department of Biochemistry, The Geisel School of Medicine at Dartmouth, Hanover, NH, Nov. 14, 2014.

Invited Speaker, *Cytoskeleton Dynamics from Molecules to Systems*, Stockholm, Oct. 27-31, 2014.

Institute for Biophysical Dynamics, University of Chicago, Chicago, IL, Oct. 7, 2014.

Department of Biology, University of Richmond, Richmond, VA, Sept. 1, 2014

Invited Speaker, *Gordon Research Conference on Muscle & Molecular Motors*, Mount Snow Resort, West Dover, VT, July 6-11, 2014.

John V. O'Connor Lectureship, 19th Annual Biochemistry Research and Education Conference, University of Notre Dame, Notre Dame, IN, June 11-12, 2014.

Department of Physics (Physikdepartment), Technische Universität München, Garching, Germany. May 15-16, 2014.

4th Annual Robert Davis Lecture in Cell and Molecular Biology, *Federated Department of Biological Science at Rutgers University and NJIT*, Newark, NJ, May 6, 2014.

Keynote Speaker, 10th Annual Biophysics and Computational Biology Symposium, Illinois

Biophysics Society, University of Illinois Urbana Champaign, Urbana, IL, April 23, 2014.

Invited Speaker, Company of Biologists Workshop on *Navigating the cell: how motors function in vivo*. Sussex, England, March 23-26, 2014.

Invited Speaker, *Encounter in the Biological, Physical, and Engineering Sciences*, Weizmann Institute of Science, Rehovot, Israel, Jan 7-9, 2014.

Departments of Biology and Biochemistry, Brandeis University, Waltham, MA, Dec. 6, 2013.

Invited Speaker, *Science and Technology Competency and Education Core*, Alliance for the Advancement of Biomedical Research Excellence in Puerto Rico (AABRE-PR), Puerto Rico, Nov 11-15, 2013.

-this "seminar tour" represents four events at the four major AABRE-PR institutions; activities include a seminar presentation as well as meetings with Deans, Researchers and Students:

November 12: University of Puerto Rico (Humacao)
November 13: University of Puerto Rico (Cayey)
November 14: Universidad del Turabo (Gurabo)
November 15: Universidad del Esta (Carolina)

New York Structural Biology Group, City College, New York, NY, Oct. 9, 2013.

Department of Chemistry, Connecticut College, New London, CT, September 10, 2013.

Invited Speaker, *5th Structural Biology and Molecular Biophysics Workshop* at the University of Nebraska Medical Center, Omaha, NE, July 11, 2013.

Invited Speaker, *Gordon Research Conference on Proteins*, Holderness, NH, June 16-21, 2013.

Distinguished Lecturer (invited by graduate students and post-doctoral fellows), *Cell Biology and Physiology Center (CBPC)*, NHLBI, NIH, Bethesda, MD, May 23, 2013.

Distinguished Lecturer (invited by graduate students), *Molecular and Cellular Biophysics Graduate Program*, University of North Carolina, Chapel Hill, NC, May 14, 2013.

Department of Biochemistry & Cancer Biology, University of Toledo College of Medicine, Toledo, OH, May 2, 2013.

Invited Speaker, *Catalytic Mechanisms* Thematic Meeting, American Society for Biochemistry & Molecular Biology Annual Meeting, Boston, MA, Apr. 20-24, 2013.

Molecular Biosciences Colloquium, Dept. Chemistry, Wichita State University, Wichita, KS, April 3, 2013.

Dept. Biomedical Engineering, Yale University, New Haven, CT, Mar 28, 2013.

Invited Speaker, *Actin Organization and Dynamics* Mini-Symposium, American Society for Cell Biology Annual Meeting, San Francisco, CA, Dec. 15-19, 2012.

Invited Speaker, *ASCB Education Committee Undergraduate Session*, American Society for Cell Biology Annual Meeting, San Francisco, CA, Dec. 15-19, 2012.

Invited Speaker, *Science and Technology Competency and Education Core*, Alliance for the

Advancement of Biomedical Research Excellence in Puerto Rico (AABRE-PR), Puerto Rico, Nov 13-15, 2012.

-this "seminar tour" represents three events at the three major AABRE-PR institutions; activities include a seminar presentation as well as meetings with Deans, Researchers and Students:

November 13: Inter-American University (Bayamon)
November 14: University of Puerto Rico (Río Piedras)
November 15: Universidad Metropolitana (San Juan)

Keynote Speaker, *Biochemistry and Computational and Molecular Biophysics* graduate program retreat, Washington University in St. Louis, Oct. 26-27, 2012.

Dept. of Cell & Developmental Biology, University of Michigan, Ann Arbor, MI, Oct. 17, 2012.

Distinguished Alumnus Speaker, *Biochemistry, Cell & Molecular Biology* graduate program, *Dept. of Biological Chemistry*, Johns Hopkins University School of Medicine, Baltimore, MD, October 11-12, 2012.

Invited Speaker, *26th Annual Gibbs Conference on Biothermodynamics*, Carbondale, Illinois, September 22-25, 2012.

Invited Symposium Speaker & Chair, *Physical Properties of Proteins* Symposium, Protein Society Annual Meeting, San Diego, CA, Aug. 15-19, 2012.

Dept. Physiology University of Massachusetts Medical School, Worcester, MA, May 8, 2012.

Dept. Molecular & Cellular Biochemistry, Indiana University, Bloomington, IN, April 27 2012.

Master Class Lecturer, Yale Engineering and Science Weekend, Yale University, New Haven, CT, February 19, 2012.

Dept. Biochemistry and Molecular Biology, University of Texas Medical Branch at Galveston, Galveston, TX, Feb. 16, 2012.

Invited Speaker, *Heart Hall Lecture*, American Heart Association Board Meeting, Hartford, CT, Dec. 8, 2011.

Department of Molecular Biosciences, Northwestern University, Evanston, IL, Dec. 1, 2011.

