

# CURRICULUM VITAE

JIALING DAI  
MATHEMATICS DEPARTMENT  
UNIVERSITY OF THE PACIFIC  
3601 Pacific Ave, Stockton, CA, 95211  
Email: jdai@pacific.edu, Tel:(209) 946-3025  
URL: [www1.pacific.edu/~jdai/](http://www1.pacific.edu/~jdai/)

## Education

- 1995–2000: PhD in Mathematics, University of Arizona, Tucson, AZ
- 1995–1998: MS in Mathematics, University of Arizona, Tucson, AZ
- 1985–1987: MS in Operational Research, Jilin University of Technology, China, Changchun, China
- 1981–1985: BS in Mathematics, Southwestern Normal University, China, Chongqing, China

## Experience

- 2012–Now: Associate Professor in Mathematics, University of the Pacific, Stockton, CA
- 2006–2012: Assistant Professor in Mathematics, University of the Pacific, Stockton, CA
- 2003–2006: Teaching Post-Doctorate Faculty, University of Arizona, Tucson, AZ
- 2000–2003: Assistant Professor in Mathematics, Zhejiang University, Hangzhou, China
- 1995–2000: Graduate Teaching Assistant/Associate, University of Arizona, Tucson, AZ
- 1987–1994: Lecturer in Mathematics, Chongqing Institute of Technology, Chongqing, China

## Courses Taught At Pacific: 2006-Present

### Fall 2006

- Math 37 (two Sections)-Introduction to Probability and Statistics
- Math 41-PreCalculus

**Spring 2007**

- Math 37- Introduction to Probability and Statistics
- Math155-Real Analysis I

**Fall 2007**

- Math 37 (two Sections)- Introduction to Probability and Statistics
- Math 131-Mathematical Statistics I

**Spring 2008**

- Math 39- Probability and Its Application in Statistics
- Math 155-Real Analysis I
- Math 191 (Independent Study)-Stochastic Calculus and Its Application in Finance

**Fall 2008**

- Math 51 (two sections)-Calculus I
- Math 49-Introduction to Abstract Mathematics

**Spring 2009**

- Math 155-Real Analysis I
- Math 53-Calculus II

**Fall 2009**

- Math 41 (two sections)-Pre-Calculus
- Math 51-Calculus I

**Spring 2010**

- Math 141-Linear Algebra
- Math 53-Calculus II

**Fall 2010**

- Math 41 (two sections)-Pre-Calculus
- Math 143-Abstract Algebra I

**Spring 2011**

- Math 39- Probability and Its Application in Statistics

- Math 168-Modern Geometry

#### **Fall 2011**

- Math 51-Calculus I (two sections)
- Math 143-Abstract Algebra

#### **Spring 2012**

- Math 37-Probability and Its Application in Statistics (two sections)

#### **Fall 2012**

- Math 55- Calculus III (two sections)
- Math 193A-Financial Mathematics (special topic course)

#### **Spring 2013**

- Math 39-Probability and Its Application in Statistics
- Math 168-Modern Geometry

#### **Fall 2013**

- Math 55-Calculus III (three sections)

#### **Spring 2014**

- Sabbatical

#### **Fall 2014**

- Math 55-Calculus III (two sections)
- Math 193A-Financial Mathematics (special topic course)

#### **Spring 2015**

- Math 39-Probability and Its Application in Statistics
- Math 168-Modern Geometry

#### **Fall 2015**

- Math 35-Elementary Statistical Inference (two sections)
- Math 193A-Financial Mathematics (special topic course)

## **Research Interests**

Lie Theory and Representation Theory, Linear Algebra, Discrete Mathematics, Differential Equations, Statistics, Mathematical Finance, Operations Research, Mathematics Education

