

Marcelo E. Tolmasky
Professor
Department of Biological Science
California State University, Fullerton
Fullerton, CA 92834-6850

EDUCATION:

1979 M.Sc., Chemistry, University of Buenos Aires, Argentina
1982 Ph.D., Chemistry, University of Buenos Aires, Argentina

POSITIONS HELD:

2006-present Associate Director for Research Center for Applied Biotechnology Studies
2003-present Professor. Dpt. Biological Science. School of Natural Science and Mathematics. California State University, Fullerton.
1999-2003 Associate Professor. Dpt. Biological Science. School of Natural Science and Mathematics. California State University, Fullerton.
1995-1999 Assistant Professor. Dpt. Biological Science. School of Natural Science and Mathematics. California State University, Fullerton.
1992-1995 Research Assistant Professor. Dpt. of Microbiology and Immunology, Oregon Health Sciences University.
1989-1992 Research Instructor. Dpt. of Microbiology and Immunology, Oregon Health Sciences University.
1988-1989 Assistant Professor. Faculty of Sciences. University of Buenos Aires.
1987-1989 Member of the Research Career of the National Council of Research of Argentina.

PROFESSIONAL MEMBERSHIPS:

American Society for Microbiology
Southern California Branch of the American Society for Microbiology
Alliance for the Prudent Use of Antibiotics

OTHER POSITIONS:

2004-present Director of the International Research Training Program for the Los Angeles Basin (funded by the National Institutes of health).
2003 (6-8) Academic Visitor. Division of molecular Genetics. Dpt. Of Biochemistry. University of Oxford, United Kingdom.
2002 (6-8) Academic Visitor. Division of molecular Genetics. Dpt. Of Biochemistry. University of Oxford, United Kingdom.
2001 (6-8) Academic Visitor. Division of molecular Genetics. Dpt. Of Biochemistry. University of Oxford, United Kingdom.
2000 (6-8) Academic Visitor. Division of molecular Genetics. Dpt. Of Biochemistry. University of Oxford, United Kingdom.
1999 (6) Academic Visitor. Microbiology Unit. Dpt. Of Biochemistry. University of Oxford, United Kingdom.
1998 (6-8) Academic Visitor. Microbiology Unit. Dpt. Of Biochemistry. University of Oxford, United Kingdom.
2002-present Center for Microbial Sciences, San Diego, CA - Academic Affiliate
1995-present Instituto Fundación Leloir, Buenos Aires Argentina - Corresponding Investigator

SERVICE:

- 2007-2010 Member of the Editorial Board of Antimicrobial Agents of Chemotherapy (American Society for Microbiology)
- 2007-2010 Member of the ASM Press Book Committee (American Society for Microbiology)
- 2007 *Ad hoc* member NIH Study Section – Drug Discovery and Mechanisms of Antibiotic Resistance
- 2006 Reviewer: Molecular Microbiology
- 2005-2007 Member of the Editorial Board of Antimicrobial Agents of Chemotherapy (American Society for Microbiology)
- 2006 *Ad hoc* member NIH Study Section - MBRS
- 2004, 2006 Reviewer. Granting Agency: The Wellcome Trust (United Kingdom)
- 2004-2007 Member of the ASM Press Book Committee (American Society for Microbiology)
- 2004-2007 Member of the International Microbiology Education Committee (American Society for Microbiology)
- 2004 Reviewer: Trends in Microbiology
- 2003-present Reviewer: Journal of Antimicrobial Chemotherapy
- 2003-present Reviewer: Antimicrobial Agents and Chemotherapy
- 2003-present Member of the International Workshop Scholarship Review Committee of the American Society for Microbiology
- 2002-present Reviewer: Plasmid
- 2002 External Reviewer. Granting Agency: The Wellcome Trust (United Kingdom)
- 2001-2002 Panelist. The National Academies. Panel to select Predoctoral Fellowships.
- 2001-present Webmaster. San Diego Microbiology Group webpage. <http://biology.fullerton.edu/orgs/sdmg/>
- 2001-present Editor of the San Diego Microbiology Group Newsletter
- 2001 Organizer of the symposium "Antibiotic Resistance: Mechanisms, Dissemination, and New Trends to Overcome the Problem." 82nd Annual Meeting of the American Association for the Advancement of Science: Pacific Division. June 17-20, 2001. University of California, Irvine.
- 2001-present Reviewer: Journal of Bacteriology
- 2000 External Reviewer. Granting Agency: Swiss National Science Foundation
- 2000 Mentor of a new member of the PKAL Faculty for the 21st. Century, class of 2000 (Dr. Erica Corbett, Southeastern Oklahoma State University)
- 2000 External Reviewer. Granting Agency: Georgia Sea Grant College Program
- 2000 External Reviewer. Granting Agency: United States Dept. Agriculture
- 1999 External Reviewer. Granting Agency: Oregon Sea Grant
- 1999 Reviewer. Third edition. Microbiology: a human perspective, Nester, E., Robert, C., Pearsall, N., Anderson, D., and Nester, M.; WCB McGraw-Hill.
- 1998 Managing Editor of a special issue of the series "Frontiers in Bioscience" (<http://www.bioscience.org>)
- 1998/99 External Reviewer. Granting Agency: Medical Research Council of Canada.
- 1998-2001 Organizer of the Student Colloquium of the 1998 Southern California Branch of the American Society for Microbiology