Invited Symposium Speaker, *IBRO School of Neuroscience: Probing normal and pathological neural cell functions*. San Juan, Puerto Rico, Nov 4 – Nov 7, 2011.

Dept. Physics, University of Illinois at Chicago, Chicago, IL, Oct. 26, 2011.

Dept. Cell and Dev. Biol, SUNY Upstate Medical University, Syracuse, NY, Sept. 28, 2011.

Invited Speaker, *Mathematical Biology of the Cell: Cytoskeleton and Motility*, Banff International Research Station, Alberta, Canada, July 31-August 5, 2011.

Invited Speaker, *Muscle & Molecular Motors Gordon Research Conference*, New London, NH, July 10-15, 2011.

Departments of Mechanical Engineering and Biomedical Engineering, Columbia University, New York, NY, April 22, 2011.

Invited Speaker, *Minority Student Researchers Lounge*, Yale University, April 12, 2011.

Center for Structural Biology, University of Florida, March 21, 2011.

Dept. Biochemistry, Molecular Biology & Biophysics, University of Minnesota, Minneapolis, MN, March 16, 2011.

Master Class Lecturer, Yale Engineering and Science Weekend, Yale University, New Haven, CT, February 20, 2011.

Department of Physics, School of Science and Engineering, Waseda University, Tokyo, Japan, November 24, 2010.

Invited Speaker, *American Society for Nephrology Advances in Research Conference: The Cytoskeleton and Cell Motility*, Denver, CO, Nov. 16-17, 2010

Institute of Molecular Biology, University of Oregon, Eugene, OR, November 9, 2010.

Dept. of Biochemistry and Molecular Biophysics, Washington University School of Medicine, St. Louis, MO, November 3, 2010.

Dept. Biology, Johns Hopkins University, Baltimore, MD, October 25, 2010.

Invited Speaker, *Pan American Studies Institute (PASI) Function and Regulation of the Cytoskeleton Research Symposium*, Buzios, Brazil, August 7-9, 2010.

Invited Speaker, *Gordon Research Conference on Biopolymers*, Newport, Rhode Island, June 6-10, 2010.

Department of Physics & Astronomy, University of Kansas, Lawrence, KS, March 22, 2010.

Invited Speaker & Lecturer, *Pierre-Gilles de Gennes Series, School on Cytoskeleton: Contractility and Motility*, Cargèse, Corsica, France, Feb. 22-27, 2010. (2 lectures)

Invited Speaker, *Gordon Research Conference on Biomolecular Interactions and Methods*, Galveston, TX, Jan 17-22, 2010.

Invited Speaker, *Gordon Research Seminar on Biomolecular Interactions and Methods*, Galveston, TX, Jan 16-17, 2010.

Department of Pathology, Columbia University, New York, NY, December 14, 2009.

Dept. Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, Nov. 4, 2009.

Invited Speaker, *Gordon Research Conference on Motile & Contractile Systems*, New London, NH, July 12-17, 2009.

Dept. Structural and Molecular Biology, Instituto de Biologia Molecular e Celular (IBMC), Porto, Portugal, June 15, 2009.

Laboratoire Physico-Chimie Curie, Institut Curie Paris, Paris, France, June 3, 2009.

Pennsylvania Muscle Institute, University of Pennsylvania School of Medicine, Dec. 8, 2008.

Department of Biological Sciences, Smith College, Northampton, MA, Nov. 17, 2008.

Department of Biological Sciences, Mt. Holyoke College, South Hadley, MA, Nov. 14, 2008.

Department of Biology, University of Puerto Rico, Cayey, Puerto Rico, October 21, 2008.

Dept. Biochemistry, Univ. of Iowa Carver College of Medicine, Iowa City, IA, October 2, 2008.

Dept. Biological Engineering, Mass. Institute of Technology, Cambridge, MA, Sept. 23, 2008.

Invited Speaker, National Meeting of the American Chemical Society "Recent Advances in Biophysical Chemistry of Transport by Biomolecular Motors and Machines", Philadelphia, PA, Aug 17-21, 2008.

Invited Speaker, Gordon Research Conference on Muscle & Motor Proteins, New London, NH, June 29-July 4, 2008.

Dept. Molecular Physiology & Biophysics, University of Vermont College of Medicine, Burlington, VT, May 5, 2008.

Invited Speaker, Heart Hall Lecture, American Heart Association Founders Affiliate, Wallingford, CT, April 11, 2008.

Dept. Biochemistry, Case Western Reserve University School of Medicine, Cleveland, OH, Dec. 6 2007.

Dept. Pharmaceutical Sciences, Univ. of Nebraska Medical Center, Omaha, NE, Nov. 16, 2007.

Dept. Molecular and Cell Biology, University of Connecticut, Storrs, CT, Nov. 1, 2007.

Dept. of Biology, University of Puerto Rico, Cayey, Puerto Rico, October 25, 2007.

Dept. of Biology, University of Puerto Rico, Bayamón, Puerto Rico, October 23, 2007.

Dept. of Molecular Biophysics & Biochemistry, Yale Univ., New Haven, CT, Sept. 10, 2007.

Gordon Research Conference, Motile & Contractile Systems, New London, NH, July 8-13, 2007.

2007 FASEB Summer Research Conference, "Helicases and NTP-Driven Nucleic Acid Motors: Structure, Function, Mechanism and Roles in Human Disease", Indian Wells, CA, June 23-28, 2007.

Molecular Motors Day, Dept. Physics, University of Maryland, March 19, 2007.

Dept. Biology, Franklin & Marshall College, Lancaster, PA, March 7, 2007.

National Heart, Lung & Blood Institute, NIH, Bethesda, MD, March 2, 2007.

Dept. of Biophysics & Biophysical Chemistry, Johns Hopkins University School of Medicine, Baltimore, MD, February 28, 2007.

Dept. of Physics, Northeastern University, Boston, MA, January 25, 2007.

Molecular Biology & Biochemistry, Wesleyan University, Middletown, CT, December 7, 2006.

