

Dr. Kastro M. Hamed

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1. Education:

PDB	2008	AACSB Post-Doctoral Bridge to Business University of Florida	Gainesville, FL, USA
MBE	2003	Mind, Brain, and Education Harvard University	Cambridge, MA, USA
Ph. D.	1999	Physics Kansas State University	(Phi Kappa Phi, GPA=4.00/4.00) Manhattan, Kansas, USA

Academic Specialization: Physics Education Research.

Major Advisor for Ph.D. studies and dissertation: Professor Dean A. Zollman.

Dissertation Title: INVESTIGATING THE STUDENTS' UNDERSTANDING OF SURFACE PHENOMENA.

M. S.	1991	Physics The University of Utah	Salt Lake City, Utah, USA
B. S.	1989	Physics/Mathematics Brigham Young University	Provo, Utah, USA

Academic and Professional Appointments:

2. The University of Texas at El Paso El Paso, TX 2002 – Current.
Assistant Professor of Physics and University Studies

3. Previous Professional Appointments:

The Richard Stockton College of NJ Pomona, NJ 2001 – 2002
Visiting Assistant Professor of Physics

Georgetown University: GU Washington, DC 1999 - 2001
Visiting Assistant Professor of Physics

Kansas State University: KSU Manhattan, Kansas, USA. 1997-1999
Graduate Research Assistant

Kansas State University Manhattan, Kansas, USA. 1995-1997

Graduate Teaching Assistant

Birziet University: BZU Birziet, West Bank. 1993-1995
Faculty Member in Physics

Al-Urdonia Secondary School Al-Bireh, West Bank. 1992-1993
(School for multicultural and bilingual students)
Teacher of Physics and Mathematics

University of Utah: U of U Salt Lake City, Utah 1989-1992
Graduate Teaching Assistant

Brigham Young University: BYU Provo, Utah 1986-1989
Undergraduate Teaching Assistant

3. Honors:

- Full four-year scholarship to pursue undergraduate study at Brigham Young University.
- Sigma Pi Sigma National Physics Honor Society - Brigham Young University in 1986.
- Received Outstanding Teaching Award in 1990 at the University of Utah.
- Received Outstanding Teaching Award in 1991 at the University of Utah.
- Awarded the Outstanding Teaching Assistant in Physics in 1996 at Kansas State University.
- Nominated and awarded membership of the American Academy of Distinguished Students in 1997.
- Invited and joined the honor society PHI KAPPA PHI in 1998.
- Elected by fellow graduate students to represent them on the Curriculum and Library Committee of the Physics Department in 1996/1997.
- Elected again to represent graduate students on the Advisory to The Department Chairman Committee 1997/1998.
- Nominated and served on a university committee at KSU to improve the TA orientation and teaching skills.
- Nominated and attended the AAPT New Faculty Workshop on the Physics and Astronomy Education in Maryland in Nov 2001.
- In 2005 the American Institute of Physics and the American Physical Society posters of the **2005 Noble Prize** in Physics featured as a reference the Visual Quantum Mechanics project which I participated in as a graduate student at Kansas State University.
- Invited and joined Sigma Xi Research Honor Society in May 2003.
- Became a fellow of the UTEP Advance Program.
- Nominated twice for Outstanding Teaching Awards in the College of Science.

Honors and Awards to Students I Mentored:

- Santonu Goswami received an APS/AAPT Travel Award in 2003: \$200.
- Anthony Borunda received an MSP project award in 2004: \$3000.
- Paula Alcazar received a NOYCE Scholar award in 2003/2004: \$5000.
- Adrian Mejia received a NOYCE Scholar award in 2003/2004: \$5000.
- Rogelio Mejia received a NOYCE Scholar award in 2003/2004: \$5000.

- Poornima Peri received the Cook Scholarship for Outstanding Physics Graduate Student: \$1000.
- Sheila Wafford and Rosa Hernandez received a joint MSP project award in 2004: \$4000.
- Jennifer Gursky received the MSP project Award in 2005: \$3000.

4. Research and Funding

A. Grants and Funding:

Submitted as PI, Co-PI, senior personnel, or content expert the following research proposals.

- 1. Grant:** Advanced Visual Quantum Mechanics
Funding Source: The National Science Foundation.
Amount: \$450,000.
My Role: Member of the brainstorming and draft preparing team, with Professor Dean Zollman as the PI.
Status: Funded in 1999.
Description: To develop the Visual Quantum Mechanics level 2 educational modules.
- 2. Grant:** Nanotechnology for Undergraduate Students.
Funding Source: The National Science Foundation.
Amount: \$120,000.
My role: Co-PI, with Professor Ed Van Keuren as PI (submitted in 2000).
Status: Not Funded.
Description: To mentor undergraduate senior students as they learn the basics of nanotechnology experimentation.
- 3. Grant:** Learning Communities for First Year Students at UTEP (3 submitted)
Funding Source: Institutional--University College at UTEP.
Amount: \$1,000 each (to be shared among participating instructors)
Status: *Three* proposals were submitted, and all three were funded, and each was shared with another instructor.
Description: To create a sense of community of learners among freshman students via establishing common assignments, activities, and syllabi among classes taken by first year college students.
- 4. Grant:** Paul Fiddler Research Grant for First Year Experience in 2005, again in 2006.
Funding Source: The National Resource Center for The First -Year Experience and Students in Transition.
Amount: \$5000.
Status: Not Funded.
Description: To document and analyze the experiences of freshman students enrolled in UNIV 1301 class.
- 5. Grant:** URI (2 submitted)
Funding Source: Institutional--UTEP.

