

N. SANJAY REBELLO
Detailed Curriculum Vitae

EDUCATION

- 1995 Ph. D. (Physics) Brown University, Providence, Rhode Island
Thesis Title: “Modeling and Experiments on Tunneling in Floating-Gate Memory Cells with Applications in Electronic Artificial Neural Networks”
Advisors: Dr. Fred S. Shoucair (Engineering), Dr. Hendrik J. Gerritsen (Physics)
- 1992 Sc.M (Physics), Sc.M (Engineering) Brown University, Providence, Rhode Island
- 1989 M.Sc. (Physics), B.E. (Electrical & Electronics) Birla Institute of Technology & Science, India

EMPLOYMENT

- 2001 – Assistant Professor (Tenure Track), Physics Department, Kansas State University
- 1998 – 2001 Assistant Professor (Tenure Track), Physics Department, Clarion University of Pennsylvania
- 1995 – 1998 Postdoctoral Research Associate, Physics Department, Kansas State University
- 1993 – 1994 Fellow, Center for the Advancement of College Teaching, Brown University
- 1989 – 1995 Teaching Assistant, Physics Department, Brown University

TEACHING

Kansas State University

Fall 2001 –

Physical World – I (PHYS101): 3 hours Lecture, ~150 students, Non-science majors, Content: Overview of conceptual physics; Text: *Conceptual Physics* by Hewitt; Fall 2001, ‘02.

General Physics – I (PHYS113): 1 hour Recitation, ~40 students, Life-science majors, Content: Algebra-based physics- mechanics and thermodynamics; Text: *Physics* by Giancoli; Fall 2003.

Engineering Physics – II (PHYS214): 4 hours Studio, ~40 students, Engineering & Physics majors, Content: Calculus-based physics- electricity, magnetism & optics; Text: *Physics* by Halliday & Resnick; Fall 2002.

Teaching University Physics (PHYS620): 3 hours discussion, 7 students, Physics majors (seniors) & graduate students, Content: main issues in physics education, instructional strategies, assessment, introduction to physics education research; Text: No formal text. *Teaching Physics with the Physics Suite* by Edward F. Redish, Wiley ; Fall 2004.

Physical Measurement & Instrumentation (PHYS636): 8 hours Lab, 4-12 students, Physics majors (seniors) & minors, Content: Analog & digital electronics; Text: *Art of Electronics* by Horowitz & Hill; Spring 2002 – 2005.

Physics of Solids (PHYS655): 3 hours Lecture, ~6 students, Physics majors (seniors) & beginning graduate students; Content: Crystal structure, phonons, electrons, Text: *Introduction to Solid State Physics* by C. Kittel, Fall 2003.

Physics Education Seminar (PHYS807): 1 hour Seminar, ~6 students, Graduate and undergraduate students interested in physics education research, Fall 2002 & Spring 2003, Spring 2005.

Clarion University of Pennsylvania

Fall 1998 – Summer 2001

Basic Physical Science: Physics & Astronomy: 3 hours Lecture, 32 students, Elementary education majors, Content: Overview selected topics in conceptual physics & astronomy; Text: None—used own notes

General Physics – I: 6 hours Studio, ~40 students, Life-science majors, Content: Algebra-based physics-mechanics and thermodynamics; Text: *Physics* by Giancoli.

General Physics – II: 6 hours Studio, ~40 students, Life-science majors, Content: Algebra-based physics-electricity, magnetism, circuits, optics; Text: *Physics* by Giancoli.

Analog Electronics: 2 hours Lecture + 3 hours Lab, ~6 students, Engineering & Physics majors, Content: R-C Circuits, diodes, transistors; Text: *Electronic Meas. & Instru.* by Deifenderfer & Holton & own notes.

Digital Electronics: 2 hours Lecture + 3 hours Lab, ~6 students, Engineering & Physics majors, Content: Gates, combinatorial logic circuits, flip-flops, sequential logic circuits, *Digital Fundamentals* by Floyd & own notes.

Optics: 3 hours Lecture, ~6 students, Physics majors (seniors); Content: geometrical optics, physical optics, Text: *Optics* by Hecht.

Solid State Physics: Individualized Instruction, 2 students, Physics majors (seniors); Content: Crystal structure, phonons, electrons, Text: *Solid State Physics* by Hook & Hall, Summer 2001.

Kansas State University

Fall 1995 – Spring 1998

General Physics – II (PHYS113): 1 hour Recitation, ~40 students, Life-science majors, Content: Algebra-based physics- electricity, magnetism, optics; Text: *Physics* by Giancoli.

Engineering Physics – I (PHYS213): 2 hours Recitation, ~40 students, Engineering & Physics majors, Content: Calculus-based physics- kinematics, mechanics, thermodynamics; Text: *Physics* by Halliday & Resnick.

Engineering Physics – II (PHYS214): 2 hours Recitation, ~40 students, Engineering & Physics majors, Content: Calculus-based physics- electricity, magnetism & optics; Text: *Physics* by Halliday & Resnick;.

Contemporary Physics (PHYS452): 3 hours Lecture + 2 hours Lab, ~20 students, Secondary Education majors for certification in Physics, Content: Miscellaneous topics in 20th Century physics; Text: Followed materials developed as part of Visual Quantum Mechanics project.