- 1997-present External Reviewer. Granting Agency: National Agency for the Promotion of Science and Technology (Argentina).
- 1997-2000 Member of the Committee on Divisions (American Society for Microbiology)
- 1994-1997 Member of the Committee on Divisions (American Society for Microbiology)

SERVICE (CSUF):

2008 Organizing Committee, CSUF's Golden Anniversary Celebration

2007 Chair, Search Committee for Bioinformatics and Molecular Microbiology positions (Fall)

2007 Speaker at the Colleagues of the CNSM Program. Spring 2007. "Saving the miracle drugs."
<http://nsm.fullerton.edu/colleagues/ondemand/CC20070502-Antibiotics-DSL.aspx>

2006 Chair. Search Committee for Bioinformatics position (Fall).

2006 Search Committee for a Biochemist (Chemistry and Biochemistry Department)

2006-present Computer/Technology Committee (Biology department)

2006 Ad Hoc Committee - Technology

2006 Interviewer, International Programs CSUF

2005 Chair. Search Committee for Microbiology position (Fall).

2005 Faculty Awards Committee

2005 Member. Search Committee for Cell & Developmental Biology position.

2005 Chair. Search Committee for Microbiology position (Spring).

2004-2006 Member of the Department Personnel Committee

2004 Biology representative to the task force to review the procedures for handling selected agents

2002-2004 Ad Hoc Committee on Intellectual Property

2002-2006 University Honors Board

2001-present Representative of Biology on the College of Natural Science and Mathematics Curriculum Committee.

2001-2004 Chair of the Committee to develop the Molecular Biology and Biotechnology emphasis. Biology Major.

2001-2003 Member of the Curriculum Committee. Dpt. Biological Science.

2001-2002 Member of the Department Personnel Committee

2001-present Member of the Bioinformatics Advisory Board (University Extended Education)

2001 Member of the Search Committee to fill an Assistant Professor position in the Department of Biological Science

2000-2001 Member of the Post-core curriculum Committee

2000-present Member of the Radiation Safety Committee

2000 Member of the Search Committee to fill an Assistant Professor position in the Department of Biological Science

2000-2004 President's Scholars Screening Committee

- 2000 Faculty Awards Committee
- 2000 Committee to select MIRT scholars
- 1995-1997 Member of the Curriculum Committee. Dpt. Biological Science.
- 1997 Member of the Search Committee to fill an Assistant Professor position in the Department of Biological Science
- 1996 Member of the Search Committee to fill an Assistant Professor position in the Department of Biological Science
- 1995 Member of the committee to search for external funding for the course Advances in Biotechnology Laboratory BIOL/CHEM472

TEACHING EXPERIENCE:

- 2005 Invited Professor. Graduate course "Advanced Molecular Genetics." Oregon Health Sciences University.
- 2003 Invited Professor. Graduate course "Advanced Molecular Genetics." Oregon Health Sciences University.
- 2001 Invited Professor. Graduate course "Bacterial Pathogenesis." Instituto de Investigaciones Bioquimicas "Fundacion Campomar."
- 2001 Invited Professor. Graduate course "Advanced Molecular Genetics." Oregon Health Sciences University.
- 1999 Invited Professor. Graduate course "Bacterial Pathogenesis." Instituto de Investigaciones Bioquimicas "Fundacion Campomar."
- 1997 Invited Professor. Graduate course "Bacterial Pathogenesis". Instituto de Investigaciones Bioquimicas "Fundacion Campomar."
- 1992/93/95 Invited Professor. Graduate course "Genetic Manipulations in Bacteria". Instituto de Investigaciones Bioquimicas "Fundacion Campomar".
- 1993 Lecturer. Graduate course "Molecular and Cellular Biology II: Molecular Genetics". Dpt. of Microbiology and Immunology, Oregon Health Sciences University.
- 1989-1994 Lecturer. Graduate course "Bacterial Genetics". Dpt. of Microbiology and Immunology, Oregon Health Sciences University.
- 1987-1988 Lecturer. Graduate course "Advanced Biochemistry". Instituto de Investigaciones Bioquimicas "Fundacion Campomar".
- 1987 Lecturer. Undergraduate course. "Application of molecular biology techniques in biomedicine". School of Chemistry, National University of Cordoba, Argentina.
- 1986-1988 Director of the course "Plasmids and Transposons". Instituto de Investigaciones Bioquimicas "Fundacion Campomar".
- 1986-1988 Lecturer. Graduate course "Genetic Engineering". Institute of Genetic Engineering and Molecular Biology.
- 1984-1985 Lecturer. Graduate course "Bacterial Genetics". Dpt. of Microbiology and Immunology, Oregon Health Sciences University.
- 1981-1982 Teaching assistant of "Advanced Biochemistry". Instituto de Investigaciones Bioquimicas "Fundacion Campomar".