Amount: \$3,000.

Status: One Funded, and one was not

Description: To study the impact of the MAT program on the participating during their first year of enrollment.

6. **Grant:** NaCENT National Center for Education in Nanoscience and Technology.

Funding Source: National Science Foundation.

Total Amount: \$14,475,218.

Status: Not funded, despite receiving several rounds of positive evaluation.

Description: To establish a national center for teaching and learning about nanoscience and technology. The center would be composed of a consortium of institutions of higher education with UTEP as one of these institutions, and I as a “local PI”.

7. **Grant:** NASA grant to support Space Science Research and Education endeavors.

Funding Source: NASA.

Total Amount: \$672, 000.

Funding period: 2004-2006

Status: Funded.

Description: I was Co-PI with Dr. Ramon Lopez, and Dr. Niescja Turner on a NASA grant to support Space Science Research and Education endeavors. A fraction of the budget was dedicated to educational endeavors such as continued professional development of science teachers via Summer workshops. I prepared and delivered three workshops and a total of 44 teachers participated. This proposal was fully funded.

8. **Grant:** Course, Curriculum and Laboratory Improvement (CCLI).

Funding Source: NSF.

Status: Not funded.

Description: With Drs. Hagedorn, Suskavevic, Blake, Saez, and Winsor, we submitted a CCLI proposal to NSF to fund improving the curriculum for the Physical Science I and II classes for pre-service elementary teachers.

9. **Grant:** Materials World Modules.

Funding Source: Department of the Army.

Amount: \$1,250,000.

Status: Funded.

Description: I was one of the faculty members listed on the Institutional Proposal By Dr. Pablo Arenaz and Dr. Brady to the Department of the army to create new modules based on the Materials World Modules of Northwestern University. The proposal was funded for \$1,250,000.00.

10. **Grant:** TNE.

Funding Source: the Carnegie Foundation of New York.

Amount: \$ 5,500,000.

Status: Funded.

Description: I am a member of the Assessment Committee and the Science Committee of the TNE: Teachers for New Era, however, I was not a PI nor Co-PI on this grant.

- 11. Grant:** Health Education.
Funding Source: Center for Border Health Research.
Amount: \$70,000.
Status: Not funded.
Description: To study the dietary habits of freshman students.
- 12. Grant:** Gk-12:
Funding Source: National Science Foundation
Amount: \$ 1,780,000
Status: Funded
Description: I was on the “Brain-storming team” with Dean Brady to generate the ideas to draft a proposal for funding.
- 13. Grant:** ADVANCE IMPACT
Funding Source: National Science Foundation through UTEP’s Institutional ADVANCE
Amount: \$3,000.
Status: Funded
Description: A two-year fellowship to participate in the program IMPACT.
- 14. Grant:** Paul Fiddler Research Grant for First Year Experience in 2007.
Funding Source: The National Resource Center for The First –Year Experience and Students in Transition.
Amount: \$5000.
Status: Not funded.
- 15. Grant:** Community Outreach in Health science Education
Funding Source: College of Health Sciences at UTEP.
Amount: \$10,000.
My role: Co-PI.
Status: Funded
Description: To develop and deliver a set of health education modules to students in Canutillo High School.

B. Publications:

Refereed Publications: (Published/in press/in review)

1. Lopez, R. E., and **Hamed, K.**, *Student interpretations of 2-D and 3-D renderings of the sub-storm current wedge.* Journal of Atmospheric and Solar Terrestrial Physics 66 (2004) 1509-1517.
2. **Hamed, Kastro M.** *A Simple Activity to Facilitate Proportional Reasoning in the Contexts of Density, Dissolving and Nano-particles.* Journal of College Science Teaching. Vol. 38, Sept/Oct 2008, 28 -31.
3. **Hamed, Kastro M.**, *Do You Prefer to Have the Text or a Sheet with Your Physics Examination?* The Physics Teacher. Vol. 46, May 2008, 290-293.
4. **Hamed, Kastro M.**, and Lopez, Ramon E. *Why Are You in Physics?* Paper in review for publication in The European Journal of Physics.

5. **Hamed, Kastro M,** Saleh, Suha M. *Utilizing a Science Fair Project to Illustrate the Nature of Science.* A Paper in review for publication at the Science and Children Journal.
6. **Hamed, Kastro M.,** *Pedagogical Tools to Help the Pre-Service k-8 Teachers Organize Their Ideas in an Inquiry-Based Physical Science Class.* A Paper submitted to the peer-reviewed section of the 2007 PERC Proceedings.
7. **Hamed, Kastro M.** *Investigating Students' Understanding of Surface Phenomena.* (1999) Ph.D. Dissertation.