RESEARCH

Grants

1. “CoPASS: Integrating Digital Text in Design-based Science Classroom,” S. Puntamekar (Principal Investigator – Univ. of Wisconsin, Madison), N. Sanjay Rebello (Principal Investigator – Kansas State University), Collaborative Grant, National Science Foundation, \$82,343 (KSU share of the budget), January 2005 – December 2009.
2. “Curriculum Resources for Physics Instruction Using Interactive Technologies and Digital Formats,” Kansas Department of Education Grant, \$28,681, June 2004 – May 2005.
3. “HP Technology for Teaching Grant,” Hewlett-Packard Corporation, \$57,500 (equipment, stipend, travel and services), September 2004 – September 2005.
4. “Research on Students’ Mental Models, Learning and Transfer as a Guide to Application-Based, Curriculum Development and Instruction in Physics”, N. Sanjay Rebello (Principal Investigator), National Science Foundation CAREER/PECASE Grant, National Science Foundation \$436,796, March 2002 – March 2007.
5. “Assessing Student Transfer and Retention of Learning in Mathematics, Physics and Engineering Courses,” Andrew G. Bennett (Principal Investigator) and N. Sanjay Rebello (Co-Principal Investigator) National Science Foundation, Assessment of Student Achievement (ASA) Grant, National Science Foundation, \$ 500,000, July 2002 – July 2006.
6. “Travel to the Second International GiREP Seminar on Quality Development in Teacher Education and Training,” N. Sanjay Rebello, KSU Faculty Development Fund, \$1,500, September 1-6, 2004.
7. “Implementing the Workshop Model and other Research-based Instructional Strategies in Physics and Mathematics Courses”, N. Sanjay Rebello (Principal Investigator), Sharon L. Challener, J. Ivan Rhode, Jon Beal, and Karen Bolinger; Course Curriculum & Lab Innovation (CCLI) Grant, National Science Foundation, \$81,207, September 1999 – September 2002.
8. “Outreach Program with an Inner-City High School Physics Class,” Sharon L. Challener (Project Director), N. Sanjay Rebello (Project Co-Director), Pennsylvania State System of Higher Education (SSHE) Social Equity Grant, \$4211, September 1999 – September 2001.
9. “Development and Implementation of Web-based Instructional Materials for Introductory Physics Courses”, N. Sanjay Rebello (Project Director) and Sharon L. Challener, Advancing the Development of Educators in Pennsylvania via Technology Training (ADEPTT) Grant, \$4393, January 1999 – January 2001.
10. “Invited Speakers in Science & Science Education”, N. Sanjay Rebello (Project Director), Sharon L. Challener, John W. Heard, Joyce Overly, and Vickie Harry, Clarion University Faculty Professional Development Council, \$1,500, November 1999 – November 2000.
11. “Enhancing the Curriculum in the Physical Science Course”, N. Sanjay Rebello (Project Director) with Sharon L. Challener, Clarion University-wide Faculty Development Grant, \$1050, November 1998 – November 1999.

Projects

Kansas State University

July 2001 Onward

Research on Students' Mental Models, Learning and Transfer as a Guide to Application-Based Curriculum Development and Instruction in Physics (P.I. Sanjay Rebelló -- CAREER/PECASE Award): The overarching goal is to investigate the students' mental models of everyday devices and phenomena and how they apply these mental models in various contexts. Based on this research we develop application-oriented curricula for introductory undergraduates. We pilot-test these curricular materials and instructional strategies and investigate their impact on students' mental models and how students transfer these models from one context to another. We have explored students' ideas of some everyday devices such as bicycles, light bulbs and musical instruments. We have also begun developing instructional materials that address students' models of these devices. In addition, we have begun exploring student understanding of friction at the microscopic level, which has implications for nanoscience education. This research will be part of Edgar Corpuz's Ph.D. dissertation. To better understand the cognitive processes and mediating factors, we have adapted a new research methodology – the teaching interview (or experiment) that gives us the opportunity to learn how students construct knowledge when provided with certain resources such as hands-on experiences, information from the instructor, etc. Therefore, it provides a rich context in which to explore students' knowledge construction and transfer. Thus, it forms a useful bridge between clinical research and curriculum development. Synergy with the project below includes developing a framework to analyze student reasoning.

Technology & Model-Based Conceptual Assessment: Research in Students' Applications of Models in Physics & Mathematics" (P.I. Dean Zollman): The overarching goal of the project is to understand the ways in which students construct models of physical phenomena and the extent to which they transfer and transform these models in different contexts as they proceed through instruction. One area of focus has been student use of Newton's II Law across a two-semester introductory course sequence. Students' use two principal mental models (Newtonian and Aristotelian) in contexts spanning topical areas of mechanics, electrostatics and magnetism. Some students might use conceptions from both models depending upon the context, i.e. they are in a mixed model state. Another focus of research in this project is to investigate the effect of question order on student responses on a survey. Our research shows that the order of questions and the inclusion of an unrelated question can have a statistically significant effect on student responses. We have extended our research to include the order of interview questions. Again, we have found in several cases that question order does have an impact on how students answered the interview questions. This research resulted in a M.S. Thesis by Kara Gray who successfully defended her thesis in May 2004.

Assessing Student Transfer and Retention of Learning in Mathematics, Physics and Engineering Courses (P.I. Andrew Bennett): This study is in collaboration with faculty members in the Mathematics Dept. and the College of Engineering. We have focused our efforts on investigating student transfer and retention from Engineering Physics I and II and two sets of courses in the College of Engineering – Statics & Dynamics and Electromagnetic Theory. We began by surveying engineering faculty members about the topics and concepts that they feel students should be familiar with after they have taken a physics course and just as they enter the engineering courses mentioned above. Based on these responses, we constructed surveys that addressed these topics. We drew from research-based instruments that are already being used elsewhere, but found that no one instrument would address the topics listed by the engineering faculty members. Our research instruments included open-ended questionnaires to faculty members in engineering as well as multiple-choice surveys followed by more in-depth, semi-structured interviews. We have also focused our efforts on understanding how students transfer their knowledge from Trigonometry to General Physics. There are three levels of representations of trigonometry concepts that are typically utilized in introductory physics: the geometric representation in right triangles, the unit circle representation and the functional representation. We utilized data from online homework, in-class surveys and clinical interviews to understand how students transferred their learning from trigonometry to general physics course. This research resulted in a M.S. Thesis by Darryl Ozimek who successfully defended his thesis in July 2004.

Curriculum Resources for Physics Instruction Using Interactive Technologies and Digital Formats This project will develop and deliver instructional materials online to Kansas physics teachers. The materials include content and pedagogical strategies for middle and high school teachers in the area of contemporary physics. The

materials created could potentially form a component of a graduate course taken by in-service teachers. The materials delivered online include interactive computer programs, written materials for teachers and students and forums for online discussion and consultation with the course instructors and other personnel at Kansas State. As the project progresses, we will study the teacher and student use of these online materials, their user-friendliness and impact on teaching and learning.

