

**Erika T. Camacho**  
**Curriculum Vitae**  
**October 18, 2016**

**WORK**

School of Mathematical and Natural Sciences  
New College of Interdisciplinary Arts and Sciences  
Arizona State University at the West Campus

e-mail: erika.camacho@asu.edu  
<http://www.public.asu.edu/~etcamach/>

Mailing Address:  
Mail Code 2352, P.O. Box 37100  
Phoenix, AZ 85609-7100

tel: (602)543-8156  
fax: (602)543-6073

**EMPLOYMENT**

- 8/2014–present Associate Professor, *School of Mathematical & Natural Sciences, Arizona State University (ASU)*.
- 9/2013–5/2014 Dr. Martin Luther King Jr. Visiting Assistant Professor, *Department of Mathematics, Massachusetts Institute of Technology (MIT)*.
- 8/2007–8/2014 Assistant Professor, *School of Mathematical & Natural Sciences, ASU*.
- 12/2008–8/2014 Affiliate Faculty Member, *Mathematical, Computational and Modeling Sciences Center (MCMSC), ASU*.
- Summers 2011–2013 Co-Executive Director, *Mathematical & Theoretical Biology Institute (MTBI), ASU*.
- 8/2004–8/2007 Assistant Professor, *Department of Mathematics, Loyola Marymount University (LMU)*.
- 7/2004 Visiting Faculty, *Biomathematics summer program, Hope College*.
- 10/2003–12/2007 Co-Director, *Applied Mathematical Sciences Summer Institute (AMSSI), LMU & California State Polytechnic University (Cal Poly), Pomona*.
- Summers 2003, 2008–2010 Research Faculty, *MTBI, Cornell University/Los Alamos National Laboratory (LANL) /ASU*.
- 3/2003–8/2004 Postdoctoral Research Associate, *Center for Nonlinear Studies, LANL*.  
Advisor: Carlos Castillo-Chavez, 3/2003–8/2003  
Advisor: Norman L. Johnson, 8/2003–8/2004
- 9/2002–3/2003 Lecturer / Instructor, *Department of Mathematics, Cal Poly Pomona*.
- 1/2002–5/2002 Teaching Assistant, *Department of Mathematics, Cornell University*.
- Summers 1998–2002 Teaching & Research Assistant, Tutor, *MTBI*.

**EDUCATION**

- 9/2001–5/2003 *Cornell University, Ithaca, NY*, Ph.D. in Applied Mathematics.  
Title: “Mathematical Models of Retinal Dynamics”  
Advisor: Richard H. Rand
- 8/1997–8/2001 *Cornell University, Ithaca, NY*, M.S. in Applied Mathematics.
- 9/1993–5/1997 *Wellesley College, Wellesley, MA*, B.A. in Mathematics, cum laude.
- 9/1993–5/1997 *Wellesley College, Wellesley, MA*, B.A. in Economics, cum laude.

**ACADEMIC AWARDS /HONORS /FELLOWSHIPS**NATIONAL

- *STEM Professional of the week*, HEENAC, week of June 20, 2016.  
<http://www.greatmindsinstem.org/role-model-of-the-week/erika-t-camacho-ph-d>  
The HENAAC role model of the week is a weekly online feature that highlights world-class Hispanic engineers, scientists, and technologists in academia, industry, military and the government. Our role models are selected from the hundreds of nominees submitted for the annual HENAAC awards.
- *SACNAS Distinguished Undergraduate Institution Mentor Award*, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), 2012.  
<http://sacnas.org/news/sacnas-honor-six-leaders-science-research-mentoring-teaching> or  
<http://www.public.asu.edu/~etcamach/AwardPages/SACNASMentoringAward.html>.  
One recipient is selected every year from a national pool of quality nominations. Recipient excels in mentoring at all levels, focusing on undergraduate training and enabling students to advance into the sciences while actively participates in minority education activities at the local and national level.
- *HWC National Latina Leadership Award*, National Hispanic Women's Corporation (HWC), 2011.  
<http://newcollege.asu.edu/whatsnew8/camacho> or  
<http://www.public.asu.edu/~etcamach/AwardPages/HispanicWomensCorporation.pdf>.  
HWC annually "recognizes one outstanding national Latina leader whose tireless efforts of leadership and service empowered, inspired, educated, and elevated Hispanic women nationally and gave an effective voice to the U.S. Latino communities."
- *Emerging Scholars 2010*, *Diverse: Issues in Higher Education* magazine, one of 12 nationally and annually selected scholars, January 7, 2010.  
<http://mydigimag.rrd.com/archive/?p2=2759&p1=6407&z=1&3&g=1> or  
[http://www.public.asu.edu/~etcamach/AwardPages/DiverseAward2010\\_smaller.pdf](http://www.public.asu.edu/~etcamach/AwardPages/DiverseAward2010_smaller.pdf).  
"Since 2002 the magazine *Diverse: Issues In Higher Educations* recognizes and features 12 young rising researchers, thinkers, and leaders in various fields for their research, teaching and overall scholarly contributions from a variety of institutions and disciplines. Their credentials and accomplishments distinguish them, but its the level of social consciousness among the members of the 2010 class that makes them truly excellent."
- *Mathematical Biosciences Institute (MBI) Visiting Lecturer Program*, nationally selected as one of 20 to present research talks, 2009.  
<http://mbi.osu.edu/education/visiting-lecturer-program/> or  
<http://www.public.asu.edu/~etcamach/AwardPages/MBILecturer.html>

“Established in 2009 the program sponsors visits of mathematical biologists to institutions that have large numbers of undergraduates who are members of groups that are under-represented in the mathematical sciences community to deliver a lecture and meet with students and faculty.”

- *Leader and Mentor in Undergraduate Research Citation*, National Security Agency (NSA), 2006.
- *Ford Foundation Fellow*
- *Sloan Fellow*
- *Social Science Research Council-Mellon Mays Fellow*
- Elected to Sigma Xi, 2005/2006
- *Leitzel Project NExT (New Experiences in Teaching) Fellow*, Mathematical Association of America

#### REGIONAL

- *The Victoria Foundation Higher Education Awards: Dr. William Yslas Velez Outstanding STEM Award*, Arizona, 2016.  
<http://www.lavozarizona.com/story/noticias/2016/09/07/educacion-arizona/89968636/>  
This award honors a Latino/a faculty in the STEM fields who "champions" the recruitment and graduation of students completing undergraduate and graduate degrees in the STEM fields and is in honor of Dr. William Y. Velez.
- *Outstanding Mentor Award 2016 from Department of Mathematics*, The University of Texas at Arlington, 2016.  
Recognition during the GAANN annual conference for outstanding mentoring in mathematical community at all levels.
- *ASU STEMTRIO Supporter of the Year*, Arizona State University, 2016.  
One award is given each year to the faculty or professional for his/her enormous support to STEM students who are first generation, low income, and/or underrepresented minorities and outstanding commitment to the STEM TRIO program.
- *New College Outstanding Service Award*, New College of Interdisciplinary Arts & Science (NCIAS), Arizona State University, 2013.  
One award is given each year in recognition of a faculty member's outstanding contributions to service both within NCIAS and outside it.
- *Dr. Manuel Servin Faculty Award*, The Chicano/Latino Faculty and Staff Association (CLFSA), Arizona State University, 2013.  
<http://www.asu.edu/clfsa/awards.html>  
One award is given each year in recognition of a faculty member's excellence and achievement in the combined areas of research, mentorship of Hispanic students, leadership at ASU/in the community, and community service/involvement.

- *Grand Marshal*, ASU New College of Interdisciplinary Arts & Sciences Convocation, 12/2012.  
“College Marshals consist of selected faculty members from each college at all ASU campuses. Selection criteria is left to the individual colleges, but faculty who have recently won awards or have received special recognition are given primary consideration.”
- *40 Hispanic Leaders Under 40 Award*, Univision Phoenix & Valle del Sol, 2012.  
[https://asunews.asu.edu/20121002\\_camacho\\_awards](https://asunews.asu.edu/20121002_camacho_awards) or  
<http://www.public.asu.edu/~etcamach/AwardPages/40Under40.html>.  
“Recipients were selected from across AZ based on their significant impact on the community, strong commitment, and excellence in leadership. They represent corporate, healthcare, government, non-profit and arts and culture sectors.” E. Camacho was the only faculty member in this group of 2012 recipients.
- *Outstanding Mentor Award*, ASU Faculty Women’s Association (FWA), 2011.  
<http://fwa.org.asu.edu/content/fwa-outstanding-mentor-award-recipients> or  
<http://www.public.asu.edu/~etcamach/AwardPages/FWAOutstandingMentor.pdf>.  
“A mark of a great leader is the support and guidance that they provide to others through mentorship. This award recognizes 3 ASU faculty members who have demonstrated outstanding mentorship to students and/or to other faculty members, particularly women and other underrepresented groups.”
- *Grand Marshal*, ASU New College of Interdisciplinary Arts & Sciences Convocation, 5/2010.  
“College Marshals consist of selected faculty members from each college at all ASU campuses. Selection criteria is left to the individual colleges, but faculty who have recently won awards or have received special recognition are given primary consideration.”
- *Mentoring Recognition Awards*, Mathematical and Theoretical Biology Institute (MTBI)/ Institute for Strengthening the Understanding of Mathematics and Sciences (SUMS), 8/2009, 8/2011
- *Interdisciplinary Research Award*, LMU Sponsored Projects Office Achievement Award, 2/2007.  
Awarded to individuals whose research and scholarly work expands disciplines and collaborations across departments.
- *Fulfilling LMU’s Mission Award*, LMU Sponsored Projects Office Achievement Award, 2/2006.  
Award given to a single entity whose work, service, and leadership has enriched the education community of LMU by encouraging learning, educating the whole person, and promoting justice for all. Awarded mainly because of AMSSIs efforts.