Refereed Publications (in Preparation)

8. **Hamed, Kastro M.,** and Saleh, Suha M. *An outreach with Vision: Synergizing Teaching, Research, and Community Service in an Initiative Connecting a University and a Local High School.* A Paper in preparation for the Journal of Hispanic Higher Education.
9. **Hamed, Kastro M.,** Analyzing the Oil and Natural Gas Companies' Stock Fluctuations during Severe Weather Events in the Gulf of Mexico.
10. **Hamed, Kastro M.,** Turner, Niescja, and Goswami, Santonu. *How Much Time Do Students in Introductory Astronomy Spend Studying and How Does Self-Reported study Time Correlate with Achievement?* (Manuscript in Preparation) Paper to be submitted the Journal of Astronomy Education Review.
11. **Hamed, Kastro M.,** Goswami, Santonu, *Analyzing the fluctuations in the Self-Efficacy of Science Teachers enrolled in an MAT Program.* Manuscript to be submitted to Science Teacher Education Journal.
12. **Hamed, Kastro M.,** Saleh, Suha M. *Quantifying the Cognitive, Affective, and Behavioral Impacts of a Peer Assessed Reading-Assignments in an Introductory Biology Class.* Manuscript to be submitted to Journal of Research in Science Teaching.

Invited Talks and Workshops:

1. **Kastro M. Hamed** (2001, March). *Ideas for Improving Engineering Education by Incorporating More Hands-on Activities and Using Cognitively Sound Pedagogies.* A workshop given at the University of Michigan.
2. **Kastro M. Hamed** (2001, November). *Answering the What, Why, Who, How, Where, When Questions about Physics Education Research: A Panoramic View of an Emerging Field.* A talk given at the Richard Stockton College of New Jersey, Pomona, NJ.
3. **Kastro M. Hamed** (2002, November). *It Is Deeper than the Surface: Investigating Students Concepts of Surface Phenomena.* A talk given at the University of Texas at El Paso.
4. **Kastro M. Hamed** (2003, May). *Best Practices: Approaches to Increase the Retention and Success of Entering Freshman Students at UTEP.* A talk given at the University of Texas at El Paso.
5. **Kastro M. Hamed** (2003, September). *Why Are in Physics?* A Departmental Colloquium given at the New Mexico State University in Las Cruces, NM.
6. **Kastro M. Hamed** (2004, February). *Investigating Students Concepts of Surface Phenomena.* A Departmental Colloquium given at The Ohio State University in Columbus, Ohio.

7. **Kastro M. Hamed** (2005, February). *Connecting the Nature of Science and Science Education Endeavors*. A workshop given at the Graduate School of Education at the University of Massachusetts in Lowell, Massachusetts.
8. **Kastro M. Hamed** (2006, May). *Standing on the Shoulders of Giants and Best Practices for Learning Communities and Student Success*. A talk given at the University of Texas at El Paso.
9. **Kastro M. Hamed** (2007, March). *Physics Education Research and Applications*. A talk given at the University of Georgia, Athens, GA.
10. **Kastro M. Hamed** (2007, July). *A Panoramic View of Physics Education Research*. A talk given at Cornell University, Ithaca, NY.

Scholarly Presentations:

1. **Kastro M. Hamed** and Dean A. Zollman, (1996, August). *Utilizing Analogies in Teaching Quantum Mechanics*. Paper presented at the 1996 American Association of Physics Teachers National Summer Meeting. College Park, Maryland. [Abs.] AAPT Announcer, Vol.26, No.2, p.71.
2. **Kastro M. Hamed** and Dean A. Zollman, (1997, August). *Introducing Spin*. Paper presented at the 1997 American Association of Physics Teachers National Summer Meeting. Denver, Colorado. [Abs.] AAPT Announcer, Vol.27, No.2, p.125.
3. Dean A. Zollman, N. Sanjay Rebello, and **Kastro M. Hamed**, (1997). *Workshop: Hands on Quantum Mechanics*. Workshop given at the 1997 American Association of Physics Teachers National Summer Conference. Denver, Colorado. [Abs.] AAPT Announcer, Vol. 27, No. 2, p. 67.
4. **Kastro M. Hamed** and Dean A. Zollman, (1998, August). *Surface Science and Molecular Dynamics at the Introductory Level*. Paper presented at the combined 1998 Physics Education Research Conference/American Association of Physics Teachers National Summer Meeting. Lincoln, Nebraska. 1998 Physics Education Research Conference Proceedings, p101. Fuller, R. G & Kock, T.C. (editors).
5. **Kastro M. Hamed**, N. Sanjay Rebello, and Dean A. Zollman, (1998, August). *Toward Creating a Concept Inventory in Quantum Mechanics*. Poster presented at the 1998 AAPT National Summer Meeting in Lincoln, Nebraska.
6. Michael Thoreson, **Kastro M. Hamed** and Dean A. Zollman, (1998, January). *Integrating Research and Education*. Workshop given during the NSF Conference on "Shaping the Future" at Kansas State University, Manhattan, Kansas.
7. **Kastro M. Hamed** and Michael Thoreson, (1998, April). *Integrating Research and Education*. A workshop given in the twenty-ninth annual KATS KAMP in Junction City, Kansas. 1998 KATS KAMP Conference Proceedings, A Professional Conference for Science Teachers. Kansas Association of Teachers of Science is a state chapter of NSTA.
8. **Kastro M. Hamed** and Dean A. Zollman, (1998, October). *Investigating Students' Concepts of Surface Phenomena-the Pilot Study*. Paper presented at the meeting of Arkansas-Oklahoma-Kansas chapter of the American Association of Physics Teachers.
9. N. Sanjay Rebello, **Kastro M. Hamed**, and Dean A. Zollman, (1999, January). *Investigating Students' Understanding of Quantum Mechanics Using Concept Maps*. Paper presented at the 1999 American Association of Physics Teachers National Winter Meeting. Anaheim, California. [Abs.] AAPT Announcer, Vol. 28, No. 4, P. 80.