EXPERIENCE IN RESEARCH TRAINING:

Supervised undergraduate students at California State University, Fullerton:

<u>Undergraduate Student</u>	<u>Academic year(s)</u>	<u>Position after leaving my lab</u>
Allison Hanaford	2006-2007	
Farnaz Amini	2006-2007	Applying to Dental Schools
Tung Tran	2005-	
Sarah Blessum	2005-2007	Beckman-Coulter
Richard Parenteau	2005-	(M.A.R.C. student)
Diego Miranda	2004-2006	Graduate Student, A. Einstein College of Medicine
Keziah Hernandez	2003-	
Eric Perez	2003	Became graduate student in my lab
Jessica Fox	2003-	Became graduate student in my lab
Andrea Ruse	2003-2004	Unknown
Amy Bui	2002-2004	Graduate Student, Harvard University
Albert Do	2001-2005	Graduate Student, Univ. of California, Irvine
Robert Minera	2000-2002	(M.A.R.C. student)
Renee Sarno	2000	Became graduate student in my lab
Valentina Shibata	1999	Unknown
Tom Grotsky	1999-2001	Medical School
Nisha Gupta	1999	Became graduate student in my lab
Huong Vuong Pham	1999-2001	Pharmacy School, University of Southern California
Kevin Yang	1999-2003	Unknown
Andrew Melton	1999-2001	Graduate Student, UCLA
Michelle Petri	1998-2000	(M.A.R.C. student) Medical School
Joan Tommy	1997-1999	Graduate School, Edinburgh University, UK
Natalie Weinsedel	1997-1998	Became graduate student in my lab
Anita Patel	1997-1998	Unknown
Nguyen Kiet	1997-1998	Unknown
Meron Anghesom	1996-1997	Unknown
Eric J. Moore	1996-1997	Graduate School (CSUF)
Sean P. Whalen	1996-1997	Medical School, Univ. of California, Irvine
Marcia Newell	1995-1996	Physician Assistant student
Valerie Nguyen	1995-1996	Unknown
Doina Panaite	1995-1998	Dental School, Univ. of California, Los Angeles
Aftab Ali	1995-1996	Employed. FOCUS/MRL, Inc. Cypress, CA
Charles Alm	1995-1996	Unknown
Diana Bojorquez	1995-1998	(M.A.R.C. student) Medical School, Yale University, New Haven, CT
Patricia Cardenas	1995-1996	Unknown
Ramona Chavideh	1995-1997	Became graduate student in my lab
Phuongan Dam	1995-1996	Graduate School, Univ. of Wisconsin, Madison, WI
Jean Ly	1995-1996	Pharmacy School Univ. of South California

Supervised graduate students at California State University, Fullerton

<u>Graduate Student</u>	<u>Academic year(s)</u>	<u>Position after leaving my lab</u>
Richa Agrawal	2008-present	
Sridevi Addanki	2008-present	
Hung Phan	2007-present	
Alfonso Soler-Bistué	2006-present	(Ph.D. student)
Kelly Kreuter	2006-present	

Michelle Don	2005-present	
Jessica Fox	2005-2006	Medical School (UC Irvine)
Eric Perez	2004-present	
Daniel Birshan	2003-present	
Jason Newmark	2003-present	AMGEN
Rick Ha	2000-2004	Medical School
Nisha Gupta	2000-2004	Focus Diagnostics
Atosa	2000-2003	Faculty at CSUF
Mohammadzadeh		
Renee Sarno	2000-2003	Advanced Technologies Dept., Quest Diagnostics
Mavee Witherspoon	2000-2004	Graduate Student at UCI
Ali Shmara	1998-2000	Univ of Pennsylvania. School of Dental Medicine.
Natalie Weinssetel	1998-2003	Graduate School. Iowa State University
Ramona Chavideh	1997-1999	Orange County Water District
Steve Sholly	1996-1999	Graduate School. Scripps Research Institute, San Diego, CA
Steve DeLira	1995-1998	Graduate School. Washington University, St. Louis, MO.
Ken Dery	1995-1999	Graduate School. City of Hope, CA
Jim Mead	1995-2001	Midwestern University, Arizona College of Osteopathic Medicine
Marina Belei	1995-2000	Beckman-Coulter

1986-1989. Ph.D. Thesis advisor. Graduate Student: Patricia Marini.
 Dissertation: Amikacin resistance in pathogenic *Klebsiella pneumoniae*.
 Grade: Outstanding
 Instituto de Investigaciones Bioquimicas "Fundacion Campomar".

1986-1988. Fellowship supervisor. Fellow: Roxana Chamorro.
 Fellowship from the Bunge y Born Foundation.
 Instituto de Investigaciones Bioquimicas "Fundacion Campomar".

Other mentoring:

2002 Colin Burton. El Dorado High School, Placentia, CA.
 2002/3 Arthy Venkat. Troy High School

HONORS and AWARDS:

- 2007 Honorary Member of the Golden Key International Honor Society
- 2007 Distinguished Professor. College of Natural Sciences and Mathematics.
- 2007 Outstanding Scholarly and Creativity Award. Academic Affairs.
- 2004 Outstanding Research. College of Natural Sciences and Mathematics.
- 2004 Outstanding Faculty Recognition for "Scholarship that results in the *highest quality*, peer reviewed journal articles."
- 2002 Outstanding Faculty Recognition for "Involving Students in Research and Creative Activities to Promote Student Learning Outside the Classroom."
- 2002 Outstanding Faculty Recognition for "Collaborative work with Colleagues, industries, Community Institutions, and Students to enhance Student Learning"
- 2002 Biotechnology Research Faculty Award (CSU Program for Education and Research in Biotechnology – CSUPERB).
- 2001 Outstanding Faculty Recognition for "Scholarship that Results in the Highest Quality External Grant."
- 2001 Outstanding Faculty Recognition for "Scholarship that Results in the Highest Quality Peer-Reviewed Journal Articles."
- 2000 Outstanding Service to Students
- 1999 Outstanding Untenured Faculty Member. College of Natural Sciences and Mathematics.
- 1999 CSUF 1998-1999 Outstanding Teaching & Technology Innovations Nominee
- 1997 F21 Class of '97. (Member of the Project Kaleidoscope Faculty for the 21st. Century Network)
- 1995 Awarded the title of Corresponding Investigator of the Institute of Research in Biochemistry (Instituto de Investigaciones Bioquimicas "Fundacion Campomar")
- 1984-1985 Fellowship from the Fogarty International Center, National Institutes of Health. Place of work: Dpt. of Microbiology and Immunology, Oregon Health Sciences University.
- 1983-1984 Fellowship from the National Council of Research of Argentina (International). Place of work: Dpt. of Microbiology and Immunology, Oregon Health Sciences University.
- 1981-1983 Fellowship from the National Council of Research of Argentina. Place of work: Instituto de Investigaciones Bioquimicas "Fundacion Campomar".
- 1979-1981 Fellowship from the Instituto de Investigaciones Bioquimicas "Fundacion Campomar".
- 1978-1979 Fellowship from the "Fundacion Bolsa de Comercio".
Place of work: Instituto de Investigaciones Bioquimicas "Fundacion Campomar".