Use of Feedback Response Systems in Large Lecture Classes: Using a technology grant from Hewlett Packard, we have obtained state-of-the-art wireless devices (Pocket PCs) to be used in our large enrollment classes as a classroom interaction system. We have just begun using these devices in the classroom and will study their user-friendliness as well impact on teaching and student learning.

Clarion University

August 1998 – June 2001

Implementing the Workshop model and other research-based strategies in the algebra-based physics course (Supported by NSF's CCLI Grant – P.I. N. Sanjay Rebello). Collaborated with faculty in Physics and Mathematics departments and led an effort to completely overhaul the General Physics sequence of courses from a traditional lecture with a separate lab, to an integrated Workshop model, incorporating various research-based pedagogy and conducting research on the learning and affective impact on students.

Incorporating modern physics into a conceptual physical science course (Supported by Clarion University Faculty Development Grant – P.I. N. Sanjay Rebello). Modified the curriculum in a Physical Science course for Elementary Education majors by adapting and implementing instructional materials and strategies developed in an earlier project (Visual Quantum Mechanics) at Kansas State.

Kansas State University

August 1995 – July 1998

Visual Quantum Mechanics: (Supported by NSF's ESIE Grant – P.I. Dean A. Zollman). Collaborated with undergraduate, graduate, post-doctoral and faculty researchers in creating, testing and evaluation of curricular material consisting of computer programs, experiments, and documentation, aimed at teaching quantum physics to high school and introductory college students who do not have any background in higher level mathematics or quantum physics. These materials emphasize interactive visualization and hands-on learning in an activity-based environment where students create their own knowledge. Responsibilities included design, development and pilot-testing of the instructional materials – written materials, experiment kits and software; interacting and supporting field-testers and evaluating student understanding as they used these materials, and conducting workshops at local regional and national meetings.

Peer Reviewed Publications

1. “A framework for student reasoning in an interview,” Paula V. Engelhardt, Kara Gray, Zdeslav Hrepic, Salomon F. Itza-Ortiz, Alicia R. Allbaugh, N. Sanjay Rebello and Dean A. Zollman, Invited Paper, *Proceedings of the 2003 Physics Education Research Conference*, August 2-6, 2003, Madison, WI.
2. “Implications of a framework for student reasoning in an interview,” Kara Gray, Zdeslav Hrepic, Salomon F. Itza-Ortiz, Alicia R. Allbaugh, Paula V. Engelhardt, N. Sanjay Rebello and Dean A. Zollman, Invited Paper, *Proceedings of the 2003 Physics Education Research Conference*, August 2-6, 2003, Madison, WI.
3. “Student goals and expectations in a large-enrollment physical science class,” N. Sanjay Rebello, *Proceedings of the 2003 Physics Education Research Conference*, August 2-6, 2003, Madison, WI.
4. “The teaching experiment – what it is and what it isn't,” Paula V. Engelhardt, Edgar G. Corpuz, Darryl J. Ozimek and N. Sanjay Rebello, *Proceedings of the 2003 Physics Education Research Conference*, August 2-6, 2003, Madison, WI.
5. “Student understanding and perceptions of the content of a lecture,” Zdeslav Hrepic, Dean A. Zollman and N. Sanjay Rebello, *Proceedings of the 2003 Physics Education Research Conference*, August 2-6, 2003, Madison, WI.
6. “Dynamic transfer: A perspective from physics education research,” N. Sanjay Rebello, Dean A. Zollman, with contributions from Alicia R. Allbaugh, Paula V. Engelhardt, Kara E. Gray, Zdeslav Hrepic and Salomon F. Itza-Ortiz in *Transfer of Learning from a Modern Multidisciplinary Perspective*, Ed. Jose P. Mestre, Information Age Publishing, in series *Current perspectives on cognition, learning and instruction*, Series Editor: James M. Royer, University of Massachusetts, Amherst (in press).