Fumio Oosawa Lecture, Institute of Molecular Biology, Nagoya University, Nagoya, Japan, November 25, 2006.

Center of Excellence (COE) Seminar Series (8th lecture), Department of Physics, School of Science and Engineering, Waseda University, Tokyo, Japan, November 22, 2006.

Plenary Lecturer, *44th Annual Meeting of the Biophysical Society of Japan*, Okinawa, Japan, November 12-16, 2006.

SACNAS National Conference, Tampa, FL, October 26-29, 2006.

Dept. of Biochemistry and Molecular Biophysics, Washington University School of Medicine, St. Louis, MO, October 11, 2006.

Invited Speaker, *20th Annual Gibbs Conference on Biothermodynamics*, Carbondale, Illinois, October 7-10, 2006.

Dept. Cellular & Molecular Biology & Pathology, University of São Paulo School of Medicine, Ribeirão Preto, São Paulo, Brazil, July 25, 2006.

III International Symposium on Myosin V, Armação de Búzios, Brazil, July 14-17, 2006.

Dept. of Biology, Rutgers University, Newark, NJ, April 17, 2006.

Dept. of Biochemistry, University of Puerto Rico School of Medicine, San Juan, Puerto Rico, October 27, 2005.

Dept. of Biology, University of Puerto Rico, Cayey, Puerto Rico, October 25, 2005.

Dept. Biological Sciences, Carnegie-Mellon University, Pittsburgh, PA, October 19, 2005.

Dept. Biology, Johns Hopkins University, Baltimore, MD, October 13, 2005.

Pan-American Advanced Study Institute on Unconventional Myosins, Great Falls, Montana, August 13-19, 2005.

7th Annual National GEM Consortium, Future Faculty and Professionals Symposium, June 29-July 1, 2005, Boston, MA.

2nd Annual Northeast Alliance for Graduate Education and the Professoriate Day, University of Massachusetts, Amherst, MA, May 2, 2005.

Dept. Biology, University of Utah, Salt Lake City, UT, April 14, 2005.

Dept. Biochemistry & Molecular Biophysics, University of Pennsylvania Medical School, Philadelphia, PA, April 6, 2005.

Molecular & Cellular Biology Program, Univ. of Massachusetts, Amherst, MA, March 8, 2005.

Symposium on Muscular Contraction & Cell Movement, Univ. of Colima, Mexico, Jan. 21, 2004.

Center for Interdisciplinary Research of Complex Systems, Northeastern Univ., Nov. 30, 2004.

Annual Biomedical Research Conference for Minority Students, Dallas, TX, Nov. 10-13, 2004

Dept. Biological Sciences, University of Pittsburgh, Pittsburgh, PA, Dec. 1, 2003.

Dept. Biochemistry, Molecular Biology & Biophysics, University of Minnesota, Minneapolis, MN, Nov. 19, 2003.

1st Annual Northeast Alliance for Graduate Education and the Professoriate Day, Boston University, Boston, MA, Nov. 14, 2003.

Ibero-American Congress of Biophysics Meeting, Rio de Janeiro, Brazil, Oct. 12-15, 2003.

Dept. Cellular & Molecular Biology & Pathology, University of São Paulo School of Medicine, Ribeirão Preto, São Paulo, Brazil, Oct. 08, 2003.

Dept. of Neuroscience and Cell Biology, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ, July 2, 2003.

Gordon Research Conference, Proteins, Plymouth, NH, June 22-27, 2003.

Chemical Biology Symposium, Yale University, New Haven, CT, May 16, 2003.

Institute of Molecular Biology, University of Oregon, Eugene, OR, April 22, 2003.

Abbott Distinguished Lectureship, Department of Biological Sciences, Purdue University, West Lafayette, IN, Nov. 20, 2002.

Department of Biology, University of Puerto Rico, Bayamón, Puerto Rico, October 29, 2002.

Gordon Research Conference, Muscle: Contractile Proteins, New London, NH, June 9-14, 2002.

Département Réponse et Dynamique Cellulaires (DRDC), Grenoble, France, April 2, 2002.

Molecular Motors, Society for General Physiologists, Woods Hole, MA, Sept. 5-9, 2001.

Dept. of Biochemistry and Molecular Biophysics, Washington University School of Medicine, St. Louis, MO, Feb. 28, 2001.

Dept. of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, Feb. 1, 2001.

National Academy of Sciences, Japanese-American Frontiers of Science, Irvine, CA, Sept. 22-24, 2000.

Biophysics and Biochemistry of Motor Proteins, Banff, Alberta, Canada, Aug. 27- Sept. 1, 2000.

Pennsylvania Muscle Institute Annual Retreat, University of Pennsylvania Nov. 19, 1999.

Molecular Motors, EMBO Meeting, Alpbach, Austria, March-April 1998.

Molecular Interactions of Actin, Maui, HI, April 1-6, 1997.

Howard Hughes Medical Institution Frontiers in Biomedical Science Seminar Series, Rutgers University, Newark, NJ, March 25, 1997.

NSF Program in Cellular and Molecular Biodynamics Monthly Seminar Series, Rutgers

University, Newark, NJ, March 24, 1997.

Workshops and Outreach Activities (as an independent investigator):

2015-current Mentor, National Research Mentoring Network (NRMN)

Outreach seminar; Illini Union General Lounge, University of Illinois Urbana Champaign, Urbana, IL April 22, 2014.

2013- current: Virtual Mentor; Building Research Infrastructure and Capacity (BRIC) Program, University of Puerto Rico in Cayey.

Invited Speaker, *Science and Technology Competency and Education Core*, Alliance for the Advancement of Biomedical Research Excellence in Puerto Rico (AABRE-PR), Puerto Rico, Nov 11-15, 2013.