10. **Kastro M. Hamed** and Dean A. Zollman, (1999, August). *Investigating Students' Concepts of Surface Phenomena—Summary of the results*. Paper presented at the 1999 American Association of Physics Teachers National Summer Meeting. San Antonio, Texas. [Abs.] AAPT Announcer, Vol. 29, No. 2, p.94.
11. Dean A. Zollman, Michael Thoresen, and **Kastro M. Hamed**, (1999, August). Hands-on Quantum Mechanics. Workshop delivered at the American Association of Physics Teachers National Summer Meeting in San Antonio, Texas. [Abs.] AAPT Announcer, Vol. 29, No. 2, P. 59.
12. **Kastro M. Hamed**, (2001, January). *Student Evaluation of ActivPhysics*. Paper presented at the 2001 American Association of Physics Teachers National Winter Conference in San Diego, California. [Abs.] AAPT Announcer, Vol. 30, No.4, p. 108.
13. **Kastro M. Hamed**, (2001, June). *Instructional Technology between Dream and Reality: Reflections and Suggestions for Improvement*. Center for New Designs in Learning and Scholarship Report, Georgetown University. Washington, DC.
14. **Kastro M. Hamed**, (2002, January). *What Happens to the Spoon?* Paper presented at the 2002 American Association of Physics Teachers National Winter Meeting in Philadelphia, Pennsylvania. [Abs.] AAPT Announcer, Vol. 31, No. 4, p. 127.
15. **Kastro M. Hamed**, (2002, October). *The Application Portfolio as a Tool to Enhance Motivation and Assessment*. Paper presented at the Regional Texas Meeting of The American Association of Physics Teachers in Oct 2002 in Brownsville, Texas.
16. **Kastro M. Hamed**, (2003, January). *How Much Physics Information Should be Given on a Physics Test?* Paper presented at the 2003 American Association of Physics Teachers National Winter Meeting in Austin, Texas. [Abs.] AAPT Announcer, Vol. 32, No. 4, p. 114.
17. **Kastro M. Hamed**, (2003, January). *Critical Thinking from Day One*. Paper presented at the 2003 Sun Conference on Teaching and Learning in El Paso, Texas.
18. **Kastro M. Hamed**, Leslie C. Arciniega, Ramon E. Lopez, and Niescja E. Turner, (2003, August). *Why Are You in Physics?* Paper presented at the 2003 American Association of Physics Teachers National Summer Meeting in Madison, Wisconsin. [Abs.] AAPT Announcer, Vol. 33, No. 2, p. 103.
19. Niescja E. Turner, **Kastro M. Hamed**, and Ramon E. Lopez, (2003, August). *Space Weather in Introductory Astronomy*. Paper presented at the 2003 American Association of Physics Teachers National Summer Meeting in Madison, Wisconsin. [Abs.] AAPT Announcer, Vol. 33, No. 2, p. 153.
20. Santuno Gozwami, and **Kastro M. Hamed**, (2003, October). *What Is the Relationship between Self-Reported Study Time and Achievement?* Paper presented in the Texas APS/AAPT section meeting in Lubbock, Texas.
21. Ramon E. Lopez, Niescja Turner, and **Kastro M. Hamed**, (2003, November). *Student Interpretation of Space Science Imagery and Representations*. Paper presented at the AGU meeting in San Francisco, California.
22. Niescja Turner, Ramon E. Lopez, and **Kastro M. Hamed**, (2004, January). *Effectiveness of GeoWall Technology in Conceptualizing Lunar Phases*. Paper presented at the 2004 American Association of Physics Teachers National Winter Meeting in Miami Beach, Florida. [Abs.] AAPT Announcer, Vol.33, No. 4, p.109.
23. **Kastro M. Hamed**, Ramon E. Lopez, Niescja Turner, and Jana R. Martinez, (2004, January). *Bringing Space Science Research to School Science Teachers*. Paper presented