7. "How many students does it take before we see the light," Paula V. Engelhardt, Kara E. Gray, and N. Sanjay Rebello, *The Physics Teacher*, Vol. 42, April 2004, pp. 216-221.
8. "A framework for the dynamics of student reasoning in an interview," Salomon F. Itza-Ortiz, Alicia R. Allbaugh, Paula V. Engelhardt, Kara E. Gray, Zdeslav Hrepic, N. Sanjay Rebello and Dean A. Zollman, *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, April 1-3, 2004, Vancouver BC.
9. "Student explorations of quantum effects in LEDs and luminescent devices," Lawrence T. Escalada, N. Sanjay Rebello, and Dean A. Zollman, *The Physics Teacher*, Vol. 42, March 2004, pp.173-179.
10. "The effect of distracters on student performance on the force concept inventory," N. Sanjay Rebello and Dean A. Zollman, *American Journal of Physics*, Vol. 72, No. 1, January 2004, pp. 116-125.
11. "Students models of Newton's second law in mechanics and electromagnetism," Salomon F. Itza-Ortiz, N. Sanjay Rebello and Dean A. Zollman, *European Journal of Physics*, Vol. 25, January 2004, pp.81-89.
12. "The vocabulary of introductory physics and its implications for learning physics," Salomon F. Itza-Ortiz, N. Sanjay Rebello, Dean A. Zollman and Manuel Rodriguez-Achach, *The Physics Teacher*, Vol. 41, September 2003, pp.41-46.
13. "Contemporary physics for future teachers with limited mathematics skills," N. Sanjay Rebello and Dean A. Zollman, *Proceedings of the Second International GiREP Seminar*, September 1-6, 2003, Udine, Italy.
14. "Enhancing the teaching of contemporary physics through online instruction for teachers," Dean A. Zollman, N. Sanjay Rebello, Kirsten Hogg and Salomon F. Itza-Ortiz, *Proceedings of the Second International GiREP Seminar*, September 1-6, 2003, Udine, Italy,
15. "Students' mental models of Newton's second law: mechanics to electromagnetism," N. Sanjay Rebello, Salomon F. Itza-Ortiz and Dean A. Zollman, *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, March 23-26, 2003, Philadelphia, PA.
16. "The vocabulary of physics and its impact on student learning," Salomon F. Itza-Ortiz, N. Sanjay Rebello and Dean A. Zollman, *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, March 23-26, 2003, Philadelphia, PA.
17. "Visual Quantum Mechanics," Dean A. Zollman, N. Sanjay Rebello, et al., *Ztek*, Lexington, KY and Arbor Scientific, Ann Arbor, MI, 2003
18. "Supervised and unsupervised spectral angle classifiers," Youngsinn Sohn and N. Sanjay Rebello, *Photogrammetric Engineering and Remote Sensing*, Vol. 68, No. 12, December 2002, pg. 1261.
19. "Quantum mechanics for everyone: Hands-on activities integrated with technology," Dean A. Zollman, N. Sanjay Rebello, and Kirsten Hogg, *American Journal of Physics*, Vol. 70, No. 3, March 2002, pp. 252-259.
20. "The effect of question order on responses to multiple choice questions," Kara Gray, N. Sanjay Rebello and Dean A. Zollman, *Proceedings of the 2002 Physics Education Research Conference*, August 7-8, 2002, Boise, ID.
21. "A summary of students' mental models and their applications in contexts pertaining to Newton's II Law," Salomon F. Itza-Ortiz and N. Sanjay Rebello, *Proceedings of the 2002 Physics Education Research Conference*, August 7-8, 2002, Boise, ID.
22. "Identifying student models of sound propagation," Zdeslav Hrepic, Dean A. Zollman and N. Sanjay Rebello, *Proceedings of the 2002 Physics Education Research Conference*, August 7-8, 2002, Boise, ID.
23. "How to distribute your software over the Web," N. Sanjay Rebello, *Computers in Science & Engineering*, Vol. 1, No. 6, Nov-Dec 1999.
24. "Simulating the spectra of light sources", N. Sanjay Rebello, Chandima Cumararatunge, Lawrence T. Escalada, and Dean A. Zollman, *Computers in Physics*, Vol. 12, No. 1, Jan-Feb, 1998,
25. "Using DemoShield™ to create interactive demos on the Web", N. Sanjay Rebello, *Computers in Physics*, Vol. 11, No. 6, Nov-Dec 1997.
26. "Learning the physics of a scanning tunneling microscope (STM) using a computer program", N. Sanjay Rebello, Konstantin Sushenko, and Dean A. Zollman, *European Journal of Physics*, Vol. 18, 1997, pp. 456-461.

27. "Visualizing motion in potential wells", Pratibha Jolly, Dean Zollman, N. Sanjay Rebello and Albena Dimitrova, *American Journal of Physics*, Vol. 65, No. 11, November, 1997.
28. "Computer simulation of P-N junction devices", N. Sanjay Rebello, Chandramouli Ravipati, Dean A. Zollman, and Lawrence T. Escalada, *American Journal of Physics*, Vol. 95, No. 8, August 1997.
29. "Designing interactive Web pages using ActiveX controls and scripting", N. Sanjay Rebello and Konstantin Sushenko, *Computers in Physics*, Vol. 11, No. 4, July-August, 1997.
30. "Physics for All: How technology can spark universal success in the physics classroom", L. T. Escalada., H. P. Baptiste Jr., D. A. Zollman., N. S. Rebello, *The Science Teacher*, Vol. 64, No. 2, 1997.
31. "Contemporary Physics for non-science students: Combining visualization with hands-on activities", Dean A. Zollman and N. Sanjay Rebello, *Preliminary Case Studies in Information Technology*, presented by the National Research Council's Committee on Undergraduate Education, Case 8, March 16, 1997.
32. "6H silicon carbide MOSFET modeling for high temperature analog integrated circuits (25-500°C), N.S. Rebello, F. S. Shoucair, and J. W. Palmour, *IEEE Proceedings in Circuits Systems & Devices*, Vol. 143, No. 2, April 1996.
33. "Electrical characteristics of 6H silicon carbide MOSFETs (25°-500°C)," *Proceedings of the Second International High Temperature Electronics Conference*, Section IV, June 5-10, 1994, Charlotte, NC.
34. "Electrical Transport and Superconductivity in $(Y_{0.8}Ca_{0.2})Ba_2Cu_3O_y$ system with variable oxygen content" Gang Xiao and N.S. Rebello, *Physica C*, Vol. 211, 1993.

Invited Talks & Posters

1. "Changing Distracters on Questions of the Force Concept Inventory," N. Sanjay Rebello and Dean A. Zollman, Invited Talk, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.
2. "Dynamic transfer of learning in physics education research," N. Sanjay Rebello, Invited Talk, *APS April Meeting*, May 1-4, 2004, Denver, CO.
3. "Contemporary physics for future teachers with limited mathematics skills," N. Sanjay Rebello and Dean A. Zollman, Invited Talk, *Second International GiREP Seminar*, September 1-6, 2003, Udine, Italy.
4. "Enhancing the teaching of contemporary physics through online instruction for teachers," Dean A. Zollman, N. Sanjay Rebello, Kirsten Hogg and Salomon F. Itza-Ortiz, Invited Talk, *Second International GiREP Seminar*, September 1-6, 2003, Udine, Italy.
5. "Student reasoning during an interview: A possible framework and implications," Alicia R. Allbaugh, Paula V. Engelhardt, Kara E. Gray, Zdeslav Hrepic, Salomon F. Itza-Ortiz and N. Sanjay Rebello, Invited Targeted Poster Session, *Physics Education Research Conference*, August 6-7, 2003, Madison, WI.
6. "Physics education research as a guide to application-based curriculum development," N. Sanjay Rebello, Invited Talk, *Fall Meeting of the Western Pennsylvania Section of the AAPT*, October 24, 2003, Latrobe, PA.
7. "Visual Quantum Mechanics – hands-on activities integrated with computer visualizations," *Physics Department Colloquium*, March 4, 2002, Southwest Missouri State University, Springfield, MO.
8. "Adapting Research-Based Pedagogy in an Algebra-Trigonometry Physics Course," Invited Talk, *123rd AAPT National Meeting*, Rochester, NY, August, 2001.
9. "The New Multimedia Physics-Mathematics Lab" N. Sanjay Rebello and John W. Heard, Invited Presentation & Demonstration to the *Department Chairs Council of the Dean of the College of Arts & Sciences*, Clarion University of PA, October 09, 2000.
10. "Student Surveys in a Web-Assisted Course", N. Sanjay Rebello, *Technology Chalkboard Workshop*, Clarion University, July 17-21, 2000.
11. "Using CourseInfo: Lessons Learned", N. Sanjay Rebello, *Teaching with Technology Forum*, ADEPTT Learning Center, Clarion University of PA, November 12, 1999.
12. "Analyzing Movies over the Web," N. Sanjay Rebello, Invited Poster, *Advancing the Development of Educators in Pennsylvania via Technology Training (ADEPTT) Conference*, Clarion, PA, October 16, 1999.
13. "Learning the Physics of a Scanning Tunneling Microscope (STM) Using a Computer Program," N. Sanjay Rebello and Dean A. Zollman, Invited Talk, *119th AAPT National Meeting*, San Antonio, TX, August 2-8, 1999,