-this "seminar tour" represents four events at the four major AABRE-PR institutions; activities include a seminar presentation as well as meetings with Deans, Researchers and Students:

November 12: University of Puerto Rico (Humacao)

November 13: University of Puerto Rico (Cayey)

November 14: Universidad del Turabo (Gurabo)

November 15: Universidad del Esta (Carolina)

STARS Faculty Panel for incoming freshmen students, Yale University, Nov. 5, 2013.

Invited Speaker, *ASCB Education Committee Undergraduate Session*, American Society for Cell Biology Annual Meeting, San Francisco, CA, Dec. 15-19, 2012.

Invited Speaker, *Science and Technology Competency and Education Core*, Alliance for the Advancement of Biomedical Research Excellence in Puerto Rico (AABRE-PR), Puerto Rico, Nov 13-15, 2012.

-this "seminar tour" represents three events at the three major AABRE-PR institutions; activities include a seminar presentation as well as meetings with Deans, Researchers and Students:

November 13: Inter-American University (Bayamon)

November 14: University of Puerto Rico (Río Piedras)

November 15: Universidad Metropolitana (Cupey, San Juan)

Invited Speaker, *Education and Minority Affairs Travel Awardee Reception*, Biophysical Society 56th Annual Meeting, San Diego, CA, February 25, 2012.

Keynote Speaker, *Biochemistry and Computational and Molecular Biophysics* graduate program retreat, Washington University in St. Louis, Oct. 26-27, 2012.

Master Class Lecturer, Yale Engineering and Science Weekend, Yale University, New Haven, CT, February 19, 2012.

Invited Speaker, *Heart Hall Lecture*, American Heart Association Board Meeting, Hartford, CT, Dec. 8, 2011.

Invited Roundtable Speaker, *Math and Science (MAS) Familias*, Yale University, Nov. 16, 2011.

Invited Lecturer and Instructor, *IBRO School of Neuroscience: Probing normal and pathological neural cell functions*. San Juan, Puerto Rico, Oct 31 – Nov 7, 2011.

Lecturer, *Yale Science & Engineering Forum*, Wheatley School, Old Westbury, NY, Sep. 8, 2011.

Invited Speaker, *Minority Student Researchers Lounge*, Yale University, April 12, 2011.

Invited Speaker, *Preparing Future Science Faculty - Engaging Science Students in the Science Classroom*, Yale University, New Haven, CT, March 31, 2011.

Master Class Lecturer, Yale Engineering and Science Weekend, Yale University, New Haven, CT, February 20, 2011.

Moving Cell Project, Institute for Advanced Study at the University of Minnesota, Jan. 3-5, 2011.

Invited Speaker, *New Faculty Orientation*, Yale University, August 25, 2010.

Invited Lecturer and Instructor, *Pan American Studies Institute (PASI) Function and Regulation of the Cytoskeleton*, Río de Janeiro, Brazil, August 2-13, 2010.

Invited Lecturer and Instructor, *Pierre-Gilles de Gennes Series, School on Cytoskeleton: Contractility and Motility*, Cargèse, Corsica, France, February 22-27, 2010.

Invited Panelist, *Biomolecular Interactions and Methods Gordon Research Seminar*, Galveston, TX, Jan 16-17, 2010.

Invited Speaker & Panelist, *New Faculty Orientation*, Yale University, August 26, 2009.

Speaker, *Careers in the Biomedical Sciences*, University of Puerto Rico* (Cayey, Bayamón & Mayaguez), Puerto Rico, October, 2008.
**these represent 3 different events*

Invited Speaker, *Heart Hall Lecture*, American Heart Association Founders Affiliate, Wallingford, CT, April 11, 2008.

Speaker, *Careers in the Biomedical Sciences*, University of Puerto Rico* (Cayey, Bayamón & Mayaguez), Puerto Rico, October, 2007.
**these represent 3 different events*

Invited Speaker & Faculty Panelist, *Postdoctoral Career Development Lecture Series*, Yale University, New Haven, CT, March 27, 2007.

Invited Speaker, *SACNAS National Conference, Science Revolution in Minority Communities: What Progress Have We Made?*, Tampa, FL, Oct. 26-29, 2006.

Faculty Panelist, *Latinos in Science Panel*, Yale University, New Haven, CT, Sept. 27, 2006.

Invited Lecturer and Instructor, *International Training Course: Proteins as Cellular Nano-machines: Molecular Motors, Channels & Pumps*, R. de Janeiro, Brazil, July 10-21, 2006.

Invited Speaker, *Annual National GEM Consortium Symposium, GEM @ 30: A National Imperative*, Chicago, IL, June 27-30, 2006.

Invited Speaker, *Minority Biomedical Research Support Program Seminar Series*, Rutgers

- University, Newark, NJ, April 17, 2006.
- Invited Speaker, *Preparing Future Science Faculty*, Yale University School of Medicine, New Haven, CT, Jan. 19, 2006.
- Speaker, *Careers in the Biomedical Sciences*, University of Puerto Rico* (School of Medicine, Mayaguez, Bayamón, Cayey & Río Piedras campuses), Puerto Rico, October 24-30, 2005.
**these represent 5 different events*
- Invited Speaker, *7th Annual National GEM Consortium, Future Faculty and Professionals Symposium*, Boston, MA, June 29-July 1, 2005.
- Invited Speaker, *2nd Annual Northeast Alliance for Graduate Education and the Professoriate Day*, University of Massachusetts, Amherst, MA, May 2, 2005.
- Invited Speaker, *Annual Biomedical Research Conference for Minority Students*, Dallas, TX, Nov. 10-13, 2004
- Invited Speaker, *Northeast Alliance for Graduate Education and the Professoriate*, Boston University, Boston, MA, Nov. 14, 2003.
- Invited Speaker, *Research Initiative for Scientific Enhancement (RISE)*, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ, July 2, 2003.
- Invited Speaker, *Science Writing After Graduate School*, McDougal Graduate Student Center, Yale University, New Haven, CT, May 8, 2003.
- Invited Speaker, *Minorities Affairs Committee Annual Minority Mentoring Symposium*, American Society for Cell Biology (ASCB) Annual Meeting, San Francisco, CA Dec. 14, 2002.
- Speaker, *Careers in the Biomedical Sciences*, University of Puerto Rico (Mayaguez, Bayamón, Cayey and Río Piedras campuses), Puerto Rico, October 25-November 1, 2002.
- Invited Speaker, *SURF/Leadership Alliance Summer Program 2002, Career Paths for PhD.*, Yale University, New Haven, CT, July 17, 2002.
- Invited Speaker, *Working at Teaching, Advanced Sciences Workshop 2002, Future Faculty in the Sciences*, Yale University, New Haven, CT, Feb. 6, 2002.
- McNair 2002, "Achieving Scholarship, Leadership and Excellence in the 21st Century"*, College Park, MD, March 14-17, 2002.
- Compact for Faculty Diversity, 2001 Institute on Teaching & Mentoring*, Atlanta, GA, Oct. 25-28.