# Work in Progress/Publications

## Work in Progress

- *Case Study on Students' Attitudes Toward Statistics*. Work in progress
- *Influence of Curriculum Reform: Strategies that Help Math Teachers Making Transition*. Work in progress
- *Math Teacher Education in China: What is the Appropriate Balance between Math Content Knowledge and Pedagogical Knowledge?* Work in progress
- (With A. Lim) *A Study on Pandovan Numbers*. Work in progress

## Publications/Preprints

- *Impact of Mathematics Teachers Classroom Discourse on Developing Student's Mathematical Thinking in Elementary Schools in China*. Submitted in October, 2015.
- (With A. Lim) *Conjectures on Random Fibonacci Numbers*, submitted in December, 2014.
- (With A. Lim) *On Product of Companion Matrices*, Linear Algebra and its Applications, Volume 435, Issue 11, December 2011, P 2921-2935
- (With Daoyuan Fang and Zheng Han) *The Nonlinear Schrödinger Equations with Combined Nonlinearities of Power-type and Hartree-type*, Chinese Annals of Mathematics, Series B, 32(B), 2011, 435-474.
- (With C. Crawford, et al) *Association Rule Mining*, DIMACS Educational Module Series 10-3.
- (With Doug Pickrell), *The orbital method and the Virasoro extension of  $\text{Diff}^+ S^1$  I. Orbital Integrals*, Journal of Geometry and Physics, Vol. 44(2003), 623-653.
- (With Doug Pickrell), *Coadjoint Orbits for the Central Extension of  $\text{Diff}^+(S^1)$  and Their Representatives*, Acta Mathematica Scientia, 24B(2)(2004), 185-205.
- *Conjugacy Classes, Coadjoint Orbits and Characters of  $\text{Diff}^+ S^1$* , PhD dissertation, 2000, The University of Arizona.
- *A survey of Representations and Related Results of  $SL(2, \mathbb{R})$* , Preprint.
- (With A. Lim) *Fibonacci Rabbits Leave Home*, Preprint.

## Presentations

- *Impact of Mathematics Teachers Classroom Discourse on Developing Student's Mathematical Thinking in Elementary Schools in China*, AMS Joint Meetings San Antonio, TX, Jan.8-12, 2015
- *Math Education in Elementary Schools in China and in the USA*, May 6, 7, and 8, 2014, Yangchuan, China. Two-hour discussion with math teachers at three elementary schools in Yangchuan, China.
- *Overview of K-12 Math Education in the United States*, May 16, 2014, Bishan, China
- *Difference of K-12 Math Curriculum/Structure between USA and China*, May 23, 2014, Bishan, China
- *On Product of Companion Matrices*, AMS Joint Meetings Baltimore, MD, Jan.15-18, 2014.
- *The Set Game*, San Joaquin Math Teachers Circle (SJMTC) Workshop Classroom Building Room 205, University of the Pacific, Dec. 10, 2013
- *Paper Homework or Online Homework?* AMS Joint Meeting in New Orleans in January, 2011
- *Origami and Mathematics* Youth Fellowship of Stockton Chinese Christian Church in Spring, 2010
- *A Few Gems and Pearls of Mathematics* Youth Fellowship of Stockton Chinese Christian Church in Fall, 2009
- *Want to Become an Actuary?* Mathematics Department, University of the Pacific, November 2009.
- *MAA Committee on Graduate Students Panel Discussion Teaching Postdocs—A Journey from Graduate School to a Position in the World of Mathematics* AMS Joint Meeting in Washington, D.C. in January, 2009.
- *Semi Inquiry-Based Learning in Undergraduate Real Analysis* AMS Joint Meeting in Washington, D.C. in January, 2009.
- *Examples of Inductive Reasoning and Recursive Thinking in Undergraduate Mathematics* AMS Joint Meetings in San Diego, January 6, 2008.
- *Committee on Mathematics and Mathematicians in Emerging Nations* AMS Joint Meetings in New Orleans, January 5, 2007.
- *Mis-display Statistical Graphics in Presentation* AMS Joint Meetings in New Orleans, January 7, 2007.