14. “Energy Diagram Explorer”, N. Sanjay Rebello, Chandima Cumararatunge and Dean A. Zollman, Invited Talk, *118th AAPT National Meeting*, Anaheim, CA, January 3-9, 1999.
15. “Visual Quantum Mechanics: Explorations of the Quantum World for Non-Science Students,” N. Sanjay Rebello, Invited Talk, *Seminar Series, Center for Innovation in Learning*, Carnegie-Mellon University, November 20, 1998.
16. “Interactive Web-based Applications Using ActiveX Controls and Scripting”, N. Sanjay Rebello and Dean A. Zollman, Invited Talk, *116th AAPT National Meeting*, January 2-7, 1998, New Orleans, LA.
17. “Energy Band Creator”, N. Sanjay Rebello, Chandima Cumararatunge, Lawrence T. Escalada, and Dean A. Zollman, Invited Talk, *116th AAPT National Meeting*, January 2-7, 1998, New Orleans, LA.
18. “Scanning Tunneling Microscope (STM) Simulator”, N. Sanjay Rebello, Konstantin Sushenko, and Dean A. Zollman, Invited Talk, *116th AAPT National Meeting*, January 2-7, 1998, New Orleans, LA.
19. “Wave Function Suite”, N. Sanjay Rebello, C. Cumararatunge, Gary Dong, and Dean A. Zollman, Invited Talk, *116th AAPT National Meeting*, January 2-7, 1998, New Orleans, LA.
20. “Spectroscopy”, N. Sanjay Rebello, Chandima Cumararatunge, Lawrence T. Escalada, and Dean A. Zollman, Invited Talk, *114th AAPT National Meeting*, January 4-9, 1997, Phoenix, AZ.
21. “Semiconductor Device Simulator”, N. Sanjay Rebello, Chandra M. Ravipati, and Dean A. Zollman, Invited Talk, *114th AAPT National Meeting*, January 4-9, 1997, Phoenix, AZ.

Contributed Talks & Posters

1. “Research of students’ mental models learning and transfer as a guide to application-based curriculum development and instruction in physics,” N. Sanjay Rebello, Peter R. Fletcher, Edgar G. Corpuz, Contributed Poster, *NSF’s REC PI Meeting*, October 18-19, 2004, Arlington, VA.
2. “Retention and Transfer from Trigonometry to Algebra-based Physics,” N. Sanjay Rebello, Darryl J. Ozimek and Paula V. Engelhardt, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 8-9, 2004, Little Rock, AR.
3. “College Students’ Mental Models of Atomic Friction and Lubrication,” Edgar G. Corpuz and N. Sanjay Rebello, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 8-9, 2004, Little Rock, AR.
4. “Movie Physics: Transfer of Knowledge by Observation,” Carina M. Poltera and N. Sanjay Rebello, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 8-9, 2004, Little Rock, AR.
5. “Investigating Students’ Knowledge of the Particle Structure of Matter: A Preliminary Study in the U.S.,” Lili Cui, Dean A. Zollman and N. Sanjay Rebello, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 8-9, 2004, Little Rock, AR.
6. “Issues in Addressing and Representing Hybrid Mental Models,” Zdeslav Hrepic, Dean A. Zollman, and N. Sanjay Rebello, Contributed Talk, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.
7. “Investigating Students’ Knowledge of Particle Structure of Matter in Different Cultures,” Lili Cui, Dean A. Zollman, and N. Sanjay Rebello, Contributed Poster, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.
8. “Using Interview Data to Explore Transfer of Student Learning,” Paula V. Engelhardt and N. Sanjay Rebello, Contributed Talk, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.
9. “A Summary of the Effects of Question Order,” Kara E. Gray and N. Sanjay Rebello, Contributed Talk, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.
10. “Modeling Cycle and Research-Based Pedagogy in an Electronics Course,” N. Sanjay Rebello and Kara E. Gray, Contributed Talk, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.
11. “Students’ Microscopic Models of Friction: A First Look,” Edgar G. Corpuz and N. Sanjay Rebello, Contributed Talk, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.
12. “Retention and Transfer of Learning from Trigonometry to Algebra-Based Physics,” Darryl J. Ozimek, Paula V. Engelhardt and N. Sanjay Rebello, Contributed Talk, *129th AAPT National Meeting*, July 31- August 4, 2004, Sacramento, CA.