Research Publications (Peer Reviewed):

69. EV Wong, W Cao, J Vörös, M Merchant, Y Modis, DD Hackney, Ben Montpetit, **EM De La Cruz (2016)** P_i release limits the intrinsic and RNA-stimulated ATPase cycles of DEAD-box protein 5 (Dbp5). *J. Mol. Biol.* *In press*.
68. H Ennomani, G Letort, C Guérin, J-L Martiel, F Nedelec, W Cao, **EM De La Cruz**, M Théry & L Blanchoin (2016) Architecture and connectivity govern actin network contractility. *Curr. Biol.* *In press*.

67. RA Albright, P Stabach, W Cao, D Kavanagh, I Mullen, AA Braddock, MS Covo, G Yang, M Tehan, G Yang, Z Cheng, K Bouchard, ZX Yu, EJ Folta-Stogniew, A Negrete, AJ Sinusas, J Shiloach, G Zubal, JA Madri, **EM De La Cruz** & DT Braddock (2015) Untargeted ENPP1 Enzyme Replacement Therapy Prevents Mortality and Sequelae of GACI. *Nat Comm.* 6, 10006.
66. ZA Oztug Durer, RM McGillivray, H Kang, WA Elam, CL Vizcarra, D Hanein, **EM De La Cruz**, E Reisler, & ME Quinlan (2015) Metavinculin tunes the flexibility and the architecture of vinculin induced bundles of actin filaments. *J. Mol. Biol.* 427, 2782-98.
65. **EM De La Cruz***, J-L Martiel & L Blanchoin (2015) Mechanical heterogeneity favors fragmentation of strained actin filaments. *Biophys. J.* 108, 2270-81.
*Highlighted as *New and Notable*
64. H Kang, MJ Bradley, W Cao, K Zhou, EE Grintsevich, A Michelot, CV Sindelar, M Hochstrasser & **EM De La Cruz** (2014) Site-specific cation release drives actin filament severing by vertebrate cofilin. *Proc. Natl. Acad. Sci.* 111, 17821-6.
63. JS Graham, BR McCullough, H Kang, WA Elam & **EM De La Cruz** (2014) Multi-platform compatible software for analysis of polymer bending mechanics. *PLoS One* 9, e94766 .
62. RA Albright, DL Ornstein, W Cao, WC Chang, D Robert, M Tehan, L Liu, P Stabach, **EM De La Cruz** & DT Braddock (2014) Molecular Basis of Purinergic Signal Metabolism by Ectonucleotide Pyrophosphatase/Phosphodiesterases 4 and 1 and Implications in Stroke. *J. Biol. Chem.* 289, 3294-3306. *Selected as *JBC* "Paper of the Week."
*link ASBMB today highlight in pdf; *also Yale press release
61. W Cao & **EM De La Cruz** (2013) Quantitative full time course analysis of nonlinear enzyme cycling kinetics. *Nature Scientific Reports* 3, 2658. DOI:10.1038/srep02658
60. S Xia, M Wood, MJ Bradley, **EM De La Cruz**, WH Konigsberg (2013) Alteration in the cavity size adjacent to the active site of RB69 DNA polymerase changes its conformational dynamics. *Nucl. Acid. Res.* 41, 9077-89.
59. WA Elam, H Kang & **EM De La Cruz** (2013) Competitive displacement of cofilin can promote actin filament severing. *Biochem. Biophys. Res. Commun.* 438, 728-31.
58. J Fan, MG Saunders, EJ Haddadian, KF Freed, **EM De La Cruz*** & GA Voth* (2013) Molecular Origins of Cofilin-linked Changes in Actin Filament Mechanics. *J. Mol. Biol.* 425, 1225-40.
(*Corresponding author)
57. H Kang, MJ Bradley, BR McCullough, A Pierre, EE Grintsevich, E Reisler & **EM De La Cruz** (2012) Identification of cation binding sites on actin that drive polymerization and modulate bending stiffness. *Proc. Natl. Acad. Sci.* 109, 16923-7.
56. RA Albright, WC Chang, D Robert, DL Ornstein, W Cao, L Liu, ME Redick, JI Young, **EM De La Cruz** & DT Braddock (2012) NPP4 is a prothrombotic enzyme on the surface of vascular endothelium. *Blood* 120, 4432-40.
55. AC Reymann, R Boujemaa-Paterski, J-L Martiel, C Guérin, W Cao, HF Chin, **EM De La Cruz**, M Théry & L Blanchoin (2012) Actin network architecture can determine myosin