AWARDS TO STUDENTS:

- 2007 **Tung Tran.** BioMerieux award for poster presentation at Student Colloquium of the Southern California Branch of the American Society for Microbiology, San Diego, CA. (\$1,500)
- 2007 **Tung Tran.** First Prize, Student Colloquium of the Southern California Branch of the American Society for Microbiology, San Diego, CA.
- 2007 **Michelle Don.** L. Jack Bradshaw Scholarship
- 2007 **Michelle Don.** CSUPERB Crellin Pauling Student Teaching Award
- 2007 **Tung Tran.** A. James Diefenderfer Memorial Scholarship
- 2007 **Tung Tran.** Biological Science Boeing Scholar Award
- 2007 **Tung Tran.** Howell-CSUPERB Scholar
- 2007 **Tung Tran.** MSD Outstanding Academic Achievement Award
- 2006 **Richard Parenteau.** 2006 ABRCMS Poster Presentation Award
- 2006 **Jessica Fox.** Alumni Association Natural Sciences and Mathematics Scholarship - College of Natural Science and Mathematics, CSUF.
- 2006 **Jessica Fox.** Jerome Wilson Scholarship Award - Department of Biological Science
- 2006 **Richard Parenteau.** General Chemistry Student of the Year
- 2006 **Tung Tran.** NSM Boeing Scholar Award
- 2005 **Jason Newmark.** Sally Cassanova Predoctoral Fellowship.
- 2005 **Jason Newmark.** American Society for Quality Control Award for Outstanding Minority Biomedical Research
2004. **Rick Ha.** Corporate Activities Program Student Travel Grant Award from the American Society for Microbiology to attend the 104th General Meeting, New Orleans, LA, USA.
- 2004 **Mavee Witherspoon.** Outstanding Graduate at the CSUF research competition to nominate students for the CSU Student Research competition at CSU Northridge.
- 2003 **Amy Bui.** Travel Award from the American Society for Microbiology to attend the 103rd General Meeting, Washington, DC, USA.
- 2003 **Amy Bui.** Jerome Wilson Scholarship Award offered by the Department of Biological Science at CSUF.
- 2003 **Renee Sarno.** American Society for Quality Control Award.
- 2002 **Rick Ha.** CSUPERB Crellin Pauling Student Teaching Award, California.
- 2001 **Natalie Weinsetel.** 1st place (graduate students category), Student Colloquium. Annual Meeting of the Southern California Branch of the American Society for Microbiology, San Diego, California.
- 2001 **Natalie Weinsetel.** Travel Award from CSUPERB to attend the 101st General Meeting, Orlando, Florida, USA.

- 2001 **Huong Pham.** Travel Award from CSUPERB to attend the 101st General Meeting, Orlando, Florida, USA.
- 2001 **Natalie Weinsedel.** Travel Award from the American Society for Microbiology to attend the 101st General Meeting, Orlando, Florida, USA.
- 2000 **Natalie Weinsedel.** Coppel Graduate Student Award offered by the Department of Biological Science at CSUF.
- 2000 **Natalie Weinsedel.** 2nd place (graduate students category), Student Colloquium. Annual Meeting of the Southern California Branch of the American Society for Microbiology, San Diego, California.
- 2000 **Huong Pham.** 2nd place (undergraduate students category), Student Colloquium. Annual Meeting of the Southern California Branch of the American Society for Microbiology, San Diego, California.
- 1999 **Ali Shmara.** 1st place (graduate students category), Student Colloquium. Annual Meeting of the Southern California Branch of the American Society for Microbiology, Irvine, California.
- 1999 **Huong Pham.** 2nd place (undergraduate students category), Student Colloquium. Annual Meeting of the Southern California Branch of the American Society for Microbiology, Irvine, California.
- 1999 **Natalie Weinsedel.** Sally Cassanova Predoctoral Fellowship.
- 1999 **Ramona Chavideh.** Coppel Graduate Student Award offered by the Department of Biological Science at CSUF.
- 1999 **Ramona Chavideh.** Jerome Wilson Scholarship Award offered by the Department of Biological Science at CSUF.
- 1999 **Ramona Chavideh.** 2nd place, 13th Annual California State University Student Research Competition. Bakersfield.
- 1999 **Kenneth Dery.** MIRT (Minority International Research Training) fellowship to perform summer research at the University of Oxford, UK.
- 1999 **Steve Sholly.** Giles T. Brown Outstanding Thesis Award.
- 1999 **Kenneth Dery.** Outstanding Graduate at the CSUF research competition to nominate students for the CSU Student Research competition at CSU Bakersfield.
- 1999 **Ramona Chavideh.** Nominated to represent CSUF at the CSUF research competition to nominate students for the CSU Student Research competition at CSU Bakersfield.
- 1998 **Ramona Chavideh.** Travel Award from the American Society for Microbiology to attend the 38th International Conference on Antimicrobial Agents and Chemotherapy, San Diego, California, USA.
- 1998 **Kenneth Dery.** CSUF Alumni Association Outstanding Graduate Student Award.
- 1997 **Doina Panaite.** Travel Award from the American Society for Microbiology to attend the General Meeting.
- 1997 **Diana Bojorquez.** 2nd Place (undergraduate students category). Student Colloquium. Annual Meeting of the Southern California Branch of the American Society for Microbiology, Irvine, California.
- 1997 **Steve DeLira.** Honorable Mention Sally Cassanova Predoctoral Fellowship.
- 1997 **Kenneth Dery.** Sally Cassanova Predoctoral Fellowship.
- 1996 **Steve DeLira.** Honorable Mention Sally Cassanova Predoctoral Fellowship.