**RESEARCH PUBLICATIONS**

Notation: \*=undergraduate student at time of work, \*\*=graduate student at time of work

REFEREED RESEARCH JOURNAL ARTICLES

20. E.T. Camacho, C. Punzo, **S. Wirkus**, 2016, "Quantifying the Metabolic Contribution to Photoreceptor Death in Retinitis Pigmentosa via a Mathematical Model," accepted 8/1/2016, *Journal of Theoretical Biology*, 408: 75-87.
19. E.T. Camacho, T. Léveillard, J.-A. Sahel, 2016, **S. Wirkus**, "Mathematical Model of the Role of RdCVF in the Coexistence of Rods and Cones in a Healthy Eye," in-press, *Bulletin of Mathematical Biology*, 78(7): 1394-409.
18. E.T. Camacho, A. Radulescu, **S. Wirkus**, 2016, "Bifurcation Analysis of a Photoreceptor Interaction Model for Retinitis Pigmentosa," *Communications in Nonlinear Science and Numerical Simulation*, 38: 267-276.
17. K.D. Dahlquist, B.G. Fitzpatrick, **E.T. Camacho**, S.D. Entzminger\*, and N.C. Wanner\*, 2015, "Parameter Estimation for Gene Regulatory Networks from Microarray Data: Cold Shock Response in *Saccharomyces cerevisiae*," *Bulletin of Mathematical Biology*, 77(8): 1457-1492.
16. S. Wirkus, **E. Camacho**, P. Marshall, 2015, "Mathematical modeling of fungal infection in immune compromised individuals: The Effect of back mutation on drug treatment," *Journal of Theoretical Biology*, 385: 66-76.
15. R.L. Brown, **E. Camacho**, E.G. Cameron, C. Hamlet, K.A. Hoffman, H-W. Kang, P.R. Robinson, K.S. Williams\*\*, and G.R. Wyrick\*\*, 2015, "A Stochastic Model of the Melanopsin Phototransduction Cascade," in *Applications of Dynamical Systems in Biology and Medicine*, Trachette Jackson, Ami Radunskaya Editors, Springer, pp. 175-196.
14. **E. Camacho**, L. Melara, C. Villalobos, S. Wirkus, 2014, "Optimal Control in the Treatment of Retinitis Pigmentosa," *Bulletin of Mathematical Biology*, 76(2):292-313.
13. **E. Camacho**, C. Kribs-Zaleta, S. Wirkus, 2013, "Metering Effects in Population Systems," *Mathematical Biosciences and Engineering*, 10(5-6): 1365-1379.
12. **E. Camacho**, 2013, "The Development and Interaction of Terrorist and Fanatic Groups," *Communications in Nonlinear Science and Numerical Simulation*, 18(11): 3086-3097.
11. **E. Camacho**, S. Wirkus, 2013, "Tracing the Progression of Retinitis Pigmentosa via Photoreceptor Interactions," *Journal of Theoretical Biology*, 317: 105-118.
10. **E. Camacho**, S. Wirkus, P. Marshall, 2011, "Mathematical modeling of fungal infection in immune compromised individuals: Implications for drug treatment," *Journal of Theoretical Biology*, 281(1): 9-17.

9. F.Wang, H.Du, **E.Camacho**, K.Xu, W.Lee, Y.Shi, S.Shan, 2011, "On Positive Influence Dominating Sets in Social Networks," *Theoretical Computer Science*, 412(3): 265-269.
8. **E.Camacho**, M.Colon-Velez\*, D.Hernandez\*, U.Rodriguez-Bernier\*, J.van Laarhoven\*, S.Wirkus, 2010, "A Mathematical Model for Photoreceptor Interactions," *Journal of Theoretical Biology*, 267(4): 638-646.
7. B.Morin\*\*, L.Medina-Rios\*, **E.Camacho**, C.Castillo-Chavez, 2010, "Static Behavioral Effects on Gonorrhea Transmission Dynamics in a MSM Population," *Journal of Theoretical Biology*, 267(1): 35-40.
6. F.Wang, **E.Camacho**, K.Xu, 2009, "Positive Influence Dominating Set in Online Social Networks," *Combinatorial Optimization and Applications*, Vol. 5573, Pages 313-321.
5. F.Berezovskaya, **E.Camacho**, S.Wirkus, G.Karev, 2008, "'Traveling Wave' Solutions of FitzHugh Model with Cross-diffusion," *Mathematical Biosciences and Engineering*, 5(2): 239-260.
4. J.Abiva\*, **E.Camacho**, E.Joseph\*, A.Mikaelian\*, C.Rogers\*, J.Shelton\*\*, S.Wirkus, 2007, "Alcohol's Effect on Neuron Firing," *The Mathematical Scientist*, 32(1): 32-40.
3. **E.Camacho**, R.Rand, H.Howland, 2004, "Dynamics of Two van der Pol Oscillators Coupled via a Bath," *International Journal of Solids and Structures*, 41(8): 2133-2134.

#### REFEREED RESEARCH CONFERENCE PROCEEDINGS

2. **E.Camacho**, R.Rand, T.Li, H.Howland, 2000, "A Mathematical Model of a Retinal Oscillator," *Proceedings of the 2000 ASME International Mechanical Engineering Congress and Exposition, Nov.5-10, 2000, Orlando, FL, in BDE-Vol.48 "2000 Advances in Bioengineering" ed. T.Conway, pp.89-90, ASME.*
1. **E.Camacho**, R.Rand, J.Cooke, 1999, "Nonlinear Dynamics of the Bombardier Beetle," *Proceedings of the DETC'99, ASME Design Engineering Technical Conferences, Sept 12-15, paper no. DETC99/ DAC-1234.*

#### NON-REFEREED RESEARCH JOURNAL ARTICLES

1. C.McNeely, **E.Camacho**, 2010, "Conceptualizing STEM Workforce Migration in the Modern World Polity," Social Science Research Network, <http://ssrn.com/abstract=1593393>.

#### **TECHNICAL REPORTS**

11. W.Caldwell\*, B.Freedman\*, L.Settles\*, M.Thomas\*, A.Murillo\*\*, **E.Camacho**, S.Wirkus, "Substance Abuse via Legally Prescribed Drugs: The Case of Vicodin in the United States," Cornell University Library arXiv, 2013, <http://arxiv.org/pdf/1308.3673.pdf>.

10. V.Chastain\*, J.Lunsford\*, A.Ortega\*, R.Reyes-Grimaldo\*, **E.Camacho**, “Iron Accumulation in the Cell: A Mathematical Model of Friedreich’s Ataxia,” MTBI-09-02M, MTBI/SUMS Technical Reports, 2012, <http://mtbi.asu.edu/research/archive/2012>.
9. J.Baez\*, T.Gonzalez\*, A.Murillo\*\*, D.Toupo\*, R.Zarate\*, **E.Camacho**, “My  $\beta$ IG Fat Math Model:  $\beta$ -Cell Compensation and Type 2 Diabetes,” MTBI-08-04M, MTBI/SUMS Technical Reports, 2011, <http://mtbi.asu.edu/research/archive/2011>.
8. B.Morin\*\*, L.Medina-Rios\*, **E.Camacho**, “Static Behavior Effects on Gonorrhea Transmission Dynamics,” MTBI-06-02M, MTBI/SUMS Technical Reports, 2009, <http://mtbi.asu.edu/research/archive/2009>.
7. L.Almada\*, R.Rodriguez\*, M.Thompson\*, L.Voss\*, L.Smith\*\*, **E.Camacho**, “Deterministic and Small-World Network Models of College Drinking Patterns,” 2006, <http://www.public.asu.edu/~etcamach/AMSSI/>.
6. J.Hunt\*, L.LaPlace\*, E.Miller\*, J.Pham\*, **E.Camacho**, S.Wirkus, “A Continuous Model of Gene Expression,” California Polytechnic University Department of Mathematics & Statistics Technical Report, pp. 43-63, 2005, <http://www.public.asu.edu/~etcamach/AMSSI/>.
5. J.Abiva\*, E.Joseph\*, A.Mikaelian\*, C.Rogers\*, J.Shelton\*\*, **E.Camacho**, S.Wirkus, “Alcohol’s Effect on Neuron Firing,” California Polytechnic University Department of Mathematics & Statistics Technical Report, pp. 139-163, 2005, <http://www.public.asu.edu/~etcamach/AMSSI/>.
4. M.Colon-Velez\*, D.Hernandez\*, U.Rodriguez-Bernier\*, J.van Laarhoven\*, **E.Camacho**, “A Mathematical Model of Photoreceptor Interactions,” Cornell University, Department of Biological Statistics and Computational Biology Technical Report, BU-1640-M, pp. 25-69, 2003, <http://mtbi.asu.edu/research/archive/2003>.
3. K.Lin\*\*, S.Schirmer\*\*, and **E.Camacho** Wirkus\*\*. “Chemical pattern formation in reaction-diffusion systems,” MSRI Summer program on Dynamics of Low Dimensional Continua Technical Report, U.C. Berkeley, 1999.
2. **E.Camacho**\*, J. Villareal\*, M. Yichoy\*, “Delinquency Dynamics,” Cornell University, Department of Biometrics Technical Report, BU-1504-M, 1997, <http://mtbi.asu.edu/research/archive/1997>.
1. M. Arias\*, **E.Camacho**\*, R.Castillo\*, D.Iniguez\*, E.Melon\*, L.Parra\*, “HIV-1 Replication Rate,” Cornell University, Department of Biometrics Technical Report, BU-1367-M, Aug. 1996, <http://mtbi.asu.edu/research/archive/1997>.

## MENTORING ARTICLES

### REFEREED MENTORING ARTICLES

5. **E. Camacho**, R. Holmes, S. Wirkus, 2015 “Transforming the Undergraduate Research Experience Through Sustained Mentoring: Creating a Strong Support Network and a Collaborative Learning Environment,” *New Directions for Higher Education*, 171: 63-73.
4. **E. Camacho**, C. Kribs-Zaleta, S. Wirkus, 2013, “The Mathematical and Theoretical Biology Institute—a Model of Mentorship Through Research,” *Mathematical Biosciences and Engineering*, 10(5-6):1351-1363.

#### NON-REFEREED MENTORING ARTICLES

3. **E. Camacho**, S. Wirkus, “The Applied Mathematical Sciences Summer Institute,” *Proceedings of the Conference on Promoting Undergraduate Research in Mathematics*, American Mathematical Society, Providence, RI, 2007; <http://www.ams.org/programs/edu-support/undergrad-research/REUproceedings.pdf>.
2. S. Bozeman, **E. Camacho**, “Where do we go from here?” Epilogue for the Infinite Possibilities Conference 2005 Proceedings, pp. 71-72, 2006; <http://www.ipcmath.org/pdfs/IPC05Proceedings.pdf>.
1. **E. Camacho**, “The Role of Mentoring in the Teaching of Mathematics,” Article for Infinite Possibilities, Epilogue for the Infinite Possibilities Conference 2005 Proceedings, p. 69, 2006; <http://www.ipcmath.org/pdfs/IPC05Proceedings.pdf>.

