

# Curriculum Vitæ

for

## Helmut Knaust

Associate Professor

Department of Mathematical Sciences

The University of Texas at El Paso

<http://www.math.utep.edu/Faculty/helmut/cv/cv.pdf>

January 2012

### 1 Education

**1983–1989** The University of Texas at Austin. Studies in Mathematics.

Degree: Ph.D., Mathematics, Spring 1989. Advisor: Haskell P. Rosenthal.

**1977–1983** Rheinische Friedrich-Wilhelms Universität, Bonn, Germany. Studies in Mathematics, Economics and Educational Sciences.

Degree: Diplom-Mathematiker, Spring 1983.

**1974–1977** Universität Bielefeld, Germany. Studies in Mathematics and Economics.

### 2 Academic Appointments

**1997–present** Associate Professor at The University of Texas at El Paso.

**1991–1997** Assistant Professor at The University of Texas at El Paso.

**1989–1991** Visiting Assistant Professor at Oklahoma State University, Stillwater OK.

**1983–1989** Teaching Assistant, Assistant Instructor and Research Assistant at The University of Texas at Austin.

### 3 Administrative Appointments

**2003–2008** Chair, Department of Mathematical Sciences, The University of Texas at El Paso.

**2001–2003** Associate Dean, Colleges of Science and Engineering, The University of Texas at El Paso.

**2001–2003** Director of *CircLES*, the Entering Students Program for Science, Engineering and Mathematics, The University of Texas at El Paso.

### 4 Honors

**2011** *Outstanding Performance in Securing Extramural Funding*, Office of Research and Sponsored Projects, The University of Texas at El Paso.

**2004–2005** UTEP AWARE, Class XIV.

**2004** *Jack R. Bristol* Teaching Award, College of Science, The University of Texas at El Paso.

**2003** *Project Kaleidoscope Faculty 21*, Class of 2003.

**1975–1980** *Studienstiftung des Deutschen Volkes*, Scholarship.

## 5 Professional Societies

**2011–present** *Academy of Inquiry-Based Learning*, Member.

**2004–present** *Greater El Paso Council of Teachers of Mathematics*, Member.

**1997–present** *Mathematical Association of America*, Member.

**1983–present** *American Mathematical Society*, Member.

## 6 Consulting

**2009–2011** Universidad del Bío-Bío, Concepción, Chile. Student success consulting. (With B. Flores and S. Rodriguez.)

**2009** Department of Mathematics and Statistics, Texas A&M University - Corpus Christi. External Evaluator.

**2008** Universidad Católica de Temuco, Temuco, Chile. Consulting visit. (With B. Flores.)

**2006** *A Model Institution for Excellence* Dissemination Workshop: Pathways to Success in STEM Education, The University of Texas at El Paso. Facilitator.

**2005** Faculty Development Workshop, School of Science and Technology, Norfolk State University, Norfolk VA. (With B. Flores and J. Ramos.)

**1994–present** Book and software reviews for *Cengage Learning*, *Harcourt*, *Brace & Co.*, *McGraw-Hill* and *John Wiley & Sons, Inc.*

## 7 Teaching Experience

### A. Graduate Courses in Mathematics

**1–2** Applied Mathematics [Discrete Wavelets and Applications; Theory of Ordinary Differential Equations]

**3** Principles of Analysis

**4** Real Variables

**5** Technology in the Mathematics Classroom

**6** Logic and Proof

**7** Calculus and Analysis

**8** Number Theory and Algebra

**9** Graduate Seminar [Numbers]

### B. Undergraduate Courses in Mathematics

**10** Precalculus

**11–12** Mathematics for Social Sciences I–II

**13–15** Calculus I–III

**16** Linear Algebra and Differential Equations

**17** Differential Equations

**18** Matrix Algebra

**19–20** Applied Analysis I–II

**21** Introduction to Higher Mathematics

**22** Principles of Mathematics

**23** Introduction to Analysis

**24** Fundamental Mathematics from an Advanced Standpoint

**25** Real Analysis

### C. Other Graduate Courses

**26** *LSAMP Bridge to the Doctorate* Seminar

#### **D. Other Undergraduate Courses**

- 27–28 Freshmen Seminar [Scientific Revolutions;  
Boolean Algebras]      29 Introduction to Science and Engineering  
30 Science Seminar (Coordinator)