- at the 2004 American Association of Physics Teachers National Winter Meeting in Miami Beach, Florida. [Abs.] AAPT Announcer, Vol. 33, No. 4, p. 116.
24. **Kastro M. Hamed.** (2004, March). *The MAT program: Circles within Circles of Collaborative Teaching and Learning Efforts*. Paper presented at the Sun Conference for Teaching and Learning in El Paso, Texas.
 25. Adrian Mejia and **Kastro M. Hamed.** (2004, April). *Perception of Females' Preference Concerning Biology and Engineering Majors as Career Choices*. Poster Presented at the 2004 Student Research Expo at the University of Texas at El Paso.
 26. Antonio Borunda, **Kastro M. Hamed**, Sally Blake, and Mourat Tchoshanov. (2004, April). *Developing and Implementation of a Balanced Conceptual and Procedural Curriculum in Algebra Classes at a Predominantly Hispanic Populated High School to Increase the Success Rate of Students Passing the End of Course Exam Mandated by the State of Texas (BCPC)*. Poster Presented at the 2004 Student Research Expo at the University of Texas at El Paso.
 27. Rogelio H. Mejia and **Kastro M. Hamed.** (2004, April). *Faculty and Students' Perceptions of the Role of Pedagogical Training in an Undergraduate Engineering Curriculum*. Poster Presented at the 2004 Student Research Expo at the University of Texas at El Paso.
 28. Paula C. Alcazar and **Kastro M. Hamed.** (2004, April). *The Students' Perceptions of Barriers to Learning Mathematics*. Poster Presented at the 2004 Student Research Expo at the University of Texas at El Paso.
 29. Niescja Turner, Ramon Lopez, **Kastro M. Hamed**, D. Corralez, and C. Gray. (2004, July). *Effectiveness of Geo-Wall Technology in Conceptualizing Lunar Phases*. Paper to be presented at the COSPAR04 Meeting in Paris, France.
 30. **Kastro M. Hamed.** (2004, August). *An Innovative Graduate Program for In-Service Science Teachers*. Paper presented at the Summer 2004 National Meeting of The American Association of Physics Teachers in Sacramento, California. [Abs.] AAPT Announcer, Vol. 34, No. 2, p. 159.
 31. Ramon Lopez and **Kastro M. Hamed.** (2004, August). *Student Interpretation of 2-D versus 3-D Sub-storm Current Wedge Images*. Paper presented at the Summer 2004 National Meeting of The American Association of Physics Teachers in Sacramento, California. [Abs.] AAPT Announcer, Vol. 34, No. 2, p. 165.
 32. **Kastro M. Hamed** (2004, October). *Exploring the Macro and Micro Worlds of a Silver Spoon*. Paper presented at the Regional Texas Meeting of The American Association of Physics Teachers in Oct 2004 in Waco, Texas.
 33. **Kastro M. Hamed**, Niescja Turner, and Santonu Goswami (2005, January). *Study Time and Achievement in a Large Introductory Astronomy Class*. A Paper presented at the Winter 2005 National Meeting of the American Association of Physics Teachers in Albuquerque, New Mexico. [Abs.] AAPT Announcer, Vol. 34, No. 2, p.89.
 34. Jennifer Gursky and **Kastro M. Hamed** (2005, January). *My Journey Toward Becoming an Effective Physics Teacher: A Case Study*. A Paper presented at the Winter 2005 National Meeting of the American Association of Physics Teachers in Albuquerque, New Mexico. [Abs.] AAPT Announcer, Vol. 34, No. 4, p. 90.
 35. **Kastro M. Hamed** and Suha M. Saleh (2005, March). *Quantifying the Impact of Peer-Graded Pre-Class Reading Assignments in Introductory Biology*. A paper presented at the Sun Conference for Teaching and Learning in El Paso, Texas.

36. **Kastro M. Hamed** and Poornima Kalyani Peri (2005, March). *What Works in the Calculus-Based Physics Classes?* A paper presented at the Sun Conference for Teaching and Learning in El Paso, Texas.
37. Niescja Turner, **Kastro M. Hamed**, Ramon Lopez (2005, July). *Effectiveness of GeoWall Technology in Facilitating Student Conceptualizing Lunar Phases and Planetary Motion.* A paper to be presented at Visualization in Science & Education Conference at the Queen's College. Oxford, United Kingdom.
38. **Kastro M. Hamed** and Poornima Kalyani Peri (2005, August). *What Works: Students' Perceptions on the Effectiveness of Pedagogical Resources.* A paper presented at the Summer 2005 National Meeting of the American Association of Physics Teachers in Salt Lake City, Utah. [Abs.] AAPT Announcer Vol. 35, No.2, P. 157.
39. Niescja E. Turner, **Kastro M. Hamed**, Ramon E. Lopez, Demetrio S. Corrales, Elizabeth J. Mitchell, Krista Soderlund, Christopher A. Robinson, and Candace L. Gray. (2005, December) *Use and Evaluation of 3D Geo-Wall Visualizations in Undergraduate Space Science Classes.* A paper presented at the National Meeting of the AGU: American Geophysical Union in San Francisco, California.
40. **Kastro M. Hamed**, and Santonu Goswami (2006, July). *Investigating the Cognitive, Affective, and Professional Developments of MAT Students.* A paper presented at the Summer 2006 National Meeting of the American Association of Physics Teachers in Syracuse, New York. [Abs.] AAPT Announcer Vol. 36, No. 3, P. 160.
41. **Kastro M. Hamed** (2006, September). *How to Thrive as a Professional Educator in the Induction Years and Beyond.* A workshop given at UTEP's STEP UP ABC Meeting: A Better Beginning Conference. El Paso, Texas.
42. **Kastro M. Hamed** (2006, November). *Standing on the Shoulders of Giants.* A poster to be presented at the Thirteenth National Conference on Students in Transition. St. Louis, Missouri.
43. **Kastro M. Hamed**, and Santonu Goswami (2007, August). *What Did We Learn from Our MAT Students?* A poster given at the Summer 2007 National Meeting of the American Association of Physics Teachers in Greensboro, NC. [Abs] AAPT Poster Addendum, PST1-16, page 5.
44. **Kastro M. Hamed** (2007, August). *Pedagogical Tools to Help the Learners Organize Their Ideas.* A poster presented at the 2007 Physics Education Research Conference in Greensboro, NC. [Abs] PERC plan, CP-78, page 27.
45. **Kastro M. Hamed**, and John Olgin (2008, January). *Quantifying the Impact of CRS on Student Course Achievement.* A paper presented at the Winter 2008 National Meeting of the American Association of Physics Teachers in Baltimore, MD.
46. **Kastro M. Hamed**, and Suha M. Saleh (2009, February). *Focus on the Eye: Bringing Eye Research to High School Students.* A paper presented at the 2009 International SUN Conference on Teaching and Learning in El Paso, TX.