#### **PRESENTATIONS**

##### KEYNOTE ADDRESSES

- *My Journey Through College*, Camp Catanese for High School Students, Arizona State University, AZ, May 2016. <http://tntp.org/fishman-prize/winners/fishman-prize-2016/jason-catanese>
- *The intersection of adversity, resilience, tenacity, and models of photoreceptor degeneration: My story*, Operation Math Girls (OMG) annual conference, Sam Houston University, Huntsville, TX, February 2016.
- *Meta-analysis Perspectives on Interdisciplinary and Applied Learning*, Crossing Boundaries: Transforming STEM Education, **AAC&U STEM Conference**, Seattle, WA, November 2015. <http://www.aacu.org/meetings/stem/15>
- *My research, passion, and story: the intersection of modeling photoreceptor degeneration, diversifying the mathematical sciences, and contributing to a strong scientific workforce*, 2015 Annual Conference of the Great Lakes Section of SIAM, Grand Rapids, MI, May 2015.  
<https://www.gvsu.edu/siamgl2015/keynote-abstracts-20.htm>
- *The Intersection of Adversity, Resilience, Tenacity and Models of Photoreceptor Degeneration: My Story, Passion and Research*, Opportunities in Mathematical Sciences: A Workshop for Emerging Scholars, University of California, Irvine, CA, April 2015. [http://www.math.uci.edu/~mathoppworkshop/p\\_address.html](http://www.math.uci.edu/~mathoppworkshop/p_address.html)



- *Resilience, tenacity, and hard work- My story, your future, and our responsibility to create a strong quantitative community*, **AFFIRM Distinguished Lecture** at University of San Diego, CA, March 2015. [http://www.sandiego.edu/events/detail.php?\\_focus=50198](http://www.sandiego.edu/events/detail.php?_focus=50198)
- *The intersection of adversity, resilience, tenacity, and models of photoreceptor degeneration: My story, passion and research*, **Infinite Possibilities Conference**, Oregon State University, March 2015, <http://ipcmath.org/conference.html>
- *Resilience, tenacity, and hard work- My story, your future, and our responsibility to create a strong quantitative community*, Sierna Center and Doctorate in Educational Leadership Program, California State University Sacramento, CA, October 2014.
- *Modeling Photoreceptor Death and Rescue*, The Dorothy Wrinch Lecture in Biomathematics, **Women in Math in New England (WIMIN) Conference** at Smith College, MA, September 2014, <http://www.math.smith.edu/~jhenle/wimin14/talks14.html>.
- *My Trajectory and Mentors Who Carved My Path*, College Assistance Migrant Program (CAMP) STEM Migrant Student Leadership Institutes, (1) 10th and 11th graders (2) 7th through 12th graders, Sacramento, CA, July 2014.
- *The Power of STEM and How It Changed My Life*, 8th Annual Peach State Louis Stokes Alliance for Minority Participation (**LSAMP) Symposium and Research Conference**, Atlanta, GA, October 2013. <http://www.pslsamp.uga.edu/conference-2013.html>
- *Creating New Science through a Diverse Systems Approach*, LMU McNair Scholars Fall Symposium, Loyola Marymount University, Los Angeles, CA, September 2013.
- *Benjamin E. Mays Address: Solidifying Our Understanding of Medical and Physiological Challenges as a Result of New Technologies and Ingenuity*, **Mellon Mays Summer Conference**, Bryn Mawr College, Philadelphia, PA, June 2013.
- *How Sheer Determination, Resilience and a Few impacting Mentors Can Overcome Adversity*, Mathapalooza, Pomona College, Pomona, CA, March 2013.
- *An Indomitable Spirit in the Making*, **Field of Dreams Conference**, Arizona State University, Tempe, AZ, November 2012. <http://magazine.amstat.org/blog/2013/05/01/field-of-dreams/>
- *Overcoming Adversity Through Impacting Mentors and Role Models*, 2009 Presidential Awards for Excellence in Science Mathematics and Engineering Mentoring (**PAES-MEM) Awards Ceremony**, National Science Foundation, Washington, DC, January 2011.
- *Faculty Going the Extra Mile Can Make All the Difference*, Fall All College Faculty Meeting, Scottsdale Community College, Scottsdale, AZ, August 2010.

- *How Going the Extra Mile As a Student Can Make All the Difference in the World*, Mathematical and Theoretical Biology Institute & Institute for Strengthening the Understanding of Mathematics and Science (MTBI/SUMS), Tempe, AZ, August 2010.
- *The Importance of Mentoring in Overcoming Adversity*, 16th Annual **SAEOPP National McNair Scholars Research Conference**, Atlanta, GA, 1000+ attendees/audience, June 2010. <http://www.saeopp-mcnairconference.com/speakers.html> or <http://www.public.asu.edu/~etcamach/AwardPages/McNairSAEOPP.pdf>.
- *My Story of Achievement and the Role Jaime Escalante Played in My Success: Lessons for Faculty*, **Kids at Hope annual National Youth Development Master's Institute**, Phoenix, AZ, May 2010.
- *My Story of Achievement and the Role Jaime Escalante Played in My Success: Strategies for Students*, Tomorrow's Involved Leaders Today (TILT), Phoenix, AZ, May 2010.
- *Taking the Next Steps*, Annual Biomedical Research Conference for Minority Students (**ABRCMS**), Phoenix, AZ, 2600+ attendees/audience, November 2009. <http://www.abrcms.org/documents/2009FinalProgram.pdf> or <http://www.public.asu.edu/~etcamach/AwardPages/ABRCMS2009small.pdf>.
- *Overcoming Adversity in Pursuit of Professional Goals*, Sonia Kovalevsky Day, ASU, Glendale, AZ, February 2009.
- *Overcoming Adversity*, 10th Annual **Texas National McNair Scholars Research Conference**, University of North Texas, Denton, TX, February 2008.
- *The Importance of Mentoring in Overcoming Adversity*, Natural Sciences Week at University of Puerto Rico, Rio Piedras, PR, November 2007.
- *Mentors and Role Models*, 14th Annual **Institute of Teaching and Mentoring**, Compact for Faculty Diversity Institute, Arlington, VA, 1000+ attendees/audience, October 2007.
- *The Role of Mentoring in Pursuit of a Higher Degree*, Summer Success Institute, University of Maryland's AGEP, August 2007.

#### RESEARCH PRESENTATIONS

- "The Role of RdCVF and Nutrients in Retinitis Pigmentosa,"  
Apr 2016 Department of Mathematics, University of Texas at Arlington, TX.  
[https://www.uta.edu/math/seminars/seminar\\_s16.htm](https://www.uta.edu/math/seminars/seminar_s16.htm)
- May 2016 AMS Tensor SUMMA: Minorities in Mathematics Speaker Series (MIMSS),  
North Central College, Naperville, IL.
- "The Role of RdCVF in Photoreceptor Coexistence,"  
Oct 2015 Mathematical & Natural Science Seminar, ASU West, AZ.

- “The Role of RdCVF in Photoreceptor Degeneration,”  
Aug 2015 International Congress on Industrial and Applied Mathematics (ICIAM),  
Beijing, China.
- “Modeling Photoreceptor Death and Rescue,”  
April 2015 Latinos in Mathematics Conference, IPAM, CA.  
[http://www.ipam.ucla.edu/programs/special-events-and-conferences/  
latinos-in-the-mathematical-sciences-conference/?tab=schedule](http://www.ipam.ucla.edu/programs/special-events-and-conferences/latinos-in-the-mathematical-sciences-conference/?tab=schedule)  
Nov 2014 Blackwell Tapia Conference, IPAM, CA.  
[http://www.ipam.ucla.edu/programs/special-events-and-conferences/  
blackwell-tapia-conference-and-awards-ceremony/?tab=schedule](http://www.ipam.ucla.edu/programs/special-events-and-conferences/blackwell-tapia-conference-and-awards-ceremony/?tab=schedule)  
Sept 2014 The Dorothy Wrinch Lecture in Biomathematics, WIMIN Conf., MA.  
(Also appears in Plenary Presentations section.)  
<http://www.math.smith.edu/~jhenle/wimin14/>
- “Mathematical Models of the Retina and *In Silico* Experiments: Shedding Light on  
Vision Loss,”  
Sept 2014 Applied & Computational Mathematics (ACM) Seminar, ASU West, AZ.  
Aug 2014 Mathematical Association of America (MAA) Invited Address, MathFest,  
Portland, OR. (Also appears in Plenary Presentations section.)  
[http://www.maa.org/meetings/mathfest/program-details/2014/invited-  
addresses](http://www.maa.org/meetings/mathfest/program-details/2014/invited-addresses)
- “Mechanistic Models of Retinitis Pigmentosa,”  
Jul 2014 SIAM Annual Conference, Chicago, IL.  
[https://www.pathlms.com/siam/courses/480/sections/739/thumbnail\\_  
video\\_presentations/5291](https://www.pathlms.com/siam/courses/480/sections/739/thumbnail_video_presentations/5291)  
Jul 2014 Society for Mathematical Biology, Osaka, Japan.
- “Inferring Photoreceptor Death and Rescue in Retinitis Pigmentosa from Mathematical  
Models and *In Silico* Experiments,”  
May 2014 Institut de la Vision, Paris, France.
- “How can mathematics help us understand certain diseases of the eye?”  
Jan 2014 Kids’ Tech University (KTU), Virginia Tech, Blacksburg, VA.  
<http://kidstechuniversity.vbi.vt.edu/program> or  
<http://kidstechuniversity.vbi.vt.edu/past-programs>.
- “Understanding Gene Regulatory Interactions Through Recurrent Neural Network,”  
Nov 2013 Mathematics Colloquium, Wellesley College, Wellesley, MA.
- “Developing an integrative framework to understand calcium-related diseases through  
genetic networks,”  
Oct 2013 SACNAS Annual Conference, San Antonio, TX.

- “Inferring Gene Regulatory Networks from Mathematical Models,”  
Oct 2013 SACNAS Annual Conference, San Antonio, TX.
- “Insights into Type 2 Diabetes Using Two Different Mathematical Approaches,”  
June 2013 Summer Math Institute (SMI), Cornell University, Ithaca, NY.
- “Mathematical Modeling and *In Silico* Experiments: Shedding Light on Vision Loss,”  
May 2013 Department of Mathematical Sciences Colloquium, West Point Academy,  
West Point, NY.  
Mar 2013 Dept. of Mathematics Colloquium, Pomona College, Claremont, CA.  
Nov 2012 New Frontiers in Medical Science Biotechnology and Medicine  
Lecture Series, AZ Science Center, Phoenix, AZ.
- “Tracing the Progression of Retinitis Pigmentosa via Photoreceptor Interactions,”  
Oct 2012 SACNAS Annual Conference, Seattle, WA; (substitute for Aziz Yakubu  
in *Up to the Minute Reports in Mathematical Epidemiology*).  
July 2012 SIAM Annual Conference, Minneapolis, MN.  
June 2012 MIT Dept. of Biology, HHMI Special Research Seminar, Cambridge, MA.  
[https://biology.mit.edu/outreach\\_initiatives/hhmi\\_special\\_research\\_seminars](https://biology.mit.edu/outreach_initiatives/hhmi_special_research_seminars).  
May 2012 Cornell University Center for Applied Math Colloquium, Ithaca, NY.  
*Graduate Students’ Choice Speaker for 2012*.  
[http://events.cornell.edu/event/cam\\_colloquium\\_erika\\_camacho\\_arizona\\_st\\_-\\_tracing\\_the\\_progression\\_of\\_retinitis\\_pigmentosa\\_via\\_photoreceptor\\_interactions](http://events.cornell.edu/event/cam_colloquium_erika_camacho_arizona_st_-_tracing_the_progression_of_retinitis_pigmentosa_via_photoreceptor_interactions)  
April 2012 Purdue University Math Department Colloquium, West Lafayette, IN.  
Mar 2012 Infinite Possibilities Conference, IMA Mini-Workshop, Baltimore, MD.  
<http://www.ipcmath.org/documents/IPC2012Program.pdf>
- “Mathematically Modeling Retinitis Pigmentosa,”  
June 2011 MCMSC Mini-Workshop, Arizona State University, Tempe, AZ.  
April 2011 Los Arizona Days, University of Arizona, Tucson, AZ.
- “Math and Computer Modeling: Insights to Social and Physiological Problems,”  
Sept 2012 What’s Your Passion?, Herberger Young Scholars Academy, Glendale, AZ
- “Mathematical Models of the Human Eye,”  
April 2011 MIT Women in Mathematics Lecture Series, Cambridge, MA.
- “Principles of Compartmental Models and Their Implications in Epidemics,”  
Jan 2012 What’s Your Passion?, Herberger Young Scholars Academy, Glendale, AZ.
- “Mathematical Models of a Neuron Firing,”  
July 2009 George Washington University SPWM Program, Washington, DC.  
June 2007 SUMSRI REU Colloquium, University of Miami, OH.
- “Photoreceptors, Evolutionary Games, and Differential Equations,”  
April 2008 MGE@MSA Workshop/Seminar, Arizona State Univ, Tempe, AZ.