13. "Light bulbs and complete circuits: What one says about the other," Paula V. Engelhardt, Kara E. Gray and N. Sanjay Rebello, Contributed Talk, *APS April Meeting*, Denver, CO, May 1-4, 2004.
14. "A perspective on transfer of learning," N. Sanjay Rebello, Alicia R. Allbaugh, Paula V. Engelhardt, Kara E. Gray, Zdeslav Hrepic, Salomon F. Itza-Ortiz and Dean A. Zollman, Contributed Talk, *128th AAPT National Meeting*, January 24-28, 2004, Miami Beach, FL.
15. "Learning about teaching -- How students understand sound in musical instruments," Paula V. Engelhardt, N. Sanjay Rebello and Edgar G. Corpuz, Contributed Talk, *128th AAPT National Meeting*, January 24-28, 2004, Miami Beach, FL.
16. "A real-time assessment of students' mental models of sound propagation," Zdeslav Hrepic, Dean A. Zollman and N. Sanjay Rebello, Contributed Talk, *128th AAPT National Meeting*, January 24-28, 2004, Miami Beach, FL.
17. "Research of students' mental models learning and transfer as a guide to application-based curriculum development and instruction in physics," N. Sanjay Rebello, Paula V. Engelhardt, Kara E. Gray and Edgar G. Corpuz, Contributed Poster, *NSF's REC PI Meeting*, October 27-28, 2003, Arlington, VA
18. "Student goals and expectations in a large-enrollment physical science class," N. Sanjay Rebello, Contributed Poster, *Physics Education Research Conference*, August 6-7, 2003, Madison, WI.
19. "The Teaching Experiment - What it is and what it isn't," Paula V. Engelhardt, N. Sanjay Rebello, Edgar G. Corpuz and Darryl J. Ozimek, Contributed Poster, *Physics Education Research Conference*, August 6-7, 2003, Madison, WI.
20. "Student understanding and perceptions of the content of a lecture," Zdeslav Hrepic, Dean A. Zollman, and N. Sanjay Rebello, Contributed Poster, *Physics Education Research Conference*, August 6-7, 2003, Madison, WI.
21. "Modeling cycle pedagogy in an electronics course: First impressions," N. Sanjay Rebello and Kara E. Gray, Contributed Poster, *127th AAPT National Meeting*, August 2-6, 2003, Madison, WI.
22. "Retention and transfer of physics knowledge to engineering courses," N. Sanjay Rebello, Paula V. Engelhardt and Salomon F. Itza-Ortiz, Contributed Talk, *127th AAPT National Meeting*, August 2-6, 2003, Madison, WI.
23. "Students' views of how sound is produced by musical instruments," Paula V. Engelhardt and N. Sanjay Rebello, Contributed Talk, *127th AAPT National Meeting*, August 2-6, 2003, Madison, WI.
24. "Investigating students' understanding of light bulbs and complete circuits," Kara E. Gray, Paula V. Engelhardt and N. Sanjay Rebello, Contributed Talk and Poster, *127th AAPT National Meeting*, August 2-6, 2003, Madison, WI.
25. "Student understanding and perceptions of the content of a lecture," Zdeslav Hrepic, Dean A. Zollman and N. Sanjay Rebello, Contributed Talk, *127th AAPT National Meeting*, August 2-6, 2003, Madison, WI.
26. "Students' energy models: Mechanics through electromagnetism," Salomon F. Itza-Ortiz, Benjamin Lawrence, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *127th AAPT National Meeting*, August 2-6, 2003, Madison, WI.
27. "Developing a real-time assessment of students' mental models of sound propagation," Zdeslav Hrepic, Dean A. Zollman and N. Sanjay Rebello, Contributed Talk, *International School of Physics "Enrico Fermi"*, July 15-25, 2003, Varenna, Italy.
28. "Mental models of energy — Mechanics contexts," Salomon F. Itza-Ortiz, Benjamin Lawrence, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *126th AAPT National Meeting*, January 11-15, 2003, Austin, TX.
29. "Students' mental models and their application to a bicycle," N. Sanjay Rebello and Paula V. Engelhardt, Contributed Talk, *126th AAPT National Meeting*, Austin, January 11-15, 2003, TX.
30. "The effect of question order on responses to interview questions," Kara E. Gray, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *126th AAPT National Meeting*, January 11-15, 2003, Austin, TX.
31. "Ordering effects in multiple choice exams and interviews," Paula V. Engelhardt and N. Sanjay Rebello, Contributed Poster, *126th AAPT National Meeting*, Austin, January 11-15, 2003, TX.

32. "Problem context and Newton's second law: A further look," Alicia R. Allbaugh, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *126th AAPT National Meeting*, January 11-15, 2003, Austin, TX.
33. "Assessing student retention and transfer of physics knowledge to engineering courses," N. Sanjay Rebello, Paula V. Engelhardt and Salomon F. Itza-Ortiz, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 4-5, 2002, Ada, OK.
34. "Students' mental models and their applications in a real-world context – the bicycle," Paula V. Engelhardt and N. Sanjay Rebello, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 4-5, 2002, Ada, OK.
35. "The effect of question order on students' responses to multiple choice questions," Kara E. Gray, N. Sanjay Rebello, and Dean A. Zollman, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 4-5, 2002, Ada, OK.
36. "Problem context and Newton's second law: A further look," Alicia Allbaugh, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 4-5, 2002, Ada, OK.
37. "Student mental models of sound propagation," Zdeslav Hrepic, Dean A. Zollman, and N. Sanjay Rebello Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October 4-5, 2002, Ada, OK.
38. "Student goals and expectations in a conceptual physics course," N. Sanjay Rebello, Contributed Talk, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
39. "Using technology in a large enrollment physical science class," N. Sanjay Rebello, Contributed Poster, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
40. "The effect of question order on student responses to multiple-choice questions," Kara Gray, N. Sanjay Rebello, and Dean A. Zollman, Contributed Talk, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
41. "Students' mental models and their applications of Newton's II law in electricity and magnetism," Salomon F. Itza-Ortiz, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
42. "Problem context and Newton's II Law: A first look," Alicia Allbaugh, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
43. "Students' mental models of sound propagation," Zdeslav Hrepic, Dean A. Zollman and N. Sanjay Rebello, Contributed Talk, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
44. "Students' mental models of light energy and color," Seunghee Lee, Dean A. Zollman and N. Sanjay Rebello, Contributed Poster, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
45. "International Bicycle Project: Summary of student exchanges and curriculum development," Doyle Davis, S. Raj Chaudhury, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *125th AAPT National Meeting*, August 3-7, 2002, Boise, ID.
46. "Using K-State Online and an in-class personal response system in a large enrollment physical science class," N. Sanjay Rebello, Contributed Talk, *Convergence of Digital Learning Conference*, April 15-16, 2002, Manhattan, KS.
47. "Investigations of students' mental models and their applications in Newton's II law problems," N. Sanjay Rebello and Salomon F. Itza Ortiz, Contributed Talk, *124th AAPT National Meeting*, January 19-23, 2002, Philadelphia, PA.
48. "The use of physics words in everyday language and implications for student learning," Salomon F. Itza Ortiz, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *124th AAPT National Meeting*, January 19-23, 2002, Philadelphia, PA.
49. "Learning physics in the context of a bicycle," N. Sanjay Rebello, Robert G. Fuller, Ewa Mioduszezwska and William M. Wehrbein, Contributed Poster, *124th AAPT National Meeting*, January 19-23, 2002, Philadelphia, PA.
50. "Investigations of students' mental models and their applications in Newton's II Law," N. Sanjay Rebello, Salomon F. Itza-Ortiz and Dean A. Zollman, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October, 2001, Fayetteville, AR.