5. Consultantships:

- Consulted for, and evaluated PhysTEC educational materials and websites.
- Consulted for Blackboard ® to enhance their ties to the higher education community.
- Reviewed multimedia instructional materials for Summer Production Educational Company.

6. Professional Societies:

- American Finance Association
- Financial Management Association
- American Physical Society.
- American Association of Physics Teachers.
- Council on Undergraduate Research.
- National Science Teachers Association.
- National Association for Research in Science Teaching.

7. Teaching

A. In my current appointment (While at UTEP):

Classes for Teachers (Pre-service and In-service):

- Teaching Physical Science PSCI 2303 and PSCI 3304. These are physical science classes for pre-service elementary school teachers. We adopted the *Powerful Ideas in Physical Science* curriculum that was developed by the American Association of Physics Teachers. The mode of learning is via hands on guided inquiry, and small group facilitated discussions, combined with field –based experience. *So far I taught PSCI 3304 thirty times.*
- Developing and teaching **MATS** Physics Classes. MATS is the Masters in the Art of Teaching Science. The focus is on enhancing both the content knowledge as well as pedagogy in context for middle and high school in service science teachers. The first- targeted sciences were physics and chemistry.
- Co-developing, and Co-Teaching TED 5319. TED 5319 is a graduate seminar in Science Teacher Education, and our focus is on providing advanced professional development in various science topics in addition to the corresponding pedagogies for teachers who are interested in training other teachers.

Classes for Freshman Year Experience and Student Success:

- Teaching University Studies 1301 to first year UTEP students. UNIV1301 is seminar in critical inquiry, which is a class developed with the intention of increasing the retention of incoming students who were accepted to the University via involving them in semi-structured discussions about how to succeed in making the transition to college, and how to excel in college. Each semester seminar has a unique theme, and the theme for my seminar section is *Applied Cognitive Science*. *So far I taught UNIV 1301 fifteen times.*
- Teaching Science 1100 to pre-science majors. This is a course designed to motivate students to study science and recruit more science majors. The students rotate to several science Departments and participate in specially designed hands-on activities. The students normally register under the name of a coordinator- not necessarily myself- then take two to three weeks in each science Department including Physics.

B. Teaching in Previous Appointments:

	Course Description	Institution	My Capacity	# of Times I taught it.
1.	Algebra-based Physics laboratory	BYU	TA/Instructor	4
2.	Calculus-Based Physics	BYU	Under grad TA	4
3.	Algebra-based Physics recitation	U of U	Graduate TA	6
4.	Physics for Engineers recitation	U of U	Graduate TA	6
5.	11 th Grade School Math (English)	Al-Urdonia	Teacher	1
6.	11 th Grade School Physics (English)	Al-Urdonia	Teacher	1
7.	12 th Grade School Math (Arabic)	Al-Urdonia	Teacher	1
8.	12 th Grade School Physics (Arabic)	Al Urdonia	Teacher	1
9.	Modern Phys for Sci and Eng.	BZU	Faculty	2
10.	Calculus-Based Physics	BZU	Faculty	6
11.	Labs for Sci and Eng Physics	BZU	Faculty	6
12.	Labs for Sci and Eng Physics	KSU	Graduate TA	4
13.	Conceptual Modern Physics	KSU	Graduate TA	2
14.	Calculus-Based Physics	GU	Professor	4
15.	Relativity and Quantum Mechanics	GU	Professor	2
16.	Stat Mech and Solid State Phys	GU	Professor	2
17.	Cognitive Science Pro-seminar	GU	Professor	2
18.	Algebra-based Physics - Lecture	RSCNJ	Professor	2
19.	Algebra-based Physics Lab	RSCNJ	Professor	4
20.	Engineering Physics Labs	RSCNJ	Professor	2

8. Service and Leadership Activities:

A. University Committee Service:

1. Chair: UTEP's Faculty Senate Committee on Faculty Development and the Effectiveness of Teaching and Learning, August 2006-Sept 2008.
2. Member of the Founding Committee of the newly established MATS graduate program.
3. Member of the Physical Science (2303 and 3304) Curriculum Improvement Committee. 2004- Current. Invited Fred Goldberg- an international expert on the Physics for teachers to provide workshops and seminars at UTEP over a two day period.
4. Member of the K-16 Science Curriculum Alignment Committee of the MSP (Math Science Partnership), 2003-Current.
5. Member of the Assessment Committee of the TNE (Teachers for New Era) Carnegie Project, 2004-Current.
6. Member of the Science Committee of the TNE (Teachers for New Era) Carnegie Project, 2004-Current.
7. Member of the Board of Directors of the Clinical Laboratory Sciences, 2005- Current.
8. Member of the Committee on Professional Development Schools of pre-service and in-service teachers, 2003-Current.