- Nov 2005 Whittier College, College of Science & Eng. Colloquium, Whittier, CA.  
 June 2005 Cal Poly Pomona Math & Statistics Department Colloquium, Pomona, CA.
- “Two Mathematical Models of a Neuron Firing Under the Influence of Alcohol or Related Drugs,”  
 Nov 2007 Univ. of Puerto Rico, Rio Piedras Natural Sciences Week, Rio Piedras, PR.  
 July 2006 SIAM Annual Conference, Boston, MA.
  - “Alcohol’s Effect on Neuron Firing,”  
 Nov 2007 Infinite Possibilities Conf., North Carolina State Univ., Raleigh, NC.  
 Jan 2007 SIAM Minisymposium at the Joint Math Meetings, New Orleans, LA.
  - “Modeling Biological Rhythms with Differential Equations,”  
 July 2006 SIAM Annual Conference, Boston, MA.  
 April 2006 Math Seminar at Pepperdine University, Malibu, CA.  
 Nov 2005 Loyola Marymount Math Department Colloquium, Los Angeles, CA.
  - “Diversifying the Research Experience: creating an REU environment that is conducive to the education of the whole person,”  
 Jan 2006 Mathematical Association of America, San Antonio, TX.
  - “Chaos in a Generalized Two Person Version of Rock-paper-scissors Game,”  
 June 2005 Social Science Research Council-Mellon Mays Conf., New York, NY.  
 April 2005 Infinite Possibilities Conference, Atlanta, GA.
  - “Two Mathematical Models of Photoreceptor Dynamics,”  
 April 2005 Occidental College Mathematics Dept Colloquium, Pasadena, CA.
  - “Modeling Circadian Rhythms in the Eye,”  
 Feb 2005 Cal State Univ-San Bernadino Math Dept Colloquium, San Bernadino, CA.
  - “Co-development and Interactions of Interest Groups,”  
 Oct 2003 SACNAS Annual Conference, Albuquerque, NM.
  - “Dynamics of Two van der Pol Oscillator Coupled via a Bath,”  
 May 2003 SIAM Dynamical Systems Annual Conference, Snowbird, UT.  
 Oct 2002 Ford Annual Conference, Albuquerque, NM.
  - “A Mathematical Model of a Retinal Oscillator,”  
 June 2001 Mellon Fellows Summer Conference, Durham, NC.
  - “Nonlinear Dynamics of the Bombardier Beetle,”  
 May 1999 SIAM Annual Conference, Atlanta, GA.

#### PLENARY PRESENTATIONS

- *Interdisciplinary Research: Making a Successful Transition from Student or Postdoc to Faculty in a Student-Focused Environment*, University of San Diego AFFIRM Workshop for Faculty, San Diego, CA, March 2015.

- *Mathematical Models of the Retina and In Silico Experiments: Shedding Light on Vision Loss*, Mathematical Association of America (MAA) MathFest, Portland, OR, July 2014, <http://www.maa.org/node/298398/>.
- *Incorporating a Global Perspective in STEM Education Through Interdisciplinary Projects*, Association of American Colleges & Universities (AAC&U) TIDES Institute, Washington, DC, July 2014, <https://www.aacu.org/tides/cultural-competency>.
- *It Takes a Village to Raise a Mathematician*, Infinite Possibilities Conference, Baltimore, MD, March 2012.
- *Insights to Success: Real-Life Adventures of SACNAS Scientists*, SACNAS Annual Conference, San Jose, CA, October 2011.
- *New Perspectives on the Academy*, Plenary Panel, Mellon-Mays Annual Graduate Student Summer Conference, Oberlin, OH, June 2010.
- *Mentoring for Success—A Mathematical Perspective*, The National Academies Associateship and Fellowships Office Advisory Committee, Woods Hole, MA, June, 2009.
- *The Forces Behind My Drive, Before, During, and After Graduate School*, MGE@MSA, ASU, April 2008.
- *My Career Path from East Los Angeles to an Ivy League Doctoral Degree*, the Hispanics and Latinos in the Humanities and Sciences Two Day Interdisciplinary Event, City University of New York (CUNY) - Queensborough, March 2006.
- *Stand and Deliver: My Experience with Jaime Escalante as Teacher, Role Model, and Mentor*, the Hispanics and Latinos in the Humanities and Sciences Two Day Interdisciplinary Event, CUNY - Queensborough, March 2006.

#### INVITED SPEAKER

- Inaugural Women of Color STEM Entrepreneurship Conference, *The New Normal: Women of Color Innovations and Achievements through STEM Entrepreneurship*, “Implicit Bias Workshop: It takes a Village to Create a Women of Color in STEM”, SkySong, Scottsdale, AZ, May 2016. [https://cgest.asu.edu/sites/default/files/the\\_new\\_normal\\_conference\\_program.pdf](https://cgest.asu.edu/sites/default/files/the_new_normal_conference_program.pdf),
- Preparing Undergraduates through Mentoring towards PhDs (PUMP), *CSU Alliance Summer Program in Mathematics*, “My Trajectory and Mentors Who Carved My Path”, Pomona, CA, July 2015.
- UCI Physical Sciences Student Affairs, *Undergraduate Seminar*, “Insights to Success: Before, During and After Graduate School Through my Story”, Irvine, CA, April 2015. <http://www.math.uci.edu/node/23846>
- SACNAS Conference, *Family Engagement Day in STEM*, “My Story and Trajectory at a Glimpse,” San Antonio, TX, October 2013.

- Manzana Foundation Scholars Speaker, “Pursuing Your Dreams,” Phoenix, AZ, November 2012.
- Purdue University Association of Women in Mathematics (AWM) Student Chapter Lecture, “My Story and Professional Trajectory,” West Lafayette, IN, April 2012.
- Leadership Speaker Series, “Overcoming Adversity,” Tempe Chamber of Commerce, February 2012.  
<http://tempechamber.org/wp-content/uploads/2012/11/TBA-Jan-2012.pdf> p11 or  
<http://www.public.asu.edu/~etcamach/AwardPages/TempeChambersmall.pdf>.
- Distinguished Guest Speaker, 2nd Annual Career Fair, Littleton Elementary School, Avondale, AZ, May 2011.

#### INVITED PANELIST (Selected Speaking Engagements)

- *What Can I Do With a STEM Degree?*, SACNAS Annual Conference, Long Beach, CA, October 2016.
- *Those Who Can Do: Timing, Negotiation and Objectives in Transitioning Your Academic Position to Administration*, Senior Ford Fellows Conference, Washington, DC, September 2016.
- *Creative Collaborations and Interdisciplinary Research*, Ford Fellows Annual Conference, Washington, DC, September 2016.
- *STEM Talks*, 2nd Annual TRIO, Faculty Panelist, ASU, Glendale, AZ, September 2015.
- *Advice from My Experience for Graduate Students and Postdocs* Women in Math Lunch Series, MIT, Cambridge, MA, March 2014.
- *First Generation* Documentary Film, Panel Discussion and Commentary, ASU, Glendale, AZ, December 2012.
- *What Type of Institution is Right for You?* Path of Professorship Workshop, MIT, Cambridge, MA, October 2012 & November 2013.  
<http://odg.mit.edu/development/pop/2012-photo-gallery/>
- *Balancing Life and Career*, Ford Foundation 2011 Conference, October 2011.
- *Sloan Program Director’s Workshop*, Compact for Faculty Diversity Institute on Teaching and Mentoring, Atlanta, GA, October 2011.
- *E-Inspiring STEM Leadership Panel*, 26th National Hispanic Women’s Professional & Leadership Institutes, Phoenix, AZ, October 2011.
- *Latinas in the STEM Disciplines*, 6th Symposium on Latinas in Higher Education and the Annual 2011 Gender Matters Symposium, Davis, CA, May 2011.

- *Good Intentions are Necessary but Not Sufficient: Steps Toward Best Practices in Mentoring Underrepresented Students*, MAA Panel Discussion, Joint Mathematics Meetings, New Orleans, LA, January 2011.
- *Applying for Scholarships and Fellowships*, Infinite Possibilities Conference, IPAM, Los Angeles, CA, March 2010.
- *Entrepreneurship in the Mathematical Sciences*, Infinite Possibilities Conference, IPAM, Los Angeles, CA, March 2010.
- *Why You Should Consider Doctoral Education & the Professoriate, Personal Testimonials, Part II*, MGE@MSA Student Research Conference, Tempe, AZ, January 2010.
- *Random Bits of Advice*, Nebraska Conference for Undergraduate Women in Mathematics (NCUWM), Lincoln, NE, January 2010.
- *Experiences of Former Scholars in Creating and Engaging a Learning Environment*, 16th Annual Institute on Teaching and Mentoring, Compact for Faculty Diversity Institute, Arlington, VA, October 2009.
- *Mentoring for Postdoctoral Fellows*, 14th Annual Teaching and Mentoring Institute, Compact for Faculty Diversity Institute, Arlington, VA, October 2007.
- *Success in Graduate School*, SACNAS, Tampa, FL, October 2006.
- *The Spectrum of Undergraduate Research Programs*, PURM Conference, Chicago, IL, September 2006.
- *Women in Science and Medicine Panel I: Careers Options*, Wellesley College Alumnae Association's Making Connections ALANA Forum, Wellesley, MA, October 2005.
- *Women in Science and Medicine Panel II: Balancing Family Life and Career*, Wellesley College Alumnae Association's Making Connections ALANA Forum, Wellesley, MA, October 2005.
- *Career Experiences in Math and Science*, Barnard College, Social Science Research Council-Mellon Mays Conference, New York, NY, June 2005.
- *Rewards of Mathematics*, Spelman College, Infinite Possibilities Conference, Atlanta, GA, April 2005.