### **8 Service**

#### **A. University Service**

- 2006–2007 “UTEP Math Summit”, Member.  
2006 Hiring Committee, Research Associate for the College Readiness Program, Member.  
2005 Hiring Committee, Director of Assessment and Testing, Member.  
2005–2008 University College Curriculum Committee, Member.  
2002–2003, 2005–2008 Developmental Education Committee, Member.  
2004–2005 *Teachers for a New Era* Core Curriculum/Learning Communities Group, Member.  
2004–2005 UTEP Centennial Task Force for Student Success, Member;  
“Leavers” sub-committee, Member.  
2004–2008 Entering Students Program Advisory Committee, Member.  
2004–2008 *Border Biomedical Research Center*, Institutional Advisory Board, Internal Member.  
2004 Core Curriculum Committee, Member.  
2004 *Texas Success Initiative* Task Force, Member.  
2002–2004 Learning Communities Advisory Committee, Member.  
2001–2003 University Calendar Committee, Member.  
2001–2003 University 1301 Steering Committee, Member; Evaluation sub-committee, Member; Proposal Review sub-committee, Member.  
1996–1998 Faculty Senate, Member.  
1996–1998 *A Model Institution for Excellence* Curriculum Steering Committee, Member; Mathematics Curriculum sub-committee, Member.  
1995 *A Model Institution for Excellence* Freshmen Seminar Planning Committee, Member.

#### **B. College Service**

- 2003–2007 CircLES Liaison.  
2002–2003 CircLES Advisory Committee, Chairman.  
2000 Tenure and Promotion Committee, Member.

#### **C. Departmental Service**

- 2008–present Program Assessment Committee, Co-chair.  
2008–present *Peer-Led Team Learning (PLTL)* Coordinator for the Precalculus course.  
2008–present Graduate Advisor for non-cohort MAT students.  
2004–2011 Undergraduate Advisor, 2004/05 cohort.  
2004–2005 Strategic Planning Committee, Chair.  
2003–2008 Department Chair.  
2000–2001 Hiring Committee, Chairman.  
1998–2000 Graduate Advisor.

**1997–2003** Chairman’s Advisory Committee, Member.  
**1996–1997** NASA MU-SPIN Web Project, Department Faculty Liaison.  
**1995–1998** Graduate Recruiting Committee, Chairman.  
**1995–1998, 2000–2002** Teaching Effectiveness Committee, Member.  
**1994** Departmental Self-Assessment Committee, Member.  
**1993–1995** Undergraduate Advisor.  
**1992–1996** Mathematics Colloquium Coordinator.  
**1992–1996** Mathematics Research Seminar Coordinator.  
**1992–1995** Graduate Recruiting Committee, Member.  
**1991–1995, 2000–2003** Undergraduate Curriculum Committee, Member.

#### **D. M.S. Thesis Supervised**

**2011–present** Adrian Delgado (M.S. Mathematics)

#### **E. Student Service**

**2008–present** Graduate Advisor for non-cohort MAT students.  
**2007** Ph.D. Thesis Committee Member for Hector Ochoa (Computer Engineering).  
**2004–2011** Undergraduate Advisor, 2004/05 cohort.  
**2001–2003** Director of *CircLES*, the Entering Students Program for Science, Engineering and Mathematics.  
**1998–2010** *Master of Science* Thesis Committee Member for eight students  
**1998–2000** Graduate Advisor.  
**1995–2011** Supervised numerous individual studies courses in Advanced and Functional Analysis.  
**1994, 1998, 2003** *Master of Arts in Teaching* Committee Member for three students.  
**1993–1995** Undergraduate Advisor.  
**1993–2011** Administered 14 Master’s Examinations to 21 students.

#### **F. Professional Service**

**2011** Referee for *Control and Cybernetics*.  
**2005–present** *Rocky Mountains Mathematics Consortium* Board of Directors, Member.  
**2004–2007** Referee for the *Journal of Applied Analysis*.  
**2003–2006** Referee for the *International Journal of Mathematics and Mathematical Sciences*.  
**1991–1997** Referee for the *Proceedings of the American Mathematical Society*.

#### **G. Other**

**2006–2008** *El Paso T-STEM Center Partners’ Leadership Group*, Member.  
**2006** *El Paso Mathematics Summit*. Planning Committee, Member.  
**2005** *Teachers for a New Era*. Author of 52 practice exam questions for TExES Exam 115.  
**2004–2005** *El Paso Collaborative for Academic Excellence*, K–16 Mathematics Alignment Working Group, Member.

## 9 Professional Activities

### A. Research-related Activities

#### *Talks:*

- 1998 The University of Texas at El Paso, Research Seminar. “*Lambda-Hyperconvexity in Metric Spaces.*”
- 1994 New Mexico State University, Las Cruces, Colloquium. “*Infinite Ramsey theory and its applications in Banach space theory.*”
- 1994 The University of Missouri at Columbia, Conference: The Interaction Between Functional Analysis, Harmonic Analysis and Probability. “*The Ramsey property in angelic spaces.*”
- 1993 The University of Texas at El Paso, Research Seminar. “*Angelic spaces with the Ramsey property.*”
- 1992 The University of Texas at El Paso, Research Seminar. “*Array convergence in angelic spaces.*”
- 1991 The University of Texas at El Paso, Research Seminar. “*The unconditional basic sequence problem à la Gowers.*”
- 1991 The University of Texas at El Paso, Colloquium. “*Applications of Ramsey theory to Banach space geometry.*”
- 1989 The University of Missouri at Columbia, Colloquium. “*Uniform structures in infinite-dimensional Banach space theory.*”

#### *Workshop Participation:*

- 1996 *Special Concentration Week on “Infinite Dimensional Convex Geometry”.* Mathematical Sciences Research Institute, Berkeley CA.
- 1992 *International Research Workshop on Banach Space Theory.* Universidad de los Andes, Mérida, Venezuela.
- 1988 *Microprogram on the Structure of Banach spaces.* Mathematical Sciences Research Institute, Berkeley CA.