1996 **Kenneth Dery.** Graduate Equity Fellowship from CSU System.

RESEARCH FUNDING

1. *Extramural Grants*

1. Genetics of Iron transport. Granting agency: Department of Science and Technology (Argentina). 1986-1989. **Principal Investigator.**
2. Genetics of antibiotic resistance in pathogenic bacteria. Granting agency: National Council of Research of Argentina. 1987- 1989. **Principal Investigator.**
3. Virulence factors of *Acinetobacter calcoaceticus*. Granting agency: National Council of Research of Argentina. 1989-1992. **Principal Investigator.**
4. Functions of the REPI region of plasmid ColV-K30 in *Escherichia coli* K12. National Science Foundation. 1993-1994. DMB-8807735. **Co-Principal Investigator.**
5. Molecular Mechanisms of Aminoglycoside Resistance. National Institutes of Health. 1996-1999. AI39738. **Principal Investigator. \$96,795.**
6. Molecular Mechanisms of Aminoglycoside Resistance. MBRs Program at CalState Fullerton. National Institutes of Health. 1996-1997. (Program Director: Dr. Bruce Weber). **Principal Investigator. \$46,119**
7. Grant to fund the Advances in Biotechnology Laboratory course (BIOL/CHEM 472). Member of the Biotech Committee to search for funding opportunities for the course. **\$10,000.**
8. LA Basin CSU Minority International Research Training Program. Fogarty International Center. National Institutes of Health. **Faculty Participant 1998-2002. Program Director 2003-2004. ~ \$200,000/year.**
9. MSD Program at CalState Fullerton (Program Director: Bruce Weber). National Institutes of Health. 1998-2006. Faculty participant. **\$92,000**
10. Burrows Wellcome Fund Grant to bring Dr. James Oliver to CSUF as Visiting Professor. Dr. James D. Oliver is Cone Distinguished Professor, Professor of Microbiology, and Director, Interdisciplinary Biotechnology Program, University of North Carolina at Charlotte.
11. Dealing with antibiotic resistance: antisense technology. National Institutes of Health. 2000-2005. AI47115. **Principal Investigator. \$124,335.**
12. Dealing with antibiotic resistance: antisense technology. CSUPERB. 2000-2001. **Principal Investigator. \$26,663.**
13. Dealing with antibiotic resistance: antisense technology. CSUPERB. 2001-2002. **Principal Investigator. \$27,178.**
14. Dealing with antibiotic resistance: antisense technology. CSUPERB. 2002-2003. **Principal Investigator. \$30,000.**
15. Identification of *Brucella abortus* virulence factors by microarray analysis. CSUPERB 2004-2005. **Principal Investigator. \$25,000.**
16. Dealing with antibiotic resistance: antisense technology. National Institutes of Health. 2005-2008. AI47115. **Principal Investigator. \$209,115.**
17. LA Basin CSU MHIRT program. National Institutes of Health 2005-2009. T37 MD001368-08. **Principal Investigator. \$910,272.**

