

New Mexico AMP CURRENTS Summer 2009

Institutional Coordinator Profile: **Brian Pasko**, Assistant Professor of Mathematical Sciences at Eastern New Mexico University (ENMU), is one of our newest Institutional Coordinators (ICs), replacing long-time IC at ENMU, Regina Aragon. Brian has taught for the past three years at ENMU and has served as the IC since January of 2009. He earned an A.A.S. degree in Chemical Technology from Milwaukee Area Technical College, a B.S. in Mathematics from Marquette University, and an M.S. and Ph.D. in Mathematics from Kansas State University. In Brian's role as IC, he coordinates the New Mexico AMP Undergraduate Research Assistantship (URA) program, which provides scholarships to STEM students who work with faculty mentors. In this semester's URA program, Brian has five participants, including two computer science majors, two microbiology majors, and one chemistry major. In his role as IC, Brian also acts as administrator for scholarships provided by ENMU's Vice President for University Relations and Enrollment Services for dorm costs to incoming minority freshman. In addition, he coordinates the selection and funding of five New Mexico AMP students who receive academic scholarships from Xcel Energy. In his free time, Brian enjoys tennis, walking, hiking, mountain biking, and his favorite pastimes are unicycle riding and backpacking. Rounding off his list of activities he enjoys is perhaps the most important: spending time and playing fetch with his dog, Puduhepa (named for a powerful Hittite queen). Brian's area of specialty is Algebraic Topology, and he also holds an interest in applied math problems suitable for undergraduate level understanding. Welcome, Brian, to the New Mexico AMP program, and thank you for serving our students in the eastern part of the state. We appreciate all you do for our students!!

The fifth annual **Summer Community College