#### *Conference Participation:*

- 2009 *Joint Meeting of the American Mathematical Society-Mathematical Association of America.* Washington DC.
- 2006 *Joint Meeting of the American Mathematical Society-Mathematical Association of America.* San Antonio TX.
- 1997 *Joint Meeting of the American Mathematical Society-Mathematical Association of America.* San Diego CA.
- 1995 *Joint Meeting of the American Mathematical Society-Mathematical Association of America.* San Francisco CA.
- 1994 *The Interaction between Functional Analysis, Harmonic Analysis and Probability.* University of Missouri, Columbia MO.
- 1990 *Regional Conference of the American Mathematical Society.* University of North Texas, Denton TX.
- 1988 *Banach Spaces and the Geometry of Convex Bodies.* University of Alberta, Banff, Canada.
- 1985 *Conference on Banach Spaces and Classical Analysis.* Kent State University, Kent OH.

## B. Teaching-related Activities

### Talks:

- 2012** *Joint Meeting of the American Mathematical Society-Mathematical Association of America*, Boston MA. Contributed Talk, MAA Session on Wavelets in Undergraduate Education. “*Smoke Detection in Stationary Video Using Wavelets.*”
- 2012** *Joint Meeting of the American Mathematical Society-Mathematical Association of America*, Boston MA. Contributed Talk, MAA Session on Wavelets in Undergraduate Education. “*Undergraduate Research Projects on Wavelet-Based Time Series Forecasting.*” (With B. Atwood, C. Haddad, and J. Merkel.)
- 2011** *MathFest of the Mathematical Association of America*, Lexington KY. Contributed Talk, Session on First Year Seminar/First Year Experience Mathematics Courses. “*Two First Year Seminar Course Designs for Science and Mathematics Majors.*”
- 2011** *Meeting of the Southwestern Section of the Mathematical Association of America*, Eastern New Mexico University, Roswell NM. Contributed Talk. “*A Capstone Course for Future High School Mathematics Teachers.*”
- 2011** *Joint Meeting of the American Mathematical Society-Mathematical Association of America*, New Orleans LA. Contributed Talk, MAA Session on Wavelets in Undergraduate Education. “*Lloyd-Max Quantization Schemes.*”
- 2010** *Meeting of the Southwestern Section of the Mathematical Association of America*, Scottsdale Community College, Scottsdale AZ. Contributed Talk. “*Teaching a Discrete Wavelet Transformations Course.*”
- 2010** *Joint Meeting of the American Mathematical Society-Mathematical Association of America*, San Francisco CA. Contributed Talk, MAA Session on Wavelets in Undergraduate Education. “*A Module for the Construction of Scaling Functions using the Cascade Algorithm*”. (With J. Rock, D. Ruch, K. Hoover, and R. Zarnowski.)
- 2009** *MathFest of the Mathematical Association of America*, Portland OR. Contributed Talk, Session on the Effective Use of Dynamic Mathematical Software in the Classroom. “*Exploring Machin’s Approximation of  $\pi$* ”.
- 2009** “*Wavelets and Applications: A Multi-Disciplinary Undergraduate Course with an Emphasis on Scientific Computing*”, University of South Florida, Tampa FL. Invited Presenter. “*Student Projects in a Discrete Wavelets Transform Course*”.
- 2009** *Joint Meeting of the American Mathematical Society-Mathematical Association of America*, Washington DC. Contributed Talk, MAA Session on Wavelets for Undergraduates. “*Zooming in on a Transformed Image: a Project for Students*”. (With C. Haddad and D. Haile.)
- 2008** Fall Conference of the Greater El Paso Council of Teachers of Mathematics, El Paso TX. Contributed Talk. “*Math in the News: Perfect Numbers and Mersenne Primes*”.
- 2007** Fall Conference of the Greater El Paso Council of Teachers of Mathematics, El Paso TX. Contributed Talk. “*S.O.S. Mathematics and Some Other Math Help Sites on the Internet*”.
- 2005** Teaching and Learning Seminar, The University of Texas at El Paso. “*The Moore Method.*”
- 2004** SUN Conference on Teaching and Learning, The University of Texas at El Paso, Contributed Talk. “*Mathematics as an Experimental Laboratory Science*”. (With A. Duval.)
- 2003** Meeting of the Southwestern Section of the Mathematical Association of America, New Mexico Institute of Mining and Technology, Socorro, Contributed Talk. “*That Student Is Taught the Best Who Is Told the Least.*”