#### POSTER PRESENTATIONS

- "Modeling Photoreceptor Interactions in the Presence of Retinitis Pigmentosa," The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, May 2012, Program#: 6438, Poster#: A331, Fort Lauderdale, FL.

#### **GRANTS(EXTERNAL)**

AS PRINCIPAL INVESTIGATOR (PI)



- *REU Site: Mathematical and Theoretical Biology Institute (MTBI)*, National Science Foundation, \$540,000, DMS-1263374, 5/2013-4/2018; PI E.Camacho, co-PI S.Wirkus. *Stepped down as PI in 5/2014.*
- *Enhancement of the Mathematics Component of the 2009-2010 SACNAS Conferences*, National Security Agency, \$194,937, 7/2009-11/2010; PI E.Camacho, co-PIs S.Wirkus, A.Gallegos.
- *Enhancement of the Mathematics Component of the 2008 SACNAS Conference*, National Security Agency, \$249,072, H98230-08-1-0114, 7/2008-11/2008; PI E.Camacho, co-PI S.Wirkus.
- *Applied Mathematical Sciences Summer Institute (AMSSI)*, National Security Agency, \$254,653, MSPF 07IC-043, 3/2007-2/2009; PI E.Camacho, co-PIs E.Mosteig, R.Swift, S.Wirkus.
- *Applied Mathematical Sciences Summer Institute (AMSSI)*, National Security Agency, \$115,000, MSPF 06IC-022, 3/2006-2/2007; PI E.Camacho, co-PIs E.Mosteig, R.Swift, S.Wirkus.

#### AS CO-PI

- *ASU-Sloan Program for Exceptional Mentoring (PEM)*, ASU Foundation (ASUF 30006275), \$60,000, 7/2014-6/2017; PI C.Castillo-Chavez, co-PI E.Camacho.
- *International Research Experience For Students (IRES) Project Proposal: Population Dynamics And Complex Systems: Challenges And Opportunities*, National Science Foundation, \$180,000, 9/2013-8/2016; PI C.Castillo-Chavez, co-PI E.Camacho, S.Wirkus, G.Chowell-Puente.
- *Mathematical and Theoretical Biology Institute (MTBI)*, National Security Agency, \$150,000, MSPF-RE-13-MTBI-0513-asu-2-2-121012, 5/2013-4/2014; PI C.Castillo-Chavez, co-PIs E.Camacho, S.Wirkus.
- *Arizona State University GAANN Fellowships in Applied Mathematics in the Life and Social Sciences*, Graduate Assistance in Areas of National Need (GAANN), Department of Education, \$399,798, P200A120192, 1/2013-12/2015; PI C.Castillo-Chavez, co-PIs E.Camacho, S.Suslov, S.Wirkus.
- *Enhancement of the Mathematics Component of the 2009-2010 SACNAS Conferences*, National Science Foundation \$238,740, DMS-0935993, 6/2009-5/2011; PI S.Wirkus, co-PIs E.Camacho, A.Gallegos.
- *UBM: Analysis of Stress in Biological Systems*, National Science Foundation \$239,460, DMS-0634613 1/2007-12/2009; PI B.Fitzpatrick, co-PIs E.Camacho, G.Kuleck, W.Binder, K.Dahlquist.
- *REU Site: Applied Mathematical Sciences Summer Institute (AMSSI)*, National Science Foundation, \$511,419 to Cal Poly Pomona (PI S.Wirkus, co-PI R.Swift), DMS-0453602, 4/2005-3/2008, co-PI of LMU subcontract of \$129,114 E.Camacho, E.Mosteig,.

- *Applied Mathematical Sciences Summer Institute (AMSSI)*, National Security Agency, \$75,000, MSPF-04IC-227, 3/2005-2/2006, PI S.Wirkus, co-PIs E.Camacho, E.Mosteig, R.Swift.

#### AS SENIOR PERSONNEL/ CONSULTANT

- *SAGE: Situational Awareness for the GTWO (Getting the Word Out) Environment*, Combating Terrorism Technical Support Office (CTTSO) \$100,000, 3/2009-8/2009, PI N.L.Johnson (Referentia Systems Incorporated).

#### **GRANTS (INTERNAL)**

- *Mathematically Modeling Photoreceptor Interaction in Cone-Dense Zebrafish*, PI E.Camacho, Fall 2015 Western Alliance to Expand Student Opportunities (WAESO) Grant, F15UR008/F2015ur0015, ASU, \$1,200. Funds for undergraduate student Javier Urcuyo.
- *Mathematical Modeling Kids at Risk*, PI E.Camacho, 2012 Western Alliance to Expand Student Opportunities (WAESO) Grant, S12UR037/S2012ur0045, ASU, \$3,100. Funds for undergraduate student Augustin Mange.
- *Mathematical Model for Type 2 Diabetes*, PI E.Camacho, 2012 WAESO Grant, S12UR038/S2012ur0047, ASU, \$3,000. Funds for undergraduate student Javier Baez.
- *Mathematical Model for Type 2 Diabetes*, PI E.Camacho, 2011 WAESO Grant, F11UR053/F2011ur0069, ASU, \$3,000. Funds for undergraduate student Javier Baez.
- *Exploring STEM Workforce Migration and Mobility: Modeling Complex Dynamics and Interaction in the World Polity*, PI E.Camacho, 2010 NCIAS SRCA Grant, ASU, \$5,000.
- *Dynamic Modeling of Science and Technology Workforce Migration*, PI E.Camacho, 2009 NCIAS SRCA Grant, ASU, \$5,000.
- *A Mathematical Model of Photoreceptor Interactions*, PI E.Camacho, co-PI S.Wirkus, 2008 NCIAS SRCA Grant, ASU, \$10,000.
- *Modeling Photoreceptor Interactions*, PI E.Camacho, 2005 Summer Research Grant, LMU, \$4000.

#### **MENTORING ACTIVITIES**

##### UNDERGRADUATE RESEARCH INSTITUTES

- Co-Executive Director, *Mathematical and Theoretical Biology Institute (MTBI)*, Arizona State University, (2011–2013). Co-directed summer research program with Prof. Stephen Wirkus geared for undergraduate Latino and other minority students. Planned syllabus and homework assignments for daily lectures on topics such as nonlinear difference and differential equations, probability, stochastic processes and linear algebra; advised math instructors; lectured on nonlinear ode's; supervised teaching assistants; helped guide group research projects which culminated in poster and oral presentations as well as MCMSC Technical Reports.

- Co-Director, *Applied Mathematical Sciences Summer Institute (AMSSI)*, Cal Poly Pomona and Loyola Marymount University, (2005–2007). Co-directed summer research program with Prof. Stephen Wirkus geared for undergraduate women and underrepresented minority students. Helped plan syllabus and homework assignments for non-linear differential equations; co-organized and ran weekly staff meetings; invited guest speakers; co-organized tours of local industries; supervised research assistants; helped guide two group research projects which culminated in poster and oral presentations as well as Department of Mathematics & Statistics Technical Reports; tracked career progress of former AMSSI students.

#### UNDERGRADUATE RESEARCH PROJECTS SUPERVISED

45. “Modeling the Biochemistry Cascade in Cones Outer Segments Triggered by RdCVF”, Tatyana Korneyeva (ASU student), Fall 2016.
44. “Mathematical Analysis of Retina Detachment”, ASU Barrett Honors Thesis, Miriam Goldman, 2016.
43. “Modeling Density Dependence on Retinitis Pigmentosa”, Miriam Goldman, Ojeen Korkes (ASU students), 2016.
42. “Sensitivity Analysis for a PK/PD Model of Doripenem in a *P. aeruginosa* Strain”, Daniel El-Wailly, Jordan Dubois, Kathryn Stefanko (ASU Students), Karaline Petty (Gary K. Herberger Young Scholars Academy), Fall 2016.
41. “Optimal Control PK/PD Model for Doripenem in a *P. aeruginosa* Strain”, Christopher Graham (ASU student), Fall 2016.
40. “Mathematical Investigation of Non-canonical Autophagy in the Retinal Pigment Epithelia,” Miriam Goldman, NCUIRE Research Assistant (ASU student), Spring 2016.
39. “Photoreceptor Death Kinetics in the Zebrafish,” Javier Urcuyo, NCUIRE Research Assistant (ASU student), Spring 2016.
38. “Modeling the Effects of the P300 Wave and Violent Video Games on Neuron Firing,” Rebecca Downing, Christopher Graham, Veronica Hoyo (ASU students), Fall 2015.
37. “Modeling EEG Data of Seizures Using the Izhikevich Spiking Model,” Zack Kenyon, James Howard (ASU students), Fall 2015.
36. “Modeling the Degeneration of Rod Photoreceptors in the Retinal Pigment Epithelium Due to A2E,” Whitney Mgbara, Andrew Pfeifer, Dominique Valdizan (ASU students), Fall 2015.
35. “A Mathematical Model of Photoreceptor Interaction in a Cone-Dense Zebrafish,” Javier Urcuyo (ASU student), Fall 2015.
34. “Qualitative Analysis of Various Markets in Economics,” Hien Vu (ASU student), Spring 2015.

33. "Substance Abuse via Legally Prescribed Drugs: The Case of Vicodin in the United States," Wendy K. Caldwell, Benjamin Freedman, Luke Settles, Michael M. Thomas (MTBI students), Summer 2013.
32. "Elasticity Analysis of the Effect of Education Level on Productivity," Sarah Huff, Dakoda Peterson (ASU Students), Fall 2012.
31. "Iron Accumulation in the Cell: A Mathematical Model of Friedreich's Ataxia," Vanessa Chastain, Jessica Lunsford, Aaron Ortega, Reynaldo Reyes-Grimaldo, (MTBI Students), Summer 2012.
30. "Mathematical Modeling Kids at Risk," Augustin Mange (ASU Student), Spring 2012.
29. "Mathematical Model for Type 2 Diabetes," Javier Baez (ASU Student), Fall 2011, Spring 2012.
28. "My  $\beta$ IG Fat Math Model:  $\beta$ -Cell Compensation and Type 2 Diabetes," Javier Baez, Traci Gonzalez, Anarina Murillo, Danielle Toupo, Rosalia Zarate, (MTBI students), Summer 2011.
27. "Fanatic Consumerism: A mathematical model on the influence of mass media on a capitalist population," Daniel Burkow, Hershey Kelly (ASU Students), Spring 2011.
26. "A Mathematical Analysis of the Human Photoreceptor Interactions via the Rod-derived Cone Viability Factor (RdCVF)," Jorge Ramos, Samantha Ryan (ASU Students), Spring 2011.
25. "A Mathematical Approach to Binge Drinking in a College Population," Anais Gomez, Eugenio Gutierrez, Cassondra Sutter (ASU Students), Spring 2011.
24. "Mathematical Representation of the Binding of miRNA and mRNA Resulting in Cancer," Tasha Mohseni, Ray Markley (ASU Students), Spring 2011.
23. "Understanding the influence of charismatic leaders through a dynamic network model of the NAZI regime," Robert Bahr (ASU Student), Spring 2011.
22. "Mathematically Modeling the Dynamics of Competing Religious Groups," Eric Prince (ASU Student), Spring 2011.
21. "A Deterministic and Statistical Approach to a Compartmental Model of Campus Drinking," Nick Erwin (ASU Student), Spring 2011.
20. "Examining the Attainment of STEM Doctoral Degrees," Jennifer Bonham (ASU student), Spring 2010.
19. "The Behavior of Koch Islands," Lucas Malin (ASU student), Spring 2010.
18. "Applications of the Gompertz Function in Tumor Growth," Chad Lecki (ASU student), Spring 2010.