51. "The use of everyday language on learning physics concepts," Salomon F. Itza-Ortiz, N. Sanjay Rebello and Dean A. Zollman, Contributed Talk, *Fall Meeting of the A-O-K Section of the AAPT*, October, 2001, Fayetteville, AR.
52. "The Effect of Distracters on Student Performance on the Force Concept Inventory," N. Sanjay Rebello and Dean A. Zollman, *122nd AAPT National Meeting*, January 06-11, 2001, San Diego, CA.
53. "Multimedia Studio Physics-Mathematics Lab", N. Sanjay Rebello and John W. Heard, *Western Pennsylvania AAPT Section Fall Meeting*, October 21, 2000.
54. "A Ray Tracing Program for the High School Classroom", Jamie McGrath, John Watkins, and N. Sanjay Rebello, *Western Pennsylvania AAPT Section Spring Meeting*, April 08, 2000.
55. "Students' Understanding of Quantum Mechanics Using Concept Maps," N. Sanjay Rebello, Kastro Hamed and Dean A. Zollman, Kansas State University, *118th AAPT National Meeting*, Anaheim, CA, January 3-9, 1999.
56. "Visual Quantum Mechanics," *Western Pennsylvania AAPT Section Fall Meeting*, October 03, 1998, Washington, PA.
57. "Conceptual Understanding of Students After Using the Visual Quantum Mechanics Instructional Materials," N. Sanjay Rebello and Dean A. Zollman, *117th AAPT National Meeting*, August 03-08, 1998, Lincoln, NE.
58. "Replacing Distracters in the Force Concept Inventory (FCI) with more frequently given responses", N. Sanjay Rebello and Dean A. Zollman, *116th AAPT National Meeting*, January 2-7, 1998, New Orleans, LA.
59. "An Investigation of Students' Conceptions of Light", N. Sanjay Rebello, Kirsten Hogg, Dean A. Zollman, *116th AAPT National Meeting*, January 2-7, 1998, New Orleans, LA.
60. "Feedback on an instructional unit on Waves and Wave Functions", N. Sanjay Rebello, Heidi Mauk Gruner, and Dean A. Zollman, *115th AAPT National Meeting*, August 11-16, 1997, Denver, CO.
61. "The effect of the multiple-choice format on student performance on the Force Concept Inventory", N. Sanjay Rebello and Dean A. Zollman, *115th AAPT National Meeting*, August 11-16, 1997, Denver, CO.
62. "Using ActiveX in Web-based physics instruction", N. Sanjay Rebello, Konstantin Sushenko, and Dean A. Zollman, *115th AAPT National Meeting*, August 11-16, 1997, Denver, CO. α "Is tele-transportation possible? - An instructional unit on Waves and Wave Functions", N. Sanjay Rebello, Robert P. Grabhorn, and Dean A. Zollman, *114th AAPT National Meeting*, January 4-9, 1997, Phoenix, AZ.
63. "Luminescence: It's Cool Light - An Instructional Unit", Lawrence. T. Escalada, N. Sanjay Rebello, and Dean A. Zollman, *A-O-K Fall Section Meeting of the AAPT*, October 25-26, 1996, Edmond, OK.
64. "Using energy bands to understand solid-state devices", N. Sanjay Rebello, Lawrence T. Escalada, and Dean A. Zollman, *113th AAPT National Meeting*, August 5-10, 1996, College Park, MD.
65. "Applications of tunneling in modern technology", N. Sanjay Rebello and Dean A. Zollman, *113th AAPT National Meeting*, August 5-10, 1996, College Park, MD.
66. "Learning quantum mechanics through interactive computer visualizations", N. Sanjay Rebello, Lawrence T. Escalada, and Dean A. Zollman, *112th AAPT National Meeting*, January 13-18, Reno, NV.
67. "Visual Quantum Mechanics", N. Sanjay Rebello, Dean A. Zollman, and Lawrence T. Escalada, *A-O-K Fall Section Meeting of the AAPT*, October 27-28, 1995, Russellville, AR.

Thesis/Dissertation Supervision

1. "*The Effect of Question Order on Student Responses to Multiple Choice Physics Questions*," M.S. Thesis, Physics, Kara E. Gray, successfully defended, May 2004.
2. "*Student Learning, Retention, and Transfer from Trigonometry to Physics*," M.S. Thesis, Physics, Darryl J. Ozimek, successfully defended, July 2004.
3. "*Students' microscopic modeling of friction and related phenomena*," (working title) Ph. D. Dissertation, Physics, Edgar G. Corpuz, anticipated completion, July 2006.