- 2003** International Network of Education Technology Conference 2003, The University of Texas at El Paso, Contributed Talk. “*Teaching Algebra with Spreadsheets*”.
- 2002** Conference for the Advancement of Science Teaching 2002, The University of Texas at El Paso, Contributed Talk. “*S.O.S Mathematics: Helping Math Students On the Internet*”. (With M.A. Khamsi and N. Marcus.)
- 2002** Fifteenth International Conference on Technology in Collegiate Mathematics, Orlando FL, Contributed Talk. “*S.O.S Mathematics—Helping Math Students Through the Internet*”. (With M.A. Khamsi and N. Marcus.)
- 2002** SUN Conference on Teaching and Learning, The University of Texas at El Paso, Contributed Talk. “*The Moore Method—A Tradition of Active Student Learning in Mathematics*”. (With A. Duval.)
- 2002** International Network of Education Technology Conference 2002, The University of Texas at El Paso, Contributed Talk. “*S.O.S Mathematics—A Mathematics Help Site on the Internet*”. (With N. Marcus.)
- 1999** The University of Texas at El Paso, Talk for Club Zero. “*The Hunt for Mersenne Primes*.”
- 1998** Eleventh International Conference on Technology in Collegiate Mathematics, New Orleans LA, Contributed Talk. “*S.O.S. Mathematics—Students Review Mathematical Concepts on the Internet*”.
- 1998** The University of Texas at El Paso, Neat Networks Conference, Contributed Talk. “*S.O.S. Mathematics*.” (With M.A. Khamsi.)
- 1997** The University of Texas at El Paso, Talk for Club Zero. “*The CORDIC Algorithm*.”
- 1997** The University of Texas at El Paso, Colloquium. “*Differential Equations Reform*.” (With M.A. Khamsi.)
- 1997** Meeting of the Southwestern Section of the Mathematical Association of America, New Mexico State University, Grants, Contributed Talk. “*How Do Calculators Calculate?*”
- 1996** Universidad Autónoma de Ciudad Juárez, Student Colloquium for *Proyecto Abel*. “*Combinatorics in Geometry and Analysis*.”
- 1995** The University of Texas at El Paso, Talk for *Club Zero*. “*An Introduction to Ramsey Theory*.”
- 1995** Universidad Autónoma de Ciudad Juárez, Student Colloquium for *Proyecto Abel*. “*Measure Theory: From Archimedes to Lebesgue*.”

#### **Workshop Participation:**

- 2008–2011** *Discrete Wavelets Transform Workshop*, directed by C. Bénéteau, C. Haddad, D. Ruch and P. Van Fleet. Madison WI, Portland OR, Pittsburgh PA, and Minneapolis MN.
- 2008** “*Inquiry-Based Learning with a Focus on Number Theory: a Transitions-to-Proof Course*”, directed by M. Starbird, E. Odell, D. Marshall and S. Nichols. University of Texas at Austin, Austin TX.
- 2007** “*Wavelets and Applications: A Multi-Disciplinary Undergraduate Course with an Emphasis on Scientific Computing*”, directed by P. Van Fleet. University of St. Thomas, St. Paul MN.
- 2006** Inquiry-Based Learning Workshop, directed by S. Yoshinobu. Costa Mesa CA.
- 1997** Advanced Cooperative Learning Workshop, directed by K. Smith. Cloudcroft NM.
- 1997** Cooperative Learning Workshop, directed by E.J. Holubec. Cloudcroft NM.
- 1996** NSF Faculty Enhancement Workshop “*Teaching Differential Equations Using a Dynamical Systems Perspective*”, directed by P. Blanchard and R. Delaney. Oberlin College, OH.

#### **Other Conference Participation:**

- 2011** Annual “Legacy of R.L. Moore” Conference. Washington DC. Invited Participant.
- 2008** MathFest of the Mathematical Association of America, Madison WI.
- 2005** Meeting of the Southwestern Section of the Mathematical Association of America, The University of Texas at El Paso.

- 2003–2008, 2010** Annual “Legacy of R.L. Moore” Conferences. Austin TX. Invited Participant.
- 2001** Meeting of the Southwestern Section of the Mathematical Association of America. New Mexico State University, Las Cruces.
- 1996–1997** International Conference on Technology in Collegiate Mathematics. Reno NV and Chicago IL.
- 1995** Meeting of the Southwestern Section of the Mathematical Association of America. The University of Texas at El Paso.

***Outreach Activities:***

- 1998–present** Co-owner of *Math Medics, LLC*, publisher of “*S.O.S. Mathematics*”. (With M.A. Khamsi and N. Marcus.)
- 1996–present** Co-developer of the Internet site “*S.O.S. Mathematics*”. (With M.A. Khamsi and N. Marcus.)