- motor activity. *Science* 336,1310-14.
54. B Ramamurthy, W Cao, **EM De La Cruz** & MS Mooseker (2012) Plus-End Directed Myosins Accelerate Actin Filament Sliding by Single-Headed Myosin VI. *Cytoskeleton* 69, 59-69.
 53. E Prochniewicz, A Pierre, BR McCullough, HF Chin, W Cao, LP Saunders, DD Thomas & **EM De La Cruz** (2011) Actin filament dynamics in the actomyosinVI complex is allosterically regulated by calcium-calmodulin light chain. *J. Mol. Biol.* 413, 584-92.
 52. X Wu, MJ Bradley, Y Cai, D Kümmel, **EM De La Cruz**, FA Barr, and KM Reinisch (2011) Insights regarding guanine nucleotide exchange from the structure of a DENN-domain protein complexed with its Rab GTPase substrate. *Proc. Natl. Acad. Sci.* 108, 18672-7.
 51. LP Saunders, W Cao, WC Chang, RA Albright, DT Braddock & **EM De La Cruz** (2011) Kinetic analysis of autotoxin reveals substrate-specific catalytic pathways and a mechanism for lysophosphatidic actin distribution. *J. Biol. Chem.* 286, 30130-41.
 50. BR McCullough, E Grintsevich, C Chen, H Kang, A Hutchison, A Henn, W Cao, C Suarez, J-L Martiel, JL Blanchoin, E Reisler & **EM De La Cruz** (2011) Modulation of actin filament flexibility promotes severing by cofilin. *Biophys. J.* 101, 151-9.
 49. W Cao, MM Coman, S Ding, A Henn, ER Middleton, E Rhoades, DD Hackney, AM Pyle & **EM De La Cruz** (2011) Mechanism of Mss116 ATPase reveals functional diversity of DEAD-box proteins. *J. Mol. Biol.* 409, 399-414.
 48. C Suarez, J Roland, R Boujemaa-Paterski, H Kang, BR McCullough, A- C Reymann, C Guérin, J-L Martiel, **EM De La Cruz***, Laurent Blanchoin* (2011) Cofilin Tunes the Nucleotide State of Actin Filaments and Severs at Bare and Decorated Segment Boundaries. *Current Biology* 21, 862-8.
(*Corresponding author)
 47. K Shiroguchi, HF Chin, DE Hannemann, E Muneyuki, **EM De La Cruz*** & K Kinoshita, Jr (2011) Direct observation of the myosin V recovery stroke. *PLoS Biology* 9, e1001031. doi:10.1371/journal.pbio.1001031 **Selected as "Weekly Editor's Picks"
(*Corresponding author)
 46. K Islam, HF Chin, AO Olivares, LP Saunders, **EM De La Cruz***, and TM Kapoor* (2010) Myosin V Inhibitor Based on Privileged Chemical Scaffolds. *Ang. Chem. Intl.* 49, 8484-8.
(*Corresponding author)
 45. K Kucera, AA Koblansky, LP Saunders, KB Frederick, **EM De La Cruz**, S Ghosh, Y Modis (2010) Structure-Based Analysis of *Toxoplasma gondii* Profilin: A Parasite-Specific Motif is Required for Recognition by Toll-like receptor 11. *J. Mol. Biol.* 403, 616-29.
 44. **EM De La Cruz***, J Roland, BR McCullough, L Blanchoin, & J-L Martiel* (2010) Origin of Twist-Bend Coupling in Actin Filaments. *Biophys. J.* 99, 1852-1860.
(*Corresponding author)
 43. **EM De La Cruz*** & D Sept (2010) The Kinetics of Cooperative Cofilin Binding Reveals Two States of the Cofilin-Actin Filament. *Biophys. J.* 98, 1893-901.
(*Corresponding author)
 42. J Pfaendtner, **EM De La Cruz*** & GA Voth* (2010) Actin filament remodeling by

ADF/cofilin. *Proc. Natl. Acad. Sci.* 107, 7299-304.

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41. Y Oguchi, SV Mikhailenko, T Ohki, AO Olivares, **EM De La Cruz** & S Ishiwata (2010) Robust processivity of myosin-V under off-axis loads. *Nat. Chem. Biol.* 6, 300-305.
40. A Henn, W Cao, N Licciardello, SE Heitkamp, DD Hackney & **EM De La Cruz** (2010) Pathway of ATP utilization and duplex rRNA unwinding by the DEAD box helicase, DbpA. *Proc. Natl. Acad. Sci.* 107, 4046-50.
*Faculty of 1000 "Must Read" (<http://f1000.com/2527957>)
39. E Prochniewicz, HF Chin, A Henn, DE Hannemann, AO Olivares, DD Thomas & **EM De La Cruz** (2010) Myosin Isoform Determines the Conformational Dynamics and Cooperativity of Actin Filaments in the Strongly Bound Actomyosin Complex. *J Mol Biol.* 396, 501-9.
38. HF Chin, Y Cai, S Menon, S Ferro-Novick, KM Reinisch & **EM De La Cruz** (2009) Kinetic analysis of the guanine nucleotide exchange activity of TRAPP, a multimeric Ypt1p exchange factor. *J. Mol. Biol.* 389, 275-88.
37. LP Saunders, A Ouellette, H Zhou, R Bandle, **EM De La Cruz*** & DT Braddock* (2008) Identification and validation of small molecule inhibitors against the prometastatic enzyme Autotaxin, a lysophospholipase D. *Mol. Cancer Ther.* 7, 3352-62.
(*Corresponding author)
36. SV Mikhailenko, Y Oguchi, T Ohki, T Shimosawa, AO Olivares, **EM De La Cruz** & S Ishiwata (2008) How load and the nucleotide state affect the binding mode of the molecular motor myosin V to actin. *J. Korean Physical Society* 53, 1726-30.
35. SL Altieri, GM Clayton, WR Silverman, AO Olivares, **EM De La Cruz**, LR Thomas & JH Morais-Cabral (2008) Structural and energetic analysis of activation by a cyclic nucleotide binding domain. *J. Mol. Biol.* 381, 655-69.
34. BR McCullough, L Blanchoin, J-L Martiel & **EM De La Cruz** (2008) Cofilin increases the bending flexibility of actin filaments: Implications for severing and cell mechanics. *J. Mol. Biol.* 381, 550-558.
33. Y Cai, **HF Chin**, D Lazarova, C Fu, S Menon, A Sclafani, H Cai, DW Rodgers, **EM De La Cruz**, S Ferro-Novick & KM Reinisch (2008) The structural basis for activation of the Rab Ypt1p by the TRAPPI membrane tethering complex. *Cell* 133, 1202-13.
32. Y Oguchi, SV Mikhailenko, T Ohki, AO Olivares, **EM De La Cruz** & S Ishiwata (2008) Load-dependent ADP binding to myosins V and VI: implications for subunit coordination and function. *Proc. Natl. Acad. Sci.* 105, 7714-9.
31. KB Frederick, D Sept & **EM De La Cruz** (2008) Effects of solution crowding on actin polymerization reveal the energetic basis for nucleotide-dependent filament stability. *J. Mol Biol.* 378, 540-50.
30. JK Au, AO Olivares, A Henn, W Cao, D Safer & **EM De La Cruz** (2008) Widely distributed residues in thymosin β 4 are critical for actin binding. *Biochemistry* 47, 4181-4188.
29. A Henn, W Cao, D Hackney & **EM De La Cruz** (2008) The ATPase cycle mechanism of the DEAD-box rRNA helicase, DbpA. *J. Mol Biol.* 377, 193-205.
28. GV Crichlow, H Zhou, H Hsiao, KB Frederick, M Debrosse, Y Yang, EJ Folta-Stogniew, C