9. Participated in the **PDS: Professional Development Schools** Conferences in May 2004, and in December 2004. These conferences were organized by the College of Education at UTEP.
10. Member of the Search Committees that filled three faculty vacancies in the Department of Physics in 2003.
11. Member of the Search Committees that filled two positions in Math and Science Teacher Education in the College of Education in 2005.
12. Member of the Personnel Assessment and Evaluation Committee for University College, 2004-2006.
13. Member of the Theme, Proposal, and Syllabus Selection and Evaluation Committee for UNIV 1301, 2004-Current.
14. Member of the Strategic Planning Committee for the Entering Student Program, 2003-2006.
15. Member of the Textbook Writing Committees for UNIV 1301, 2003-2005.
16. Member of the task force that worked on the enhancement of recruitment, education, and retention of science teachers in New Jersey (2001 – 2002).
17. Member of the plenary committee of Georgetown University's newly established center CNDLS: Center for New Design in Learning and Scholarship (1999 - 2001).
18. Served on GU's Physics Department's curriculum committee (1999 - 2001).
19. Served on GU's Physics Department's colloquium committee (1999 - 2001).
20. Joined a campus-wide group investigating the integration of technology and pedagogy at GU (1999-2001).
21. Upon the invitation of GU Provost I became a member of a steering committee for faculty development (1999- 2001).
22. Upon the invitation of GU Vice President I became a member of the steering committee for diversity issues on campus (1999- 2001).
23. Member of a university-wide committee revising the curriculum at GU (2000-2001).
24. Became a mentor in the John Carroll Scholar program for distinguished students at GU (2000 – 2001).
25. Served on several departmental committees at BZU -Library & Curriculum, Laboratories, and Comprehensive Exams (1993-1995).

B. Student Service/Teaching – Supervising and Mentoring:

a. Supervised (as a major advisor) two graduate students pursuing Masters Degrees in PER: Physics Education Research :

1. Santonu Goswami: *Investigating the Cognitive, Affective, and Professional Developments Attained During the First Year of the In-service Science Teachers Enrolled in The MATS Program at UTEP.* Thesis completed: September 2005.
2. Poornima Peri: *Investigating The Students' Perceptions on What Works in Calculus-Based Physics Classes.* Thesis completed: November 2005.

b. Served on the graduate committees of five graduate students who obtained M.S. degrees in physics:

1. Hector Gutierrez who had Dr. Benjamin C. Flores as a major advisor. Thesis Title: *Resolution Issues in Radar Signal Analysis.*

2. Hector Aguilar who had Dr. Rosa Fitzgerald as a major advisor. Thesis Title: *Fitting Normal Modes to HF Radial and Total Surface Current Vector Data over Corps Christy Bay.*
3. Javier Polanco who had Dr. Rosa Fitzgerald as a major advisor. Thesis Title: *Scattering of Scalar Plane Waves from Two-Dimensional Rough Surfaces.*
4. Robert Bruntz who had Dr. Ramon Lopez as a major advisor. Thesis Title: *Predicting Ring Current Development Using Global MHD Simulations of Geomagnetic Storms.* Thesis defended in May 2005.
5. John Hernandez who had Dr. Ramon Lopez as a major advisor. Thesis Title: *Response of the Geosynchronous Magnetic Field to Sudden, Large Increases in Solar Wind Density During Periods of Strongly Southward IMF: MHD Simulations and Comparison to Geosynchronous Observations.* Thesis defended in July 2005.

c. Mentoring MAT in-service teachers in carrying out action research projects. Here are some examples:

1. Project Title: *Interactive, 3D Chemistry; Does It Help High School Students Learn Organic Chemistry?* Teacher: Sandra Blough.
2. Project Title: *High Stakes Low Thoughts – Standardizing Science Students Thought Processes.* Teacher: Jennifer Gursky
3. Project Title: *The Effects of Integrating a Forensics Adventure Game and Forensics-Based Laboratories in a High School Chemistry Classroom.* Teachers: Sheila Wafford and Rosa Hernandez.

d. Mentor in the NOYCE program. NOYCE is a program to encourage undergraduate students in science and engineering to learn more about teaching and learning, and to consider careers in teaching. Completed projects included:

1. Investigating the obstacles to learning mathematics for new Mexican immigrants.
2. The cognitive and affective gains of utilizing the Connected Math curriculum.
3. Studying the reasons why female students at UTEP prefer to major in biology over any other science.
4. Interviewing both Engineering faculty and students to answer: “Should engineering instructors have a pedagogical component added to their training?”

e. Engineering:

Supervised select engineering seniors at Birziet University in their final projects- An interdisciplinary effort focusing on constructing a Scanning Tunneling Microscope (1993-1995).

C. Professional Service:

National:

- Chaired the Organizing Committee of the 2005 PERC: Physics Education Research Conference which will be held in Aug 2005 in Salt Lake City, Utah. The conference had the theme: Connecting Physics Education Research and Teacher Education at All levels: k-20.
- Represented UTEP at the PKAL meeting at UC Irvine (Nov 14-16, 2003) with the theme: *Bringing a Global Dimension to Your STEM Efforts.*

State:

- Participated in the meeting of Texas Education Agency in Austin, Texas - focusing on providing Professional Development for Science Educators in the State of Texas.

D. Community:

- I participated in the Texas Higher Education Coordinating Board – Closing the Gaps Regional Meeting- Oct, 2006.