17. "Sierpinski Triangle," Daniel Burkow, Bret Herzig (ASU students), Spring 2010.
16. "Physical Applications of Calculus," Catherine Dee, Steven Flavell (ASU students), Spring 2010.
15. "A Mathematical Model for a Gene Regulatory Network Under Calcium Influence," Joseph Doggett (ASU student), Summer 2009, Fall 2009, Spring 2010.
14. "Mathematical Modeling of the Transcriptional Network Controlling the Environmental Stress Response in *Saccharomyces cerevisiae*," Stephanie Kuelbs (LMU student), Spring 2007, Summer 2007.
13. "A Network Model for the *Melting Pot* of Cultures," Kamuela (Wela) Yong (LMU student), Fall 2006, Winter 2007.
12. "A Deterministic Mathematical Model of the *Melting Pot* of Cultures," Marytherese Padberg (LMU student), Fall 2006.
11. "Becoming Greek: Joining the Fraternity Lifestyle," Enrique Schulz-Figueroa (LMU student), Fall 2006.
10. "A Mathematical Model for Gene Expression Under Environmental Stress," Nathan Wanner (LMU student), Spring 2006, Fall 2006.
9. "Deterministic and Small-World Network Models of College Drinking Patterns," Supervised Lorenzo Almada, Roberto Rodriguez, Melissa Thompson, Lori Voss (AMSSI students), Summer 2006.
8. "A Mathematical Model of the Effect of Environmental Effects on Long Jump Performance of World Class Athletes," Tade Souaiaia (LMU student), Fall 2005.
7. "Is College Age Drinking Becoming a Problem? - A Mathematical Analysis," Jeannine Abiva (LMU student), Fall 2005.
6. "Is the Varicella-Zoster Vaccination Really Working?" Katie Tyler (LMU student), Fall 2005.
5. "Modeling the Spread of Rumors," Paul Schroeder (LMU student), Fall 2005.
4. "How the African Elephant Population is Beginning to Stabilize," Miguel Aceves (LMU student), Fall 2005.
3. "Alcohol's Effect on Neuron Firing," Supervised Charles Rogers, Jeannine Abiva, Edna Joseph, Arpy Mikaelian (AMSSI students), Summer 2005.
2. "A Continuous Model of Gene Expression," Supervised Elizabeth Miller, Jason Pham, Lissette LaPlace, Joseph Hunt (AMSSI students), Summer 2005.
1. "A Mathematical Model of Photoreceptor Interactions," Supervised Miguel Colon, Daniel Hernandez, Ubaldo Rodriguez-Bernier, Jon van Laarhoven (MTBI students), Summer 2003.

SELECTED RECOGNITION OF SUPERVISED UNDERGRADUATE RESEARCH

- “Substance Abuse via Legally Prescribed Drugs: The Case of Vicodin in the United States,” Wendy Caldwell (presenter), Benjamin Freedman, Luke Settles, Michael Thomas (MTBI students)
  - *SACNAS Poster Session Award*, Graduate and Undergraduate Poster Session, San Antonio, TX, October 2013.
  - Featured in *MIT Technology Review*, August 29, 2013  
<http://www.technologyreview.com/view/518566/how-to-tackle-the-vicodin-abuse-problem/>
- “Mitochondrial Iron: a Mathematical Model for Iron Regulatory Disease,” Vanessa Chastain, Jessica Lunsford (presenter), Aaron Ortega, Ricardo Reyes-Grimaldo (MTBI students)
  - *Outstanding Presentation Award*, JMM Student Poster Session, San Diego, CA, January 2013.
- “My  $\beta$ IG Fat Math Model: -Cell Compensation and Type 2 Diabetes,” Javier Baez, Tracy Gonzalez, Anarina Murillo, Danielle Toupo, Rosalia Zarate, (MTBI students)
  - *Best Graduate Student Poster Award*, IPC Poster Session, Baltimore, MD, March 2012.
- “A Mathematical Model for Gene Expression,” Nathan Wanner (LMU student)
  - *Synthesis to Systems Poster Session Award*, SDCSB Symposium (he was the only undergraduate presenter), San Diego, CA, January 2007.
  - *Profiled in Argonaut Newspaper*, Weekly Westchester newspaper interview;
  - Profiled in *Vistas Magazine*, LMU, Spring 2007.
- “Deterministic and Small-World Network Models of College Drinking Patterns,” Lorenzo Almada, Roberto Rodriguez, Melissa Thompson, Lori Voss (AMSSI students)
  - *MAA Poster Session Award*, MAA Undergraduate Poster Session, New Orleans, LA, January 2007.
- “Alcohol’s Effect on Neuron Firing,” Charles Rogers, Jeannine Abiva, Edna Joseph, Arpy Mikaelian (AMSSI students),
  - *SIAM Poster Session Award*, SIAM Southeast Atlantic Section Annual Meeting, Auburn, AL, April 2006.
  - *MAA Poster Session Award*, MAA Undergraduate Poster Session, San Antonio, TX, January 2006.
- “A Continuous Model of Gene Expression,” Elizabeth Miller, Jason Pham, Lissette LaPlace, Joseph Hunt (AMSSI students),
  - *MAA Poster Session Award*, MAA Undergraduate Poster Session, San Antonio, TX, January 2006.
- “A Mathematical Model of Photoreceptor Interactions,” Miguel Colon-Velez, Daniel Hernandez, Ubaldo Rodriguez-Bernier, Jon van Laarhoven (MTBI students),

- *SACNAS Poster Session Award*, Graduate and Undergraduate Poster Session, Albuquerque, NM, October 2003.

#### GRADUATE RESEARCH PROJECTS SUPERVISED

5. “Inferring Reversal of Type 2 Diabetes via a Transcription Factor Regulatory Network Model fo Human Skeletal Muscle,” Anarina Murillo (ASU graduate student), Fall 2012–Fall 2014.
4. “Modeling  $\beta$ -cell Compensation and Type 2 Diabetes,” Anarina Murillo (ASU graduate student), Fall 2011–2013.
3. “Logistic Models with Time-Dependent Coefficients,” Raquel Lopez (ASU graduate student), 2010–2011.
2. “Static Behavioral Effects on Gonorrhea Transmission Dynamics in a MSM Population,” Liana Medina-Rios (Mount Holyoke undergraduate student), Ben Morin (ASU graduate student), 2009–2010.
1. “A Mechanism for Stabilizing Oscillations in Certain Nonlinear Systems Possessing Different time Scales,” Raquel Lopez (ASU graduate student), 2008–2009.

#### DOCTORAL DISSERTATION COMMITTEE CHAIR/CO-CHAIR

3. “Modeling and Analyzing the Progression of Retinitis Pigmentosa” Danielle Brager, (School of Mathematical and Statistical Sciences), 2016- present.
2. “A Mathematical Approach to the Genetics of Type II Diabetes,” Anarina Murillo, (Applied Mathematics in the Life and Social Sciences), 2011–11/2014, Ph.D. Expected 12/2016.
1. “Experimental and Analytical Approach to Stabilizing Nonlinear Systems via Difference Equations,” Raquel Lopez, (Applied Mathematics in the Life and Social Sciences), 2008–2011, Ph.D. awarded: 5/2012.

#### DOCTORAL DISSERTATION COMMITTEE MEMBER

3. “Effect of External Factors on Epidemics Dynamics,” Maytee Cruz-Aponte, (Applied Mathematics in the Life and Social Sciences), 2012–2014; Ph.D. awarded 5/2014.
2. “The Implications of Different Probability Density Functions for Disease Stages in Deterministic Compartmental Epidemiological Models on the Decision of Public Health,” Emmanuel Jesus Morales Butler (Applied Mathematics in the Life and Social Sciences), 2009–2014; Ph.D. awarded 5/2014.
1. “Theoretical Studies on a Two-Strain Model of Drug Resistance: Understand, Predict, and Control the Emergence of Drug Resistance,” Alicia Urdapilleta (Applied Mathematics in the Life and Social Sciences), 2009–2011, Ph.D. awarded: 5/2011.

## OTHER MENTORING ACTIVITIES

- AMS Blog, e-Mentoring Network in Mathematical Sciences. Regular contributor to site designed to address relevant questions that students, postdoctoral researchers and junior faculty may have regarding their own advancement in mathematics. Its goal is to reach as many readers as possible, especially those who may not have sufficient mentoring at their current institution, 2013- present.

## **SERVICE**

### TO PROFESSION

#### Advisory Boards/Committees

- Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Board of Directors, 1/2016 - present.
- Sloan Scholars Mentoring Network, Alfred P. Sloan Foundation and the Social Science Research Council (SSRC), 9/2015 - present.
- Diversifying the Faculty Advisory Committee Member, AAC&U, 10/2015 - present.
- Underrepresented Students in Topology and Algebra Research Symposium Advisory Board, <http://www.ustars.org/advisory-board.html>, 10/2013 - present.
- National Institute for Mathematical and Biological Synthesis (NIMBioS) Advisory Board, <http://www.nimbios.org/governance/advboard>, 9/2012 - 9/2015.
- National Alliance for Doctoral Studies in the Mathematical Sciences Regional Advisory Board, the Southwest Region Representative, [http://mathalliance.org/?page\\_id=3445](http://mathalliance.org/?page_id=3445), 2/2012 - present.
- Society for Industrial and Applied Mathematics (SIAM) Diversity Advisory Committee, [http://www.siam.org/about/com\\_div.php](http://www.siam.org/about/com_div.php), 11/2007 - 11/2013.
- Infinite Possibilities Conference (IPC) Advisory Board, <http://www.ipcmath.org/about.html>, 5/2007 - 5/2016.
- Center for Undergraduate Research in Mathematics (CURM) Advisory Board, <http://curm.byu.edu/advisoryboard>, 11/2006 - present.
- Mathematical Biosciences Institute (MBI) Panel on Undergraduate Math-bio Programs (PUMP) in North America, with support of SIAM and Society of Math Biology (SMB) 1/2009 - present.

#### Editorial Boards (Journals, Books)

- Associate Editor, *Bulletin of Mathematical Biology*, <http://www.springer.com/mathematics/mathematical+biology/journal/11538/PS2?detailsPage=editorialBoard>



- Associate Editor for *SIAM Undergraduate Research Online (SIURO)*, <http://www.siam.org/students/siuro/board.php>, Term: 1/1/2014-12/31/2016.