- *Committee on Education Panel Discussion: International Perspectives on Undergraduate Mathematics* AMS Joint Meetings in San Antonio, January 15, 2006.
- *What if we lived in a hyperbolic, non-Euclidean world?* Entry Level Colloquium, Mathematics Department , University of Arizona, April , 2005.
- *Switch or Not Switch? The Monty Hall Problem* Entry Level Colloquium, Mathematics Department , University of Arizona, November, 2003.
- *Coadjoint Orbits for the Central Extension of  $\text{Diff}^+(S^1)$  and Their Representatives* International Congress of Mathematicians, Aug. 21- 28, 2002, Beijing, P.R.China

## Other Conferences/Workshops

- *Panel discussion: "Sharing our success stories and challenges at Pacific as a faculty member"* 2:00pm-4:30pm on May 21, 2013 University of the Pacific.
- AMS Joint Meetings, January, 2004-2011, Various Locations.
- *MAA Sectional Annual Meetings*, February at Various Universities and Colleges in Northern California.
- *Northern California Undergraduate Mathematics Conference*, April at Various Universities and Colleges in Northern California.
- *The 11th Annual Legacy of R. L. Moore Conference*, June 17-19, 2010, Austin, Texas.
- *Annual Meeting America Association of Colleges and Universities*, January 2010 in Washington D.C.
- *Math Consortium Workshop*, March 9, 2008 in San Antonio, Texas.
- *DyDAn Reconnect 2007: Data Analysis in Law Enforcement and Homeland Security*, July 29 - August 4, 2007, Rutgers University, NJ.
- *The 10th Annual Legacy of R. L. Moore Conference*, April 12-14, Austin, Texas.
- *Random Shapes Tutorial Workshop*, March 13-16, 2007, IPAM at University of California in Los Angeles, California.
- *Inquiry-Based Learning (IBL) Workshop*, July 16-22, 2006, California
- *Preparing Mathematicians to Educate Teachers (PMET) summer workshop*, July 11-15, 2005, Park City, Utah.
- *AMS Joint Meetings*, January, 2004-2015, Various Locations.
- *Business Mathematics I instructor training workshop*, Fall, 2003, Tucson, Arizona.

- *International Congress of Mathematicians*, Beijing, Aug. 21-28, 2002, P.R.China
- *International String Theory Conference*, Hangzhou, Aug. 15-17, 2002, P.R.China.

## Grants (Internal)

- (Jointly with Dr. Chris Goff) CAPD \$3050 (2009-2010)
- (Jointly with Dr. Chris Goff) Pacific Fund \$6500 (2009-2010)
- Scholarly/Artistic Activities Grant (SAAG) from Pacific (Summer 2008, \$3055)

## Travel Funds (External)

- Travel fund \$200 from DyDAn (Homeland Security Center for Dynamic Data Analysis) to the DyDAn Reconnect 2007: Data Analysis in Law Enforcement and Homeland Security, July 29 - August 4, 2007, Rutgers University, NJ
- Travel fund \$400 from EAD (Educational Advancement Foundation) to the 10th Annual Legacy of R. L. Moore Conference, April 12-14, Austin, Texas, together with \$400 travel grant.
- Travel fund \$900 from IPAM (Institute for Pure and Applied Mathematics) to the Random Shapes Tutorial Workshop, March 13-16, 2007, IPAM at University of California in Los Angeles, California.

## Committee Service

- Pharmacy PhD Candidate (Jin Dong) Research Proposal Committee, Fall 2015.
- COP Council , Fall 2012-2015/Co-Chair Elect (2013-2014)/Co-Chair (2014-2015).
- Admissions & Financial Aid, Fall 2012-2015.
- Promotion Committee for Prof. Mouchumi Bhattacharyya, Fall 2014.
- Tenure and promotion Committee for Prof. Sebastian Marotta, Fall 2013.
- COP Executive Council (Co-Chair Elect), Fall 2013–present.
- Department assessment committee, 2012-present.
- ELOC- Experiential learning and organizing committee, Fall 2012-2015.
- San Joaquin Math Teachers' Circle (SJMTC) Steering Committee, Fall 2013-present.
- Math department calculus committee, Fall 2011- Spring 2013.