E. Outreach:

1. Planned and delivered three NASA sponsored workshops for area science teachers. Each workshop was for a week. The theme was on “Bringing Space Science to Your Science Classroom, and Motivating Your Students.” In total 44 science teachers participated in the workshops that took place in the Summer of 2003, and the Summer of 2004.
2. Collaborated with a colleague from the College of Health Sciences to develop and implement a series of workshops about eye and vision to Canutillo High School Students in Spring 2008.
3. Participated in the organization and delivery of three full day workshops to area science teachers to enhance their understanding of Optics concepts (1st in Nov 05, 2nd in Dec 06, and 3rd in March 06).
4. Organized a Science Circus in February 2004 for Students at Bowie High School in El Paso, and over 500 students attended.
5. Co-Hosted about 250 middle and high school students to take part in field trips to UTEP campus. During the visits the students received a full program of meeting scientists, attending specially prepared seminars, shows, discussions with UTEP students who were involved in Space Science research. The visits took place in 2003, and 2004.
6. Served on the orientation program for the Science and Engineering Circles for students who were just admitted to UTEP. Summer 2003.
7. Co-Hosted the students admitted to UTEP on the “Presidential Scholarship”.
8. Participated in hosting the Summer orientation groups of students newly accepted to UTEP.
9. Served as a member of the Gifted and Talented Parent Advisory Group for the El Paso area schools.

F. Curriculum Development:

1. Managed the science and math textbook selection and curriculum alignment process for the newly established Al-Urdonia School (1992 – 1993).
2. Re-wrote the laboratory manuals for the physics laboratories, and updated the equipment and computer interface at BZU (1993-1995).
3. Developed, implemented, and evaluated instructional materials to teach advanced topics like quantum mechanics, scanning tunneling microscope --Visual Quantum Mechanics , and surface science to introductory level classes and high school students, KSU (1995-1999).
4. Assisted in supervising computer programmers in the design and development of multimedia and web-based software, KSU (1995 – 1999).
5. Incorporated several pedagogical innovations into physics teaching. These innovations which were based on physics education research included: Peer Instruction; Visual Quantum Mechanics; University of Washington Tutorials; ActivPhysics, GU (1999 -2001).
6. Re-wrote and updated the laboratory curriculum to include a new computer interface, GU (1999 – 2001).
7. Developed and taught a special advanced course for physics seniors at GU integrating statistical mechanics and solid state physics, GU (1999 – 2001).

8. Participated in the k-16 science curriculum alignment in light of the National Science Education Standards and Texas Essential Knowledge and Skills. This effort was supported by the UTEP's MSP (2003-2006).
9. Participated in the curriculum development efforts within the Materials World Modules, a collaborative project between Northwestern University, UTEP, and Moorehouse College (2002-2005).
10. Participated in the planning, development, and implementation of MAT courses for high school science teachers leading to masters degrees (2003-2006).
11. Created and delivered science workshops for El Paso area elementary teachers in collaboration with the Texas Education Agency and Region 19, (2005-2006).
12. Developed, delivered, and evaluated NASA sponsored workshops to high school teachers in the El Paso area focusing on Space science (2003-2004).
13. Developed and team taught an advanced professional development course (TED 5319) for the El Paso area teachers (2006).

G. Book and Journal Review:

- Reviewed papers for the Peer-Reviewed section of the 2007 Physics Education Research Conference Proceedings.
- Reviewed the newly published textbook: Understanding Physics by Cummings, Laws, Redish, and Cooney. Wiley, 2004.
- Reviewed the 6th and the 7th editions of the textbook: Physics by Cutnell and Johnson. Wiley, 2004, 2006.
- Reviewed the new Physics textbook by Touger /Physics. Published 2005.
- Reviewed/ refereed four papers for the Journal of: Advances in Space Research.
- Reviewer/ Referee for papers in The Physics Teacher Journal.
- Reviewer/ Referee for Physics Review/ Special Edition focusing on Physics Education Research.

10. Additional Professional Activities:

1. Participation in the Financial Management Association meeting in Grapevine, TX in Oct, 2008.
2. Participation in American Finance Association Conference in San Francisco, CA in Jan, 2009.
3. Participated in The **MBE: Mind Brain and Education Summer Institute at Harvard University** Graduate School of Education in June 2003. At the MBE we discussed the relations among neuroscience, cognitive science, and education.
4. Participated in 27 CETaL workshops and presentations.
5. Participated in a variety of professional development day-long workshops at the AAPT National meetings. Examples:
 - a. VPython programming for Educational Purposes organized by Professors Chabay and Sherwood from NC State;
 - b. PhET- Electronic Simulations and animations in Physics Education organized by the UC Boulder Physics Education Research Group including the Noble Laureate Carl Weinman;
 - c. Physics By Inquiry for Elementary Teachers by the University of Washington Physics Education Research Group guided by professor Lillian McDermott.
 - d. Improving Astronomy Instruction by Mike Zeilik of University of New Mexico.

- e. NSF Proposal Reviewing Process Tips.
- 6. Attended the **CISM**: Center for Integrated Space-weather Modeling “All Hands Meeting” at Boston University in Sept, 2003.
- 7. Participated in a week-long Grant Writing Workshop at the TGCI- THE GRANSMANSHIP CENTER in January, 2006.

Organized /Assisted in Organizing:

- 1. The conference of Arkansas-Oklahoma-Kansas-Nebraska chapter of AAPT in October 1997 at Kansas State University.
- 2. The Shaping the Future Conference which was sponsored by the National Science Foundation at Kansas State University in January 1998.
- 3. The Women Studies Summer Institute at Georgetown University in May 2000.
- 4. The Graduate Student Teaching and Learning series of seminars at Georgetown University in 2001 (Under the auspices of CNDLS).
- 5. Faculty Development Workshop on Inclusive Teaching and Learning at Georgetown University in the Summer of 2001.
- 6. Served as a member of the plenary committee of Georgetown University’s new center CNDLS: Center for New Designs in Learning and Scholarship.