PROFESSIONAL SERVICE

Departmental

Kansas State University

AMO Physics Search Committee (Chair: Dr. P. Richard)	Fall 2001 – Spring 2002
Physics Liaison for the Math-Physics Computer Classroom	Fall 2001 – present
Curriculum Committee (Chair: Dr. A. Chakrabarti)	Fall 2001 – Spring 2002
Participated in Physics Department Telefund	Spring 2002
Physics booth in KSU Undergraduate Majors Fair	Fall 2001 – Fall 2003
Computer Advisory Committee (Chair: Dr. K. Carnes)	Fall 2002 – present
Graduate Student Affairs Committee (Chair: Dr. B. DePaola)	Fall 2002 – present
Co-Principal Investigator on NSF proposal to adopt Studio Physics model for upper-division Optics Course (Principal Investigator: Dr. C. Sorensen)	Fall 2002 – Fall 2003
Participated in the QuarkNet Program organized by the HEP Group (Principal Investigator: Dr. T. Bolton)	Summer 2003, 2004
New Physics Building Committee (Chair: Dr. P. Richard)	Summer 2004
Assisted some faculty in using K-State Online, Survey System or Personal Response Systems in their classes.	Ongoing
Colloquium speakers hosted:	
Karen Cummings (RPI), Fred Goldberg (San Diego State Univ.)	Spring 2002
Jose P. Mestre (University of Massachusetts, Amherst)	Spring 2003
Corinne Manogue (Oregon State University)	Fall 2003
David Pritchard (MIT)	Spring 2004
Ruth Chabay (North Carolina State University)	Fall 2004

Clarion University

Physics Department Search Committee	Fall 1999 – Spring 2001
-------------------------------------	-------------------------

University-wide

Kansas State University

University-wide faculty focus group assembled by the Division of Continuing Education to create an online survey system	Fall 2001 – present
Strategic Ways to Acquire Technology (SWAT) Team to modify Cardwell 102, 103 (Chair: Dr. R. Gould, Director ITAC)	Spring 2003 onwards

Clarion University

Presidential Commission on the Status of Women	Spring 2000 – Spring 2001
Presidential Commission on Sexual Harassment	Spring 1999 – Spring 2001

Regional

Secretary of the Arkansas-Oklahoma-Kansas (A-O-K) Section of AAPT	Oct. 2001 – Oct. 2002
Vice President & Treasurer of the A-O-K Section of AAPT	Oct. 2002 – Nov. 2003
Organized the A-O-K Fall Section Meeting jointly with the Nebraska Section of the AAPT, and the Big-12 Physics Education Research (PER) conference, Manhattan, KS	November 7 -8, 2003
President of the A-O-K Section of AAPT	Nov. 2003 – Oct. 2004

National

Physics Education Research Election Organizing Committee	January 2004 --
Educational Technologies Committee of the AAPT	January 2004 –January 2007
Organizer Physics Education Research Conference, Sacramento, CA	August 4-5, 2004
Textbook reviewer	January 2003 --
Proposal reviewer for the National Science Foundation	January 2003 ---

RECOGNITIONS

Presidential Early Career Award for Scientists and Engineers (PECASE) in May 2004. The award was given to a total of 57 science professionals. The White House Office of Science & Technology Policy press release describes the award as the “nation’s highest honor for professionals at the outset of their careers.”

Schwenk Teaching Award, presented by KSU Physics majors in recognition of teaching in upper-division physics courses, May 2004.

“Supervised and Unsupervised Spectral Angle Classifiers,” Youngsinn Sohn and N. Sanjay Rebello, *Boeing Autometric Award for Best Paper in Image Analysis and Interpretation in 2003* presented by American Society for Photogrammetry and Remote Sensing.

“Energy Diagram Explorer,” N. Sanjay Rebello, Chandima Cumararatunge, and Dean A. Zollman, Honorable mention, *Ninth Annual Computers in Physics Educational Software Contest*, January 1999.

“Energy Band Creator,” N. Sanjay Rebello, Chandima Cumararatunge, Lawrence T. Escalada and Dean A. Zollman, Winner, *Eighth Annual Computers in Physics Educational Software Contest*, January 1998.

“Scanning Tunneling Microscope (STM) Simulator,” N. Sanjay Rebello, Konstantin Sushenko, and Dean A. Zollman, Honorable mention, *Eighth Annual Computers in Physics Educational Software Contest*, January 1998.

“Wave Function Suite,” N. Sanjay Rebello, Chandima Cumararatunge, Gary Dong, and Dean A. Zollman, Honorable mention, *Eighth Annual Computers in Physics Educational Software Contest*, January 1998.

“Spectroscopy,” N. Sanjay Rebello, Chandima Cumararatunge, Lawrence T. Escalada and Dean A. Zollman, Winner, *Seventh Annual Computers in Physics Educational Software Contest*, January 1997.

“Semiconductor Device Simulator,” N. Sanjay Rebello, Chandra M. Ravipati and Dean A. Zollman, Honorable mention, *Seventh Annual Computers in Physics Educational Software Contest*, January 1997.

“Presidential Award for Excellence in Teaching,” with honorarium \$2000, Brown University, May 1992.

PROFESSIONAL MEMBERSHIPS

National

American Physical Society (APS)	2004 –
American Association of Physics Teachers (AAPT)	1995 –
National Association for Research in Science Teaching (NARST)	1996 –
National Science Teachers Association (NSTA)	1996 –
Sigma Xi Scientific Honor Society	1995 –

Regional

Kansas Association of Teachers of Science (KATS)	2003 –
Arkansas-Oklahoma-Kansas (A-O-K) Section of AAPT	1995 –1998, 2001 –
Western Pennsylvania Section of AAPT	1998 –2001

COLLABORATORS & OTHER AFFILIATIONS

Collaborators: Sadhana Puntambekar (University of Wisconsin, Madison), Andrew G. Bennett (Kansas State University, Mathematics), John Beal & (Clarion University of Pennsylvania, Mathematics), Sharon Challener (Clarion University of Pennsylvania, Physics)

Graduate Advisors: Fred S. Shoucair, Hendrik J. Gerritsen, Gang Xiao

Postdoctoral Advisor: Dean A. Zollman

Postgraduate Researchers Advised: Paula V. Engelhardt, Peter Fletcher

Graduate Students Advised:

Edgar G. Corpuz, Kara E. Gray (M.S. Physics, May 2004), Darryl J. Ozimek (M.S. Physics, July 2004), Aileen Corpuz, Charles Mamolo.

Undergraduate Students Advised:

Kara E. Gray, Carina M. Poltera, Jasmin Shrestha (Smith College)