### Review Panels

- TheBestSchools.org, Best in Education Prize Panel, Reviewer for the Escalante-Gradillas Teacher Award Program, <http://www.thebestschools.org/special/prize-panel/>, 1 year.
- National Science Foundation, Reviewer for Catalyzing New International Collaboration, 1 year.
- National Academies of Science, Reviewer for Research Associateship Program (RAP), 4 reviews per year for 4 years (16 total reviews).
- National Science Foundation, Reviewer for Presidential Awards for Excellence in Science Mathematics and Engineering Mentoring (PAESMEM), multiple years.
- National Science Foundation, Reviewer for Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics (TUES), multiple years.
- National Science Foundation, Reviewer for Interdisciplinary Grants in the Mathematical Sciences (IGMS), 1 year.
- NIMBioS, Reviewer for Postdoctoral Fellowships, Sabbatical Fellowships, Working Groups, and Investigative Workshops, 3-4 reviews per year, multiple years.
- Ford Foundation Diversity Fellowship Program Reviewer for Postdoctoral, Dissertation, Predoctoral Fellowships, 1 year.

### Steering Committees (National)

- Steering Committee Member, SIAM Conference on Optimization 2017 (OP17)
  - Vancouver, Canada, 2017.
- Steering Committee Member, SIAM ad hoc committee advising on diversity for International Congress on Industrial and Applied Mathematics (ICIAM)
  - Vancouver, Canada, 2011.
- Steering Committee Member, Infinite Possibilities Conference
  - IPAM, Los Angeles, CA, 2010.
  - North Carolina State University, Raleigh, NC, 2007
  - Spelman College, 2005.
- Steering Committee Member, Ford Foundation Conference of Fellows
  - National Academies of Science (NAS), Washington, DC, 2008.
  - NAS, Washington, DC, 2006.
  - NAS, Washington, DC, 2005.

- Steering Committee Co-Chair, Ford Foundation Conference of Fellows
  - Beckman Center of the NAS, Irvine, CA, 2007.

#### Steering Committees (Local)

- Local Committee Member, Society for Mathematical Biology (SMB) Annual Meeting and Conference, Tempe, AZ, 2013.
- Organizing Committee Member, ASU Sonia Kovalevsky Day, Glendale, AZ, 2016.

#### Professional Committees

- AMS Representative, *AMS-MAA Mathfest Joint Lecture Committee*, <http://www.ams.org/about-us/governance/committees/comm-all.html#JTMATHFEST>
  - Chair, 1/2016-1/2017.
  - Member, 2/2015-1/2016.
- AMS Young Scholars Awards Committee, Member, <http://www.ams.org/about-us/governance/committees/youngschol-past.html> 7/2016-6/2019.

#### Diversity Committees

- Member, *Mathematics Biosciences Institute (MBI) Diversity Committee*, <http://mbi.osu.edu/about/diversity.html>, 12/2011 - present.
- Member, *Deeper Engagement Working Group*, Office of the Dean for Graduate Education, MIT, Cambridge, MA, 11/2011-present.
- Member, The Institute for Advanced Study/*Park City Math Institute (PCMI) Diversity Sub-Committee*, 3/2007-present, <http://pcmi.ias.edu/about/#steeringOversight>.
- Member, *Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Math Task Force*, 2007-present.
- Member, *SIAM Workshop Celebrating Diversity working group*, ICIAM Conference, Vancouver, BC, Canada, 7/2011; SIAM Annual Conference, Denver, CO, 7/2009.
- Co-Chair, *SIAM Workshop Celebrating Diversity working group*, SIAM Annual Conference, Pittsburgh, PA, 7/2010.
- Member, *Infinite Possibilities Conference Program Committee*, IPAM, Los Angeles, CA, 3/2010.

#### Session Organizer

- Session Chair and co-Organizer, *Getting Involved in SACNAS/ Leadership*, SACNAS Annual Conference, Long Beach, CA, 10/2016.

- Session co-Organizer, *Mathematical Biology*, Association of Women in Mathematics (AWM) Research Symposium 2015, University of Maryland, College Park, MD, 4/2015, <https://sites.google.com/site/awmmath/home/awm-research-symposium-2015>.
- Session Chair and Organizer, *The Eyes Have It: Mathematical Modeling of the Retina*, MAA MathFest, Invited Paper Session, Portland, OR, 8/2014, <http://www.maa.org/node/301304/>.
- Session Chair and Organizer, *MS55 Workshop Celebrating Diversity (WCD): Dynamical Systems and Its Applications to Biological Models*, SIAM Annual Conference, Minneapolis, MN, 7/2012.
- Session Chair and Organizer, *MS367 Workshop Celebrating Diversity: Dynamic Modeling in Biology*, ICIAM Conference, Vancouver, BC, Canada, 7/2011.
- Session Organizer, *Mathematics of Human Biology - Research Talks*, SACNAS Annual Conference, Anaheim, CA, 10/2010.
- Session Co-Chair and Organizer, *MS49 Workshop Celebrating Diversity: Biofluids and Computational Fluids Session (SIAM-WCD)*; *MS60 Workshop Celebrating Diversity: Modeling Biological Process (SIAM-WCD)*; *MS73 Workshop Celebrating Diversity: Mathematical Applications (SIAM-WCD)*, SIAM Annual Conference, Pittsburgh, PA, 7/2010.
- Session Chair and Organizer, *New Generation of Mathematics Ph.D.s - Research Talks*, Society for Advancement of Chicano and Native Americans in Science (SACNAS)  
Annual Conference Dallas, TX, 10/2009.  
Annual Conference, Kansas City, MO, 10/2007.  
Annual Conference, Tampa, FL, 10/2006.  
Annual Conference, Denver, CO, 10/2005.
- Session Co-Chair and Organizer, *MS49 Workshop Celebrating Diversity: Biofluids and Computational Fluids Session (SIAM-WCD)*, *MS60 Workshop Celebrating Diversity: Modeling Biological Process (SIAM-WCD)*, *MS73 Workshop Celebrating Diversity: Mathematical Applications (SIAM-WCD)*, *MS86 Workshop Celebrating Diversity: Mathematical Approaches in Neuroscience (SIAM-WCD)*, SIAM Annual Conference, Denver, CO, 7/2009.
- Session Chair and Organizer, *MS57: Women at the Interface of Mathematics and Biology*, SIAM Annual Conference, Boston, MA, 7/2006.
- Session Chair and Organizer, *Mathematics, Physical Science & Engineering Academic Exchange Session*, Ford Foundation Conference for Fellows, Washington, DC in 9/2005.
- Session Chair and Organizer, *Interdisciplinary Courses*, MAA Annual Conference: Project NExT, Atlanta, GA, 1/2005.
- Session Chair and Organizer, *Poster Session*, Ford Foundation Conference for Fellows, Washington, DC in 9/2005.

- Session Chair and Organizer, *Modeling Our World*, Andrew Mellon Minority Conference, St. Louis, MO, 6/2004.
- Session Chair and Organizer, *Mathematics, Physical Science & Engineering Academic Exchange Session*, Ford Foundation Conference for Fellows, San Juan, Puerto Rico, 10/2003.

#### Reviewer/Handling Editor (Journals, Books, Scholarships)

- Refereed manuscripts for *Proceedings of the WhAM Conference: Applications of Dynamical Systems in Biology and Medicine*, Springer.
- Refereed manuscripts for *PLoS Computational Biology*.
- Handling Editor for *PLoS Computational Biology*.
- Refereed manuscripts for *BMC Ophthalmology*.
- Refereed manuscripts for *Journal of Difference Equations and Applications*.
- Refereed manuscripts for *Epidemiology and Infection*.
- Refereed manuscripts for *Computers and Mathematics with Applications*.
- Refereed manuscripts for *Nonlinear Dynamics*.
- Refereed manuscripts for *CBE - Life Sciences Education*.
- Refereed book prospective for Pearson Education.
- Reviewer for Chicana/ Latina Studies: the Journal of Mujeres Activas en Letras y Cambio Social (MALCS).
- Reviewer for Richard Tapia Conference Scholarship.

#### Session Judge/Conference Mentor

- Mentor for AWM at SIAM Annual Conferences: Minneapolis, MN; Denver, CO.
- Judge for Poster Session, Infinite Possibilities Conference.
- Judge for Association of Women in Mathematics Essay Contest.
- Judge for Poster Sessions, Society for the Advancement of Chicanos and Native Americans in Science Annual Conference.
- Judge for Undergraduate Poster Session, MAA Annual Conference: Project NExT, Atlanta, GA.

## TO EXTERNAL COMMUNITY

### Featured in Articles/ Media Interviews

- Profiled in *AMS Hispanic Heritage Month project*, "Lathisms (Latin@s and Hispanic in the Mathematical Sciences)" project & AMS Notice October issue, 2016, <http://lathisms.org/> or <http://lathisms.org/sunday-september-18th.html>
- Profiled in *New College Blog*, "Women in STEM Erika Camacho Discusses Applied Mathematics & Real-World Problems", 2013, <http://www.youtube.com/watch?v=Tr3Mw4M1vMY>.
- Profiled in *Research Matters*, "ASU women honor STEM role models," ASU Knowledge Enterprise Development, 2013, <http://www.public.asu.edu/~etcamach/AwardPages/ASUwomenSTEM.pdf>.
- Profiled in *SACNAS News*, "Fixing the Leaky Faucet: A Discussion of Women of Color in STEM...with Children," Winter 2013; <http://sacnas.org/about/stories/sacnas-news/winter-2013/fixing-the-leaky-faucet> or <http://www.public.asu.edu/~etcamach/AwardPages/LeakyFaucet.html>.
- Profiled in *Voces*, "I am the American Dream: Erika Tatiana Camacho Ph.D.," Raza Development Fund, Issue 9, August 2012, <http://razadevelopmentfund.businesscatalyst.com/News/VOCES%20Archives/August2012> or <http://www.public.asu.edu/~etcamach/AwardPages/Voces.html>.
- Interview for Public Affairs segment on *Horizonte*, aired on KAET Public TV, September 29, 2011 in Phoenix, AZ, <http://www.azpbs.org/horizonte/play.php?vidId=3689>.
- Profiled in *SACNAS News*, "Building Confidence," Summer/Fall 2011; <http://sacnas.org/about/stories/sacnas-news/fall-2011/building-confidence> or <http://www.public.asu.edu/~etcamach/AwardPages/BuildingConfidence.html>.
- Two Part Interview on "Erika Camacho's Inspirational Story," aired on *Univision's Evening News*, February 28-March 1, 2011 in Los Angeles, CA; and aired on *Univision's Nightly News*, March 7-8, 2010 in Phoenix, AZ.
- Profiled in *SIAM News*, "The Intersecting Lives of Two Mathematicians in East LA," 43(4), May 2010, <http://www.siam.org/news/news.php?id=1747> or [http://www.public.asu.edu/~etcamach/AwardPages/SIAM\\_EastLA.html](http://www.public.asu.edu/~etcamach/AwardPages/SIAM_EastLA.html).
- Interview on Jaime Escalante, *Univision's Aqui y Ahora*, aired April 6, 2010.
- Interview on Jaime Escalante, *Hispanic Link Weekly Report*, "East Los Angeles Calculus Teacher Jaime Escalante Dies at Age 79," 28(11), April 5, 2010, [http://www.hispaniclink.org/Hispanic\\_Link/Archives\\_files/vol28no11.pdf](http://www.hispaniclink.org/Hispanic_Link/Archives_files/vol28no11.pdf) or [http://www.public.asu.edu/~etcamach/AwardPages/HispanicLink\\_small.pdf](http://www.public.asu.edu/~etcamach/AwardPages/HispanicLink_small.pdf).