2. Intramural Grants

1. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. The iron-uptake system of the human pathogen *Helicobacter pylori*, the causative agent of gastritis, peptic ulcers, and gastric cancer. 1995-1996.
2. Affirmative Action Faculty Development Program. High level expression and purification of AAC(6')-Ib, an enzyme conferring resistance to antibiotics. 1995-1996.
3. Undergraduate Support Initiative Research and Creativity Award (to Charles Alm). Characterization of a plasmid-mediated ABC-transporter in *Vibrio anguillarum*. 1995-1996.
4. Untenured Faculty Development Program. Characterization of the replication region of the multiresistance plasmid pJHCMW1 isolated from a pathogenic strain of *Klebsiella pneumoniae*. 1996-1997.
5. Undergraduate Support Initiative Research and Creativity Award (to Doina Panaite). Generation of a thermosensitive mutant derivative of the protein AAC(6')-Ib. 1996-1997.
6. Undergraduate Support Initiative Research and Creativity Award (to Ramona Chavideh). Molecular cloning and characterization of gene(s) encoding a brown pigment that helps the growth of *Vibrio anguillarum* in conditions of iron starvation. 1996-1997.
7. Untenured Faculty Development Program. Generation of specificity mutants of AAC(6')-Ib, an Enzyme Conferring Multiple Resistance to Antibiotics. 1997-1998.
8. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Mutational analysis of the amino terminal portion of the 6'-N-acetyltransferase that confers multiresistance to antibiotics in pathogenic bacteria. 1997-1998.
9. Untenured Faculty Development Program. Characterization of a *Vibrio anguillarum* ABC transporter. 1998-1999.
10. Undergraduate Support Initiative Research and Creativity Award (to Joann Tommy). Molecular genomics: comparative analysis of *aac(6')-Ib* with complete bacterial genomes. 1998-1999.
11. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Characterization of cyclic $\beta(1-2)$ glucan synthetase (Cgs) from the pathogen *Brucella abortus*. 1998-1999.
12. International Travel Award to visit the University of Oxford, United Kingdom.
13. Undergraduate Support Initiative Research and Creativity Award (to Huong Pham). Characterization of a transporter essential for export of a siderophore. 1999-2000.
14. Undergraduate Support Initiative Research and Creativity Award (to Nisha Gupta). Pentapeptide insertion mutagenesis of the *aac(6')-Ib* gene. 1999-2000.
15. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Characterization of factors that contribute to the stability of the plasmid pJHCMW1 in pathogenic *Klebsiella pneumoniae*. 1999-2000.
16. Undergraduate Support Initiative Research and Creativity Award (to Tom Grotzky). Analysis of the enzyme responsible for the antibiotic resistance of pathogenic bacteria. 2000-2001.
17. Undergraduate Support Initiative Research and Creativity Award (to Kevin Yang). Analysis of the biological functions of multiresistance plasmids. 2000-2001.
18. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. A novel approach to fight antibiotic resistance disease-causing bacteria. 2000-2001.

19. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Unraveling the complete genome of the human pathogen *Brucella abortus*. 2001-2002.
20. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Characterization of a nuclease activity in the human pathogen *Helicobacter pylori*. 2002-2003.
21. Undergraduate Support Initiative Research and Creativity Award (to Amy Bui). Analysis of the biological functions of multiresistance plasmids. 2002-2003
22. Undergraduate Support Initiative Research and Creativity Award (to Albert Do). Characterization of a *Vibrio anguillarum* pigment that may be involved in virulence. 2002-2003.
23. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. A novel method to prolong the efficacy of antibiotics. 2003-2004.
24. Undergraduate Support Initiative Research and Creativity Award (to Jessica Fox). Characterization of *mwr*, a site that contributes to the stability of the plasmid pJHCMW1 in pathogenic *Klebsiella pneumoniae*. 2002-2003
25. Undergraduate Support Initiative Research and Creativity Award (to Andrea Ruse). Mutagenesis of the antibiotic resistance gene *aac(6')-Ib*. 2003-2004.
26. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Characterization of an enzyme that mediates resistance to antibiotics. 2004-2005.
27. Undergraduate Support Initiative Research and Creativity Award (to Sarah Blessum). Expression of resistance to amikacin in pathogenic bacteria. 2004-2005.
28. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Identification of physiological changes in resistant pathogenic bacteria growing in the presence of antibiotics. 2005-2006.
29. Undergraduate Support Initiative Research and Creativity Award (to Tung Tran). Characterization of the replication region of the multiresistance plasmid pMET1. 2005-2006.
30. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. A novel methodology to characterize the mechanism of action of antibiotics. 2006-2007.
31. Undergraduate Support Initiative Research and Creativity Award (to Richard Parenteau). Expression of resistance to amikacin in pathogenic bacteria. 2006-2007.
32. Undergraduate Support Initiative Research and Creativity Award (to Farnaz Amini). Studies on AAC(6')-Ib, an enzyme that confers multiresistance to antibiotics to pathogenic bacteria. 2006-2007.
33. Minigrant, State Special Fund for Research, Scholarship and Creative Activity. Dissemination of antibiotic resistance genes. 2007-2008.

PUBLICATIONS:

1. M. E. Tolmasky, R. J. Staneloni, R. A. Ugalde, and L. F. Leloir. Lipid bound sugars in *Rhizobium meliloti*. **Archives of Biochemistry and Biophysics** 1980 203 358-364.
2. R. J. Staneloni, M. E. Tolmasky, C. Petriella, R. A. Ugalde, and L. F. Leloir. Presence in a plant of a compound similar to the dolichyl diphosphate oligosaccharide of animal tissue. **Biochemical Journal** 1980 191 257-260.
3. R. J. Staneloni, M. E. Tolmasky, C. Petriella, and L. F. Leloir. Transfer of oligosaccharide to protein from a lipid intermediate in plants. **Plant Physiology** 1981 68 1175-1179.
4. M. E. Tolmasky, H. K. Takahashi, R. J. Staneloni, and L. F. Leloir. N-glycosilation of the proteins. **Anales de la Asociacion Quimica Argentina** 1982 70 405-411.
5. M. E. Tolmasky, R. J. Staneloni, and L. F. Leloir. Structural correspondence between an oligosaccharide bound to a lipid with the repeating unit of the *Rhizobium meliloti* exopolysaccharide. **Anales de la Asociacion Quimica Argentina** 1982 70 833-842.
6. M. E. Tolmasky, R. J. Staneloni, and L. F. Leloir. Lipid-bound sugars in *Rhizobium meliloti*. **Journal of Biological Chemistry** 1982 257 6751-6757.
7. M. E. Tolmasky. Prenol-phospho-sugars in *Rhizobium meliloti*. **Ph.D. Thesis, 1982**, University of Buenos Aires, Argentina.
8. R. J. Staneloni, M. E. Tolmasky, and L. F. Leloir. Lipid-bound saccharides containing glucose and galactose in *Agrobacterium tumefaciens*. **Journal of General Microbiology** 1984 130 869-879.
9. M. E. Tolmasky, and J. H. Crosa. Molecular cloning and expression of genetic determinants for the iron uptake system mediated by the *Vibrio anguillarum* plasmid pJM1. **Journal of Bacteriology** 1984 16 860-866.
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ABSTRACTS:

1. M. E. Tolmasky, R. Ugalde, R. J. Staneloni, and L. F. Leloir. Formacion de lipido-difosfato-galactosa y lipido-difosfato-galactosa-glucosa en *Rhizobium meliloti*. 1979. XV National Meeting of the Argentine society for Research in Biochemistry, Mendoza, Argentina.
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SYMPOSIA:

- 1987. 52nd Triduo Bioquimico Cientifico Anual. Villa Giardino, Argentina. Amikacin resistance in *Klebsiella pneumoniae*.
- 1988. 53rd Triduo Bioquimico Cientifico Anual. Bahia Blanca, Argentina. Utilization of recombinant DNA techniques to solve clinical problems.
- 1988. National Meeting of the Argentine Society for Research in Biochemistry, Villa Giardino, Argentina. Amikacin resistance in pathogenic *Klebsiella pneumoniae*: isolation and characterization of Tn1331.
- 1988. 5th Annual Meeting of the Interamerican Society for Chemotherapy. Buenos Aires, Argentina. Isolation and characterization of multiresistance transposon Tn1331.
- 1990. Annual Meeting of the Northwest Branch of the American Society for Microbiology. Moscow, Idaho, USA. Iron uptake as a virulence factor in *Vibrio anguillarum*.
- 1990. Fallen Leaf Lake Conference on Promiscuous Plasmids. Fallen Leaf Lake-South Lake Tahoe, California, USA. Multiresistance transposon Tn1331.
- 1999. Annual Meeting of the Southern California Branch of the American Society for Microbiology. Irvine, California. Resistance to aminoglycosides in pathogenic *Klebsiella pneumoniae*.
- 2001. 82nd. Annual Meeting of the American Association for the Advancement of Science: Pacific Division. University of California, Irvine, CA. Resistance to aminoglycosides: mechanisms, dissemination and possible solutions.
- 2004. XVII Latin-American Congress of Microbiology. Buenos Aires, Argentina. Multiresistance to antibiotics: mechanisms, dissemination, and novel strategies to deal with the problem.
- 2007. XI Argentine Congress of Microbiology. Cordoba, Argentina. Dissemination and persistence of resistance genes: roles of transposition and site-specific recombination in plasmid stability and host range.

SEMINARS:

1992. Institute of Research in Biochemistry, Buenos Aires, Argentina. "The *Vibrio anguillarum* iron-uptake system." April 1992.
1992. Institute of Research in Biochemistry, Buenos Aires, Argentina. "Aminoglycoside-resistance in pathogenic *Klebsiella pneumoniae*: characterization of the novel multiresistance Tn1331 transposon." April 1992.
1992. Institute of Genetic Engineering and Molecular Biology, Buenos Aires, Argentina. "Amikacin resistance in pathogenic *Klebsiella pneumoniae*: characterization of the novel multiresistance Tn1331 transposon." April 1992.
1995. Institute of Research in Biochemistry, Buenos Aires, Argentina. "Regulation of expression of genes encoding components of the *Vibrio anguillarum* plasmid-mediated iron-uptake system." August 1995.
1995. Institute of Genetic Engineering and Molecular Biology, Buenos Aires, Argentina. "Molecular studies on the *Vibrio anguillarum* plasmid-mediated iron-uptake system." August 1995.
1997. Institute of Research in Biochemistry, Buenos Aires, Argentina. "Multiple antibiotic resistance in pathogenic bacteria: nature and dissemination." August 1997.
1997. Institute of Genetic Engineering and Molecular Biology, Buenos Aires, Argentina. "Multiple antibiotic resistance in pathogenic bacteria: nature and dissemination." August 1997.
1997. Department of Biological Sciences. California State University Long Beach. Long Beach, California. "Molecular genetics of antibiotic-resistance in pathogenic bacteria." November 1997.
1998. San Diego Group of Microbiology. Scripps Institute of Oceanography. University of California San Diego. "Resistance to aminoglycosides in pathogenic *Klebsiella pneumoniae*." March 1998.
1998. School of Biological Sciences, University of East Anglia, Norwich, United Kingdom. "The iron uptake system of the pathogenic bacterium *Vibrio anguillarum*." July 1998.
1998. National Center of Biotechnology, Department of Microbial Biotechnology, Universidad Autonoma de Madrid, Spain. "Aminoglycoside resistance in pathogenic *Klebsiella pneumoniae*."
1998. Microbiology Unit, Department of Biochemistry, University of Oxford, United Kingdom. "Molecular genetics of the plasmid-mediated iron-uptake system of the fish pathogen *Vibrio anguillarum*." August 1998.
1998. Microbiology Unit, Department of Biochemistry, University of Oxford, United Kingdom. "Aminoglycoside resistance in pathogenic *Klebsiella pneumoniae*." August 1998.
1998. Department of Biological Sciences. California State University Fullerton. Fullerton, California. "Factors affecting the inheritance of the plasmid pJHCMW1." September 1998.
1999. Institute of Research in Biochemistry, Buenos Aires, Argentina. "Stability of a plasmid that confers multiple antibiotic resistance in pathogenic bacteria." August 1999.
1999. Institute of Genetic Engineering and Molecular Biology, Buenos Aires, Argentina. "Stability of a plasmid that confers multiple antibiotic resistance in pathogenic bacteria." August 1999.
1999. Laboratory of Neurophysiology and Molecular Biology, Buenos Aires, Argentina. "Stability of a plasmid that confers multiple antibiotic resistance in pathogenic bacteria." August 1999.
1999. Department of Biological Sciences. California State University Fullerton. Fullerton, CA. Drug-resistant disease-causing bacteria: the nature of resistance to aminoglycoside antibiotics. September 1999.