**C. Service-related Activities**

***Conference Session Organized:***

- 2010** *MathFest of the Mathematical Association of America*, Pittsburgh PA. *Active Learning Intervention Strategies Accompanying Introductory Mathematics Courses*. Contributed Paper Session. (With C. Bénéteau, E. Schwab and G. Schwab.)

***Talks:***

- 2011** *ASEE/IEEE Frontiers in Education Conference*, Rapid City SD. Contributed Talk. “*Work in Progress: The Bridge to the Doctorate Experience: A Reflection on Best Practices and Project Outcomes.*” (With T. Aktosun, A. Arciero, B. Flores, and C. Villalobos.)
- 2011** *Institutional Service Project Directors Meeting*, Department of Education, Washington DC. Poster presentation. “*Cross Institutional Implementation of Supplemental Instruction.*” (With E. Schwab and G. Schwab.)
- 2011** *SUN Conference on Teaching and Learning*, The University of Texas at El Paso, El Paso TX. Contributed Talk. “*Program Assessment? Of course!*” (With Joe A. Guthrie.)
- 2011** *Joint Meeting of the American Mathematical Society-Mathematical Association of America*, New Orleans LA. Contributed Talk, MAA Session on Using Program Assessment to Improve Student Learning. “*Course-based Program Assessment.*” (With Joe A. Guthrie.)
- 2010** *National Conference on Students in Transition*, Houston TX. Poster presentation. “*How to increase the student success in Precalculus courses.*” (With E. Schwab and G. Schwab.)
- 2010** *ASEE/IEEE Frontiers in Education Conference*, Washington DC. Contributed Talk. “*Work in Progress: International Experiences for Undergraduate Scholars through the University of Texas System Louis Stokes Alliance for Minority Participation*”. (With A. Arciero and B. Flores.)
- 2010** *MathFest of the Mathematical Association of America*, Pittsburgh PA. Contributed Talk. “*A Supplemental Instruction Model for Precalculus.*” (With E. Schwab and G. Schwab.)
- 2010** *ASEE Annual Conference & Exposition*, Louisville KY. Contributed Talk. “*Implementing Peer Led Team Learning in Gateway Science and Mathematics Courses for Engineering Majors.*” (With B. Flores, J. Becvar, A. Darnell, J. Lopez and J. Tinajero.)
- 2010** *Meeting of the Southwestern Section of the Mathematical Association of America*, Scottsdale Community College, Scottsdale AZ. Contributed Talk. “*Supplemental Instruction for the Precalculus Course*”. (With G. Schwab and E. Schwab.)
- 2010** Professional Development Session, El Paso Community College. “*Implementing Supplemental Instruction in Precalculus Courses at EPCC.*” (With G. Schwab, E. Schwab, A. Bogdan\* and O. Mace-

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\*Student presenters

do\*.)

- 2009** Presentation at Luncheon for the Hon. Louis Stokes. “*UT System LSAMP Major Accomplishments.*” The University of Texas at San Antonio, San Antonio TX.
- 2009** *MathFest of the Mathematical Association of America*, Portland OR. Contributed Talk. “*Cross-Institutional Implementation of Supplemental Instruction.*” (With G. Schwab and E. Schwab.)
- 2009–2010** External Advisory Board meeting (NSF-STEP grant). The University of Texas at El Paso, El Paso TX. “*Peer-Led Team Learning for Precalculus.*”
- 2009** SUN Conference on Teaching and Learning, The University of Texas at El Paso, El Paso TX. Contributed Talk. “*Peer-Led Supplemental Instruction for Calculus.*” (With E. Schwab, O. Macedo\* and M. Pugh\*.)
- 2009** Annual Conference on The First-Year Experience, Orlando FL, Poster Presentation. “*Modular Delivery and Supplemental Instruction (SI) for the Calculus Course.*” (With E. Schwab, M. Fuentes\* and O. Macedo\*.)
- 2009** *Joint Meeting of the American Mathematical Society-Mathematical Association of America*, Washington DC. Contributed Talk, MAA Session on Building Diversity in Advanced Mathematics: Models that Work. “*Modular Delivery and Peer-Led Team-Learning for Precalculus.*”. (With E. Schwab.)
- 2007** *Parkland High School*, Ysleta Independent School District, El Paso TX. Presentation. “*Getting Ready To Study Mathematics, Science and Engineering at UTEP.*”
- 2006** SUN Conference on Teaching and Learning, The University of Texas at El Paso, Contributed Talk. “*How to Increase the Pass Rate in Calculus.*”. (With N. Marcus and E. Schwab.)
- 2006** Fall Conference of the Greater El Paso Council of Teachers of Mathematics, El Paso TX. Contributed Talk. “*Studying Engineering, Mathematics and Science at UTEP.*”. (With B. Flores.)
- 2006** The University of Texas at El Paso. *Math 1319 “Mathematics in the Modern World”* Workshop, Presentation.
- 2005** The University of Texas at El Paso. “*Student Outcomes in Mathematics.*”. (With A. Duval.)
- 2004** Annual Conference on The First-Year Experience, Addison TX, Contributed Talk. “*Getting Ahead in First-Year Mathematics College Courses.*” (With B. Flores, N. Marcus and D. Ward.)
- 2003** Summer Institute of the National Learning Communities Project, Olympia WA, Contributed Talk. “*CircLES: The Entering Students Program in Science and Engineering.*”. (With B. Flores, D. Ward and C. Willermet.)
- 2003** Meeting of the Southwestern Section of the Mathematical Association of America, New Mexico Institute of Mining and Technology, Socorro, Contributed Talk. “*Placing More Freshmen Into College-level Mathematics Courses.*”
- 2002** Conference for the Advancement of Science Teaching 2002, El Paso TX, Contributed Talk. “*CircLES at UTEP.*”. (With S. Chopra, E.L. Dahl, O. Lockett\*, A. Pineda and N. Villa\*.)
- 2002** Southwest Regional Learning Communities Conference, Tempe AZ, Contributed Talk. “*Learning Communities—It’s a Team Effort: Lessons Learned From Five Perspectives.*” (With T. Brady, C.K. Della-Piana, B. Flores, C. Flores, C. Rodriguez\* and A. Swift.)
- 2002** Twenty-First Annual Conference on The First-Year Experience, Orlando FL, Contributed Talk. “*An Academic Model for SEM Student Success in Urban Commuter Institutions.*”. (With C.K. Della-Piana, B. Flores and R. Gómez.)