- Fan, **EM De La Cruz**, D Levens, E Lolis & D Braddock (2008) Dimerization of FIR upon FUSE DNA binding suggests a mechanism of c-myc inhibition. *EMBO J.* 27, 277-89.
27. H Zhang, W Cao, E Zakharova, W Konigsberg & **EM De La Cruz** (2007) Fluorescence of 2-aminopurine reveals rapid conformational changes in the RB69 DNA polymerase-primer/template complexes upon binding and incorporation of matched deoxynucleoside triphosphates. *Nucl. Acid. Res.* 35, 6052-62.
 26. J Au, **EM De La Cruz***, D Safer (2007) Contributions From All Over: Widely-Distributed Residues in Thymosin Beta-4 Affect the Kinetics and Stability of Actin Binding. *Ann. NY Acad. Sci.* 1112, 38-44.
(*Corresponding author)
 25. AO Olivares, W Chang, MS Mooseker, DD Hackney & **EM De La Cruz** (2006) The tail domain of myosin Va modulates actin binding to one head. *J. Biol. Chem.* 281, 31326-36.
 24. W Cao, J Goodarzi & **EM De La Cruz** (2006) Energetics and kinetics of cooperative cofilin-actin filament interactions. *J. Mol. Biol.* 361, 257-67.
 23. IV Dedova, OP Nikolaeva, D Safer, **EM De La Cruz*** & CG dos Remedios (2006) Thymosin β_4 induces a conformational change in actin monomers. *Biophys. J.* 90, 985-92.
(*Corresponding author)
 22. MA Talavera, EE Matthews, WK Eliason, I Sagi, J Wang, A Henn & **EM De La Cruz** (2006) Hydrodynamic Characterization of the DEAD-Box RNA Helicase DbpA. *J. Mol. Biol.* 355, 697-707.
 21. A Henn & **EM De La Cruz** (2005) Vertebrate myosin VIIb is a high duty ratio motor adapted for generating and maintaining tension. *J. Biol. Chem.* 280, 39665-76.
 20. E Prochniewicz, N Janson, DD Thomas & **EM De La Cruz** (2005) Cofilin increases the torsional flexibility and dynamics of actin filaments. *J. Mol. Biol.* 353, 990-1000.
 19. JP Robblee, W Cao, A Henn, DE Hannemann & **EM De La Cruz** (2005) Thermodynamics of Nucleotide Binding to Actomyosin V and VI: A Positive Heat Capacity Change Accompanies Strong ADP Binding. *Biochemistry* 44, 10238-49.
 18. DE Hannemann, W Cao, AO Olivares, JP Robblee & **EM De La Cruz** (2005) Magnesium, ADP and Actin Binding Linkage of Myosin V: Evidence for Multiple Myosin V-ADP and Actomyosin V-ADP States. *Biochemistry* 44, 8826-8840.
 17. **EM De La Cruz** (2005) Cofilin binding to muscle and non-muscle actin filaments: isoform-dependent cooperative interactions. *J. Mol. Biol.* 346, 557-564.
 16. MA Talavera & **EM De La Cruz** (2005) Equilibrium and kinetic analysis of nucleotide binding to the DEAD-box RNA helicase DbpA. *Biochemistry* 44, 959-970.
 15. S Uemura, H Higuchi, AO Olivares, **EM De La Cruz** & S Ishiwata (2004) Mechanochemical coupling of two substeps in a single myosin V motor. *Nat. Struct. Mol. Biol.* 11, 877-83.
 14. JP Robblee, AO Olivares & **E.M. De La Cruz** (2004) Mechanism of nucleotide binding to actomyosin VI: Evidence for allosteric head-head communication. *J. Biol. Chem.* 279, 38608-17.
 13. CM Yengo, **EM De La Cruz**, LR Chrin, DP Gaffney 2nd, & CL Berger (2002) Actin-induced