- 1999 Lawrence Livermore National Laboratory, Livermore, CA. "Antibiotic Resistance in Pathogenic *Klebsiella pneumoniae*." September 1999.
- 1999 Department of Biological Sciences. California State University Long Beach. Long Beach, California. "Antibiotic resistance in pathogenic *Klebsiella pneumoniae*." November 1999.
- 2000 John Innes Centre, Colney, Norwich, United Kingdom. "Antibiotic Resistance in Pathogenic *Klebsiella pneumoniae*." July 2000.
- 2000 Department of Microbiology. The University of Western Ontario. Canada. "The growing threat of infectious diseases: molecular mechanisms and dissemination of bacterial antibiotic resistance." September 2000.
- 2001 Department of Molecular Microbiology & immunology. The Oregon Health and Sciences University. Portland, OR. "The growing threat of infectious diseases: molecular mechanisms and dissemination of bacterial antibiotic resistance." April 2001.
- 2001 Department of Biological Sciences. California State University Long Beach. Long Beach, CA. "The growing threat of infectious diseases: molecular mechanisms and dissemination of bacterial antibiotic resistance." April 2001.
- 2001 Institute of Research in Biochemistry, Buenos Aires, Argentina. "Resistance to aminoglycosides: mechanisms, dissemination and possible solutions." June 2001.
- 2001 Institute of Genetic Engineering and Molecular Biology, Buenos Aires, Argentina. "Resistance to aminoglycosides: mechanisms, dissemination and possible solutions." June 2001.
- 2001 Institute of Biotechnology Research. San Martin, Argentina. "Resistance to aminoglycosides: mechanisms, dissemination and possible solutions." June 2001.
- 2002 Lawrence Livermore National Laboratory, Livermore, CA. "Xer Site-specific recombination at the plasmid pJHCMW1 mwr locus is osmoregulated." April 2002.
- 2003 Department of Molecular Microbiology & immunology. The Oregon Health and Sciences University. Portland, OR. "Plasmid stability by multimers resolution." April 2003.
- 2003 Department of Microbiology. Miami University. Oxford, OH. "Antibiotic resistance: the 'arms race' continues." December 2003.
- 2004 Instituto Fundacion Leloir. Maurice Wilkins seminar series. Buenos Aires, Argentina. "Resistance to aminoglycoside antibiotics: novel strategies to deal with the problem." October 2004
- 2005 Department of Molecular Microbiology & immunology. Videoconferenced to the Vaccine and Gene Therapy Institute. The Oregon Health and Sciences University. Portland, OR. May 2005
2006. San Diego Microbiology Group. Scripps Institution of Oceanography. "Antibiotic resistance: a serious public health threat. Mechanisms, dissemination, and strategies to deal with the problem." San Diego, CA. February 2006.
2006. California State Polytechnic University, Pomona. "Antibiotic resistance: a serious public health threat. Mechanisms, dissemination, and strategies to deal with the problem." Pomona, CA. March 2006.
2006. Fundacion Instituto Leloir, Argentina. A new role of transposons in dissemination of antibiotic resistance. March 2006.
2006. Natural Science and Mathematics Inter-Club 3rd Annual Science Symposium. CSUF. The problem of antibiotic resistance: new insights in the search for a solution. April 2006.

- 2006. Lawrence Livermore National Laboratory, Livermore, CA. "Antibiotic resistance: mechanisms, dissemination and strategies to deal with the problem". September 2006.
- 2006. Institute for Research in biotechnology, National university of san Martin, Argentina. "Antibiotic resistance: mechanisms, dissemination and strategies to deal with the problem". December 2006.
- 2007. Colleagues Colloquium, Fullerton, CA. "Antibiotic resistance and the race to stay one step ahead of bacteria". May 2007.
- 2007. Department of Molecular Microbiology & immunology. The Oregon Health and Sciences University. Videoconferenced to the Vaccine and Gene Therapy Institute. Portland, OR. "Aminoglycoside antibiotics: mechanisms of action and resistance". November 2007

PROFESSIONAL DEVELOPMENT WORKSHOPS

Advanced Industrial Bioprocessing. Colorado State University, Estes Park, CO. 8/10-15, 1996

The Research-rich Environment. A Project Kaleidoscope Workshop (sponsored in collaboration with the Council for Undergraduate Research). Bryn Mawr College, Bryn Mawr, PA. 7/18 – 20 1997

Special Opportunities and Challenges: Transforming the Learning Environment for Science and Mathematics at the Urban and Commuter Institution. A Project Kaleidoscope Workshop. California State University Fullerton. 11/6 – 11/8 1998.

Developing an Infrastructure to Enhance Student Expectations and Success: Student Learning Outcomes in the Biological Sciences. California State University Fullerton. 4/9 – 4/10 1999.