- Organization committee of Northern California Undergraduate Mathematics Conference, Fall 2010-April 2011.
- Council on Teacher Education, Fall 2010-2013.
- Faculty search committee, Academic year 2010-2011.
- Curriculum committee, Fall 2009-2012.
- Calculus committee, Spring, 2009-2013.
- Faculty search committee for a statistician, Academic year 2008-2009.
- Faculty search committee for a statistician and an applied mathematician, Academic year 2007-2008.

## **Proposal Writing/Curriculum Activities/Supervising**

- Proposal for the new concentration in actuarial science (within the B.S. in applied mathematics) and proposals for two new math
- Proposal for two new courses math 121-Financial Mathematics I and Math 122-Financial Mathematics II.
- Edited and reviewed the Instructor's Manual for "Applied Calculus" by Hughes Hallett.
- Worked jointly with Prof. Mouchumi Bhattacharyya and Prof. John Mayberry on the proposal for a new concentration in actuarial science (within the B.S. in applied mathematics), and was the primary writer of the proposal.
- Conducted a comparison study on the impact of different homework platform (online versus paper) on student's learning in pre-Calculus, Fall 2010.
- Jointly coordinated the undergraduate teaching assistant program(UTA) in mathematics (fall 2009-spring 2010)
- Jointly supervised four undergraduate teaching assistants (fall 2009-spring 2010)
- Participated two pre-calculus focus groups discussion organized by Wiley and Person Higher Education.
- Wrote online Test Bank for Hughes Hallett Calculus (Fifth Edition) published by Wiley, Fall 2008.
- Wrote Math 37 common final exams in fall 2006.
- Co-wrote (with Meg Rosasco) Math 37 common final exam in spring 2007.
- Supervised five Stats Lab TAs



## Service/Community Outreach

- Math facilitator in Lincoln MASTER professional development project, July, 2015-now.
- Helped on Global Education and Leadership Initiative Event on Campus as a translator. A group of twenty-four presidents/senior administrators from universities of China visited Pacific. This visit is part of advanced leadership program for university presidents of China. December 1-5 2009.
- Participated in summer orientation and freshman advising in 2007-2009.
- Was the department's representative for the Profile Day, spring 2008.
- Helped and participated in various events organized by math club, including writing geometry questions for high school math contest in 2011
- Gave a short session in Chinese to a group of Stockton secondary school teachers.
- Participated in teacher-training events in Stockton local schools.
- Helped Dr. Goff with Statistics in preparing teacher for the CSET exams.
- Served as an observer in fraction workshops for local secondary school teachers. Provided statistical consulting for a biology graduate student (Nimisha Patel) on her thesis; and Yuan Yao, a graduate student of Prof. Henghu Sun in the School of Engineering and Computer Science.
- Provided statistical consulting for a research project of Prof. Feilin Hsiao in Conservatory of Music, Jan 2014.
- Provided mathematical consulting for Guangxi Xiong, a graduate student of Prof. Jiancheng Liu in the school of engineering, and a graduate student in Chemistry.
- Provided statistical consulting for Karen Anderson (academic year 2008-2010), who was petition to establish a charter school in southern Stockton. Analyzed crime data from public schools in southern Stockton and their API (academic performance index).
- Provided statistical consulting for Nimisha Patel, a biology graduate student, in the summer of 2007.
- Faculty advisor for the Association of International Chinese Students from fall 2006 to 2010.
- Faculty advisor for VNCARES fall 2007 to 2013.
- Volunteered in various activities organized by Chinese Cultural Society of Stockton, such as Chinese New Year Festival (2008-present).

## Membership

- Mathematical Association of America (MAA)