#### **Workshop Participation:**

- 2010** *Annual Peer-Led Team Learning Leadership Conference and Workshop on Leader Training.* Morehouse College, Atlanta GA.
- 2010** *Texas STEP Workshop*, directed by J. Kimball. Dallas TX.

- 2006** PMET Workshop “*Mathematical Preparation of Elementary Teachers*”, directed by J. Evans and B. Madison. El Paso Community College, El Paso TX.
- 2005** “*Algebra II Scoring Workshop*”, Math and Science Partnership. El Paso TX.
- 2004** “*Workshop on Mentoring and Nurturing Students*”, American Mathematical Society. Tucson AZ.
- 2004** “*Leading the Academic Department: A Workshop for Chairs of Mathematical Sciences Departments*”, Mathematical Association of America. Washington DC.
- 2004** “*Faculty 21 Leadership Institute*”, Project Kaleidoscope. The Baca Campus of the Colorado College, Crestone CO.
- 2003** “*Ensuring the Success of Under-represented Groups in STEM Learning Environments*”, Project Kaleidoscope Assembly. Rowan University, Glassboro NJ.
- 2003** Summer Institute, National Learning Communities Project. Evergreen State College, Olympia WA.

***Other Conference Participation:***

- 2010** “Second International Conference on Science in Society”, Universidad Carlos III de Madrid, Leganés, Spain.
- 2009, 2011** “World Science Forum”. Budapest, Hungary.
- 2008** “MSEIP Preapplication Workshop”, Department of Education, Dallas TX.
- 2008–2010** “STEP PI Grantee Meeting”, National Science Foundation. Arlington VA.
- 2007, 2009, 2011** University of Texas System Louis Stokes Alliance for Minority Participation Student Research Conference. San Antonio TX, Austin TX, and Arlington TX.
- 2007–2010** “Joint Annual Meeting”, National Science Foundation. Washington DC.
- 2007** “Preparing Mathematics Teachers To Make a Difference: Why Teacher Education Matters”, Policy Forum, The Education Policy Center at Michigan State University. Washington DC.
- 2005** “A Catalyst for Change” Conference, UT System Louis Stokes Alliance for Minority Participation. Dallas TX.
- 2005** “Western Regional CSEMS meeting”, National Science Foundation, Oakland CA.
- 2005** “Math and Science Partnership Learning Network Conference”, National Science Foundation. Washington DC.
- 2004** “Teachers for a New Era Institute: Engagement of the Arts and Sciences”, Carnegie Corporation of New York. Washington DC.
- 2002** Engineering and Computing Education Grantees Conference, National Science Foundation. Washington DC.

***Other:***

- 2007** *Tornillo High School*, Tornillo Independent School District, Tornillo TX. Mathematics Competition Judge.
- 2007** “Math Emporium”, Virginia Polytechnic Institute and State University, Blacksburg VA. Visit. (With S. Aley and C.D. Lujan.)

**10 Grants, Fellowships and Awards**

**A. Active Grants**

- 2011–2013** National Science Foundation, Co-PI. “*UT Alliance Bridge to the Doctorate Program (Cohort 2011–2013)*”. With B. Flores (PI), and P. Nava. Funded in the amount of \$987,000.