- closure of the actin-binding cleft of smooth muscle myosin. *J. Biol. Chem.* 277, 24114-19.
12. CM Yengo, **EM De La Cruz**, D Safer, EM Ostap & HL Sweeney (2002) Kinetic characterization of the weak binding states of myosin V. *Biochemistry* 41, 8508-17.
 11. **EM De La Cruz**, EM Ostap & HL Sweeney (2001) Kinetic mechanism and regulation of myosin VI. *J. Biol. Chem.* 276, 32373-32381.
 10. **EM De La Cruz**, AL Wells, HL Sweeney, & EM Ostap (2000) Actin and light chain isoform dependence of myosin V kinetics. *Biochemistry* 39, 14196-14202.
 9. **EM De La Cruz**, HL Sweeney, & EM Ostap (2000) ADP inhibition of myosin V ATPase activity. *Biophys. J.* 79, 1524-1529.
 8. **EM De La Cruz**, EM Ostap, RA Brundage, KS Reddy, HL Sweeney & D Safer (2000) Thymosin β_4 changes the conformation and dynamics of actin monomers. *Biophys. J.* 78, 2516-2527.
 7. **EM De La Cruz**, A Mandinova, MO Steinmetz, D Stoffler, U Aebi & TD Pollard (2000) Polymerization and structure of nucleotide-free actin filaments. *J. Mol. Biol.* 295, 517-526.
 6. **EM De La Cruz**, AL Wells, SS Rosenfeld, EM Ostap & HL Sweeney (1999) Kinetic mechanism of myosin V. *Proc. Natl. Acad. Sci.* 96, 13726-13731.
 5. VK Vinson[‡], **EM De La Cruz**[‡], HN Higgs & TD Pollard (1998) Interactions of *Acanthamoeba* profilin with actin and nucleotide bound to actin. *Biochemistry* 37, 10871-10880. ([‡]*Authors contributed equally*)
 4. JLR Freeman[‡], **EM De La Cruz**[‡], TD Pollard, RJ Lefkowitz & JA Pitcher (1998) Regulation of G protein-coupled receptor kinase 5 (GRK5) by actin. *J. Biol. Chem.* 273, 20653-57. ([‡]*Authors contributed equally*)
 3. **EM De La Cruz** & TD Pollard (1996) Kinetics and thermodynamics of phalloidin binding to actin from three divergent species. *Biochemistry* 35, 14054-14061.
 2. **EM De La Cruz** & TD Pollard (1995) Nucleotide-free actin: Stabilization by sucrose and nucleotide binding kinetics. *Biochemistry* 34, 5452-5461.
 1. **EM De La Cruz** & TD Pollard (1994) Transient kinetic analysis of rhodamine phalloidin binding to actin filaments. *Biochemistry* 33, 14387-14392.

Invited Reviews and Commentaries:

17. **EM De La Cruz** & ML Gardel (2015) Actin mechanics and fragmentation. *J. Biol. Chem.* 290, 17137-44.
16. **EM De La Cruz** & EL Holzbaur (2014) Navigating the cell: how motors function *in vivo*. *J. Cell Sci.* 127, 2997-8.
15. H Kang, MJ Bradley, WA Elam, & **EM De La Cruz** (2013) Regulation of actin by ion-linked equilibria. *Biophys. J.* 105, 2621-8. PMC 3127193
14. TD Pollard & **EM De La Cruz** (2013) Take advantage of time in your experiments: a guide to simple, informative kinetics assays. *Mol. Biol. Cell* 24, 1103-10.
13. WA Elam, H Kang & **EM De La Cruz** (2013) Biophysics of actin filament severing by

- cofilin. *FEBS Letters* 587, 1215-19.
12. A L. Miller & **EM De La Cruz (2013)** Actin organization and dynamics: novel regulatory mechanisms from the biophysical to the tissue level. *Mol. Biol. Cell* 24, 677.
 11. A Henn, MJ Bradley & **EM De La Cruz (2012)** ATP utilization and RNA conformational rearrangement by DEAD-box proteins. *Ann Rev Biophys.* 41, 247-67.
 10. MJ Bradley & **EM De La Cruz (2012)** Analyzing ATP utilization by DEAD-Box RNA helicases using kinetic and equilibrium methods. *Meth. Enzymol.* 511, 29-63.
 9. **EM De La Cruz (2009)** How cofilin severs an actin filament. *Biophys. Rev.* 1, 51-59.
 8. **EM De La Cruz** & AO Olivares (2009) Watching the walk: observing chemo-mechanical coupling in a processive myosin motor. *Hum. Front. Sci. Pgm. Jnl.* 3, 67-70.
 7. **EM De La Cruz** & EM Ostap (2009) Kinetic and equilibrium analysis of the myosin ATPase. *Meth. Enzymol.* 455, 157-92.
 6. M Krendel & **EM De La Cruz (2007)** Overview: Actin Binding Protein Function and its Relation to Disease Pathology. In *Disorders caused by actin and actin-binding proteins*, Springer-Verlag. Heidelberg, Germany, pp. 65-82.
 5. JK Au, M Krendel, D Safer & **EM De La Cruz (2007)** The Roles of Thymosin β_4 in Cell Migration and Cell-to-Cell Signalling in Disease. In *Disorders caused by actin and actin-binding proteins*, Springer-Verlag. Heidelberg, Germany, pp. 218-228.
 4. AO Olivares & **EM De La Cruz (2005)** Holding the reins on myosin V. *Proc. Natl. Acad. Sci. USA.* 102, 13719-20.
 3. **EM De La Cruz** & EM Ostap (2004) Relating biochemistry and function in the myosin superfamily. *Current Opinion in Cell Biology*, 16, 61-7.
 2. **EM De La Cruz** & TD Pollard (2001) Actin' Up. *Science* 293, 616-618.
 1. **EM De La Cruz (2001)** Actin-binding proteins: The big picture and how the details define it. In *Molecular interactions of actin: Actin structure and actin binding proteins*. Springer-Verlag. Heidelberg, Germany, pp. 123-134.

Invited Text Book Chapters (Peer Reviewed):

- 1-3. **EM De La Cruz** & EM Ostap (2006; 2009; 2013) Actin. In *Cells*, Jones & Bartlett Publ.

Outreach, Career Development and Education Commentaries and Videos

2. **EM De La Cruz (2014)** How to succeed in science. *iBioMagazine*, Issue 11.
<https://www.youtube.com/watch?v=SIVWGDx1DVI>
1. A. Bassini, LC Cameron, **EM De La Cruz**, S Esteves, R Luzes, JA Mercer, JR Sotelo & M Titus (2011) International collaborative science courses: South and North American scientists team up to offer international training courses in biochemistry and cell and molecular biology. *ASBMB Today*, August Issue, 30-31.