- Interview on Jaime Escalante, *New York Times* Obituary of Jaime Escalante, April 1, 2010, <http://www.nytimes.com/2010/04/01/us/01escalante.html> or [http://www.public.asu.edu/~etcamach/AwardPages/NYT\\_Escalante.pdf](http://www.public.asu.edu/~etcamach/AwardPages/NYT_Escalante.pdf).
- Interview on Jaime Escalante, *NBC Nightly News*, March 31, 2010, <http://www.msnbc.msn.com/id/3032619/36125215>.
- Interview on Jaime Escalante, *As It Happens* radio interview, March 31, 2010, <http://www.cbc.ca/asithappens/episode/2010/03/31/march-31-2010/>, part 3.
- Interview on Jaime Escalante, *Hispanic Link Weekly Report*, “Edward Olmos ‘Stands and Delivers’ for Teacher He Portrayed,” 28(8), March 15, 2010, [http://www.hispaniclink.org/Hispanic\\_Link/Archives\\_files/vol28no8.pdf](http://www.hispaniclink.org/Hispanic_Link/Archives_files/vol28no8.pdf) or <http://www.public.asu.edu/~etcamach/AwardPages/HispanicLink2small.pdf>.
- Profiled in *ASU’s State Press*, “Once uninspired student, math professor finds passion in teaching,” March 9, 2010, <http://www.statepress.com/2010/03/09/asu-mathematics-professor-from-low-income-l-a-high-school-excelling-in-ariz/> or <http://www.public.asu.edu/~etcamach/AwardPages/StatePress.html>.
- Interview on Jaime Escalante, *CBS Evening News*, March 4, 2010, <http://www.cbsnews.com/stories/2010/03/04/eveningnews/main6267789.shtml>.
- Profiled for Leadership Skills in *SACNAS News*, “They May Not Call Themselves Leaders: Profiles of Leadership in Action,” Spring 2007; [http://www.public.asu.edu/~etcamach/AwardPages/SACNASarticle\\_sp07.pdf](http://www.public.asu.edu/~etcamach/AwardPages/SACNASarticle_sp07.pdf).
- Interviewed for AMSSI in *La Opinion* Los Angeles Spanish Newspaper in Section Vida y Estilo, “Mas Latinos En las Matematicas: Un instituto de ciencias ofrece oportunidades de aprendizaje y trabajo a estudiantes de minorias etnicas,” written by Patricia Prieto, (Translation: “More Latinos in Mathematics: An institute in the sciences offers opportunities in learning and future careers for underrepresented minority students”), 11/21/2005; <http://www.public.asu.edu/~etcamach/AMSSI/LaOpinion112105.htm>.

#### Other Community Service

- Masterpiece Art Program 2009 Presenter; gave talk on math properties (tessellations, geometric impossibilities, etc.) from works of M.C. Escher and created/organized/ran an art activity, Arrowhead Elementary School, April 2009.
- Latino Scholars Day 2006, faculty panelist; for recruitment of prospective LMU students and their parents, November 2006.
- Amino Leadership Charter High School Dialogue with Teachers, college faculty panelist; one-day meeting to discuss expectations of colleges, August 2006.

- Expanding Your Horizons Conference, Mt. St. Marys College; one-hour innovative/hands-on math seminar for elementary school girls Spring 2006, 2007.

#### TO UNIVERSITY (ASU)

- Member, Dean of New College Search Committee, 2012.
- ASU SIAM Student Chapter Seminar, Invited Guest Speaker for Math Awareness Movie “Stand and Deliver,” Tempe, April 2008.
- Interviewed for *CareerWISE*, filmed interview for Regents Professor of Psychology Nancy Felipe Russo that gives young females potential role models, 2008, <http://careerwise.asu.edu>.
- ADVANCE STEM Doctoral Enhancement Workshop for Developing Pipeline Initiatives with California State University system, January 2008.

#### TO NEW COLLEGE (ASU)

- Member, MS Degree Program Development Committee, 12/2015-.
- Speaker, Road to the University Recruitment Day, 12/2015.
- MNS Faculty Representative, Homecoming Table for NCIAS, 10/2015.
- Judge, ASU West Student Research and Creative Expo Poster Session, 4/2010.
- Member, NCIAS General Education Learning Outcomes Committee, 3/2010-9/2010.
- Faculty Panelist for New University College Freshmen, ASU West, Glendale, AZ, 8/2009.
- Sneak Preview, West Coast states recruitment for potential ASU students (currently in high school) on behalf of New College, 11/2009.
- Ad Hoc Committee of Student Research and Creative Performance Exhibition, 2008-2009.
- Member, Graduate Committee, 2008-2010.

#### TO SMNS/MSAC (ASU)

- Sonia Kovalevsky Day, which promotes and fosters math awareness in middle school girls, ( Faculty participant) in 2/2010, (co-Organizer) 2/2016.
- Faculty Panelist & co-Organizer, *Pizza, Professors, and Professions*, 1/2016.
- Member, Personnel Committee, 2014-2016.
- Member, ad hoc committee to revamp Applied Mathematics degree, 2014 -2015.
- Member, Applied Mathematics Assistant Professor Search Committee, 2012-2013.

- Member, Internship Guidelines Committee, 2012-2013.
- Member, Mathematics Lecturer Hiring Committee, 2008.

#### TO LOYOLA MARYMOUNT UNIVERSITY

- Intercultural Faculty Committee, member; LMU Latina Collective, member; LMU Latino Spiritual Retreat 2005, Organizing Committee; College of Science & Engineering Presidential Position in Biomath Search Committee; Careers Committee, member; Pi Mu Epsilon Advisor; Math Club Advisor; Colloquium Committee, member; Co-founder and Advisor of SIAM Student Chapter.

#### **PROFESSIONAL ORGANIZATIONS**

- Society for Industrial and Applied Mathematics (SIAM), *Member*
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS), *Friend of the Society*
- Society for Mathematical Biology (SMB), *Member*,
- American Mathematical Society (AMS), *Member*,
- The Association for Research in Vision and Ophthalmology (ARVO), *Member*
- Mathematical Association of America (MAA), *Member*,
- Sigma Xi, Scientific Research Society, *Member*
- Pi Mu Epsilon, Honorary National Mathematics Society, *Member*
- Faculty Women's Association (FWA), *Member*
- Chicano/Latino Faculty & Staff Association (CLFSA), *Member*

#### **PROFESSIONAL WORKSHOPS ORGANIZED**

- *Critical Transitions in Graduate School: Advice for Current and Prospective Graduate Students* session at SACNAS, San Jose, CA, October 2011.
- *Predoctoral and Dissertation Sciences Workshop*, Ford Foundation Conference of Fellows: "Activism Allied with Scholarship: Marshalling the Tools to Strengthen our Imperiled Communities," The National Academies Beckman Center, Irvine, CA, October 2007.
- *Successful Networking Practices*, Infinite Possibilities Conference, North Carolina State University, Raleigh, NC, October 2007.



- *Predoctoral and Dissertation Sciences Workshop*, Ford Foundation Conference of Fellows: “Enriching Our Communities,” The National Academies, Washington, DC, October 2006.
- *Predoctoral Sciences Workshop*, Ford Foundation Conference of Fellows, “Engaging Scholars in Transition,” The National Academies, Washington, DC, September 2005.
- *Natural Sciences Dissertation Workshop*, Ford Foundation Conference of Fellows, San Juan, PR, October 2003.

## PROFESSIONAL DEVELOPMENT

- Participated in “The dynamics of small non-human social networks”, [http://www.nimbios.org/workshops/WS\\_socialnet](http://www.nimbios.org/workshops/WS_socialnet), National Institute for Mathematical and Biological Synthesis (NIMBioS), Knoxville, TN, March 06-08, 2014.
- Participated in “WhAM! A Research Collaboration Workshop for Women in Applied Mathematics, Dynamical Systems with Applications to Biology and Medicine”, Institute of Mathematics and Its Applications (IMA), Minneapolis, MN, September 09-13, 2013.
- Participated in “Perspectives On Successfully Mentoring More Underrepresented Postdoctoral Researchers: Strategies and Tactics that Work,” 2nd Annual MGE@MSA Postdoctoral Mentoring Institute, Tempe, AZ, 1/2010.
- Participated in OLEG (Online Education Group) at ASU, 2009.
- Participated in “1-2-3; Success in the Early Years” Workshop at ASU.
- Participated in two Center for Teaching Excellence workshops At LMU, 2005, 2006.
- Participated in the 2nd year faculty Pedagogy Workshops on ”Creating the Inclusive Classroom at LMU,” 2006.
- Participated in BioQUEST Curriculum Consortium workshop: Investigating Interdisciplinary Interactions, at Beloit College, June 11-19, 2005. (Applicants were accepted on a competitive basis.)
- Participated in Project NExT (New Experiences in Teaching). (Applicants were accepted on a competitive basis.)

## COURSES TAUGHT

### MASSACHUSETTS INSTITUTE OF TECHNOLOGY

- 18.01 Calculus

### ARIZONA STATE UNIVERSITY

- MAT 210 Brief Calculus

- MAT 211 Math for Business Analysis
- MAT 270 Calculus with Analytical Geometry I
- MAT 271 Calculus with Analytical Geometry II
- MAT 275 Modern Differential Equations
- MAT 450 Mathematical Models in Biology
- MAT 452 Nonlinear Dynamics and Chaos
- MAT 462 Applied Partial Differential Equations
- MAT 499 Independent Study (Capstone Course)
- AML 590 Reading and Conference
- AML 592 Research (Graduate)
- AML 792 Research (Graduate, doctoral)

LOYOLA MARYMOUNT UNIVERSITY

- MATH 102 Quantitative Skills for the Modern World
- MATH 112 Mathematical Analysis for Business II
- MATH 122 Calculus for the Life Sciences I
- MATH 123 Calculus for the Life Sciences II
- MATH 245 Ordinary Differential Equations
- MATH 355 Methods of Applied Mathematics
- MATH 357 Complex Variables
- MATH 495 Mathematical Modeling

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

- MATH 115 Analytic Geometry and Calculus II