- 2010–2012** *National Science Foundation*, Co-PI. *UT System Alliance: Bridge to the Doctorate Cohort VIII* (HRD-1026806). With B. Flores (PI), T. Aktosun, and Ph. Cohen. Funded in the amount of \$987,000.
- 2007–2012** *National Science Foundation*, Co-PI. “*An Integrative Science Success, Teaching and Retention Program.*” (DUE-0653270). With J. Becvar (PI), B. Flores (PI until 2010), J. Lopez, and J. Tinajero. Funded in the amount of \$1,964,912.
- 2007–2012** *National Science Foundation*, Co-PI. “*UT System LSAMP Phase IV.*” (HRD-0703584). With B. Flores (PI). Funded in the amount of \$4,991,436.

## **B. Recent Grant Applications**

- 2011** *National Science Foundation*, Co-PI. “*UT System Louis Stokes Alliance for Minority Participation: A Senior Model Alliance Focused on Student Success.*” With B. Flores (PI), Ph. Cohen, and C. Vilalobos. Funding requested in the amount of \$4,000,000. Pending.
- 2011** *US Department of Education*, APD, “*Retention Initiative for Math Majors (RIMM)*” (P120A110033). With E. Schwab (PD) and C.M. Mariani. Funding requested in the amount of \$642,024. Not funded.

## **C. Previous Grants**

- 2008–2011** *US Department of Education*, APD, “*MSEIP: Cross-Institutional Implementation of Supplemental Instruction*” (P120A080007). With G. Schwab (PD), P. Mitchell, J. Peeples, and E. Schwab. Funded in the amount of \$599,456.
- 2009–2011** *National Science Foundation*, Director and Co-PI. “*UT Alliance Bridge to the Doctorate Proposal - Cohort VI.*” (HRD-0929727). With B. Flores (PI). Funded in the amount of \$987,000.
- 2008–2010** *National Science Foundation*, Co-PI. “*UT Alliance Bridge to the Doctorate Proposal: Cohort V*” (HRD-0832951). With B. Flores (PI). Funded in the amount of \$987,000.
- 2005–2009** *US Department of Education*, APD, “*MSEIP: Modular Delivery and Supplemental Instruction for the Calculus course taken by all STEM majors*” (P120A050046). With E. Schwab (PD) and N. Marcus, funded in the amount of \$299,783.
- 2005–2008** *National Science Foundation*, Co-PI. “*The University of Texas System Louis Stokes Alliance for Minority Participation.*” (HRD-0217691). With B. Flores (PI), and P. Arenaz, funded in the amount of \$5,393,432.
- 2005–2007** *National Science Foundation*, Co-PI. “*Sustainability of best practices for minority STEM student retention and success.*” (EEC-0342041). With B. Flores (PI), Th. Brady, and R. Osegueda, funded in the amount of \$2,500,000.
- 2003–2007** *National Science Foundation*, Co-PI. “*Scholars for the Technical Workforce of the Future Program.*” (DUE-0324209). With R. Gutierrez (PI), and R. Osegueda, funded in the amount of \$400,000.
- 2004–2005** *Educational Advancement Foundation*, Mini-grant. “*Course development for the Introductory Analysis course.*” Funded in the amount of \$2,000.
- 2000** *Challenge 98*, The University of Texas at El Paso. “*Use of Technology in Calculus II.*” Funded in the amount of about \$5,300.
- 1997–1998** *A Model Institution for Excellence*, The University of Texas at El Paso. “*S.O.S. Mathematics*”. With M.A. Khamsi and N. Marcus, funded in the amount of about \$100,000.
- 1996–1997** *A Model Institution for Excellence*, The University of Texas at El Paso. “*Reforming the Differential Equations Course*”. With M.A. Khamsi, funded in the amount of about \$45,000.
- 1996–1997** *A Model Institution for Excellence*, The University of Texas at El Paso. “*S.O.S. Mathematics*”. With A. Duval, M.A. Khamsi and N. Marcus, funded in the amount of about \$140,000.

**1994–1995** *Teaching Effectiveness Grant*, The University of Texas at El Paso. “*Computer-assisted Classroom Instruction in Upper-division Mathematics Courses.*” Funded in the amount of \$4,400.

**1990** *National Science Foundation*, Young Investigator. “*Workshop in Linear Analysis and Probability*”(MCS DMS-8921369). Funded in the amount of \$8,260.

## 11 Publications

### A. Refereed Articles

- 1 Tuncay Aktosun, Ariana Arciero, Benjamin Flores, Helmut Knaust, and Cristina Villalobos. *Work in Progress - The Bridge to the Doctorate Experience: A Reflection on Best Practices and Project Outcomes*. Proceedings of the 41st ASEE/IEEE Frontiers in Education Conference, 2011.
- 2 Ariana Arciero, Benjamin Flores, and Helmut Knaust. *Work in Progress - International Conference Participation for Undergraduate Scholars through the University of Texas System Louis Stokes Alliance for Minority Participation*. Proceedings of the 40th ASEE/IEEE Frontiers in Education Conference, 2010.
- 3 Benjamin Flores, James Becvar, Ann Darnell, Helmut Knaust, Jorge Lopez and Josefina Tinajero. *Implementing Peer Led Team Learning in Gateway Science and Mathematics Courses for Engineering Majors*. Proceedings of the 2010 American Society for Engineering Education Annual Conference and Exposition, 2010.
- 4 Helmut Knaust. *Analysis on the Real Line*. Accepted for publication in the “Journal of Inquiry-Based Learning in Mathematics” (September 2009).
- 5 Connie Kubo Della-Piana, Ann Darnell, Julia Bader, Lilly Romo, Nohemi Rubio, Benjamin Flores, Helmut Knaust, Thomas Brady, and Andrew Swift. *A Longitudinal Study of Student Persistence in Science, Technology, Engineering, and Mathematics (STEM) at a Regional Urban University*. Proceedings of the 2003 American Society for Engineering Education Annual Conference and Exposition, 2003.
- 6 Benjamin C. Flores, Jana Renner Martínez, Helmut Knaust, Ann Darnell, Lilly Romo and Connie Kubo Della-Piana. *The Effectiveness of a Mathematics Review for Student Placement into College-Level Mathematics*. Proceedings of the 2003 American Society for Engineering Education Annual Conference and Exposition, 2003.
- 7 Lourdes Sánchez-Contreras, Rosa M. Gómez, Joseph Ramos, Benjamin C. Flores and Helmut Knaust. *Developing a learner centered environment to meet the needs of a growing urban commuter student population*. Proceedings of the 2003 American Society for Engineering Education Annual Conference and Exposition, 2003.
- 8 Benjamin C. Flores, Connie Kubo Della-Piana, Thomas Brady, Andrew Swift, Helmut Knaust and Jana Renner Martínez. *An Institutional Model for Student and Faculty Support*. Proceedings of the 2002 American Society for Engineering Education Annual Conference and Exposition, 2002.
- 9 M.A. Khamsi, H. Knaust, N.T. Nguyen and M.D. O’Neill. *Lambda-Hyperconvexity in Metric Spaces*. *Nonlinear Analysis* 43 (2001), 21-31.
- 10 H. Knaust, E. Odell and Th. Schlumprecht. *On Asymptotic Structure, the Szlenk Index and UKK Properties in Banach Spaces*. *Positivity* 3 (1999), 173-199.
- 11 Helmut Knaust. *Some isomorphic preduals of  $\ell_1$  which are isomorphic to  $c_0$* . *Rocky Mountains Journal of Mathematics* 27 (1997), 181-186.
- 12 H. Knaust. *Angelic spaces with the Ramsey property*. pp. 267–273, in: “Interaction Between Functional Analysis, Harmonic Analysis and Probability, Proceedings”, N. Kalton, E. Saab, S. Montgomery-Smith (eds.), Marcel Dekker, New York, 1995.

- 13 Helmut Knaust. *p-Hilbertian subsequences in  $\ell_1(X)$* . Contemporary Mathematics 144 (1993), 159–163.
- 14 Helmut Knaust. *Orlicz sequence spaces of Banach-Saks type*. Archiv der Mathematik 59 (1992), 562–565.
- 15 Helmut Knaust. *Array convergence of functions of the first Baire-class*. Proceedings of the American Mathematical Society 112 (1991), 529–532.
- 16 Helmut Knaust and Edward Odell. *Weakly null sequences with upper  $\ell_p$ -estimates*. pp. 85–107, in: “Functional Analysis, Proceedings, The University of Texas at Austin, 1987–89”, E. Odell, H. Rosenthal (eds.), Lecture Notes in Mathematics 1470, Springer-Verlag, Berlin, 1991.
- 17 H. Knaust and E. Odell. *On  $c_0$  Sequences in Banach Spaces*. Israel Journal of Mathematics 67 (1989), 153-169.

### B. Reviewed Articles

- 18 M.A. Khamsi, H. Knaust and N. Marcus. *S.O.S. Mathematics—Students Review Mathematical Concepts on the Internet*. In: “Proceedings of the Eleventh Annual International Conference on Technology in Collegiate Mathematics”, Addison-Wesley-Longman, 1999.

### C. Technical Reports

- 19 Helmut Knaust. *Multi-Resolution Analysis for the Haar Wavelet*. March 2009.
- 20 David Carrejo, Hamide Dunlap-Dogan, Art Duval, Helmut Knaust, Olga Kosheleva, Lawrence Lesser, Lucy Michal, Ori Rosen, Emil Schwab, Daniela Szatmari-Voicu, Mourat Tchoshanov, Matthew Windsor and Piotr Wojciechowski. *Practice Exam Questions for the Texas Examinations of Educator Standards [115 Mathematics 4–8]*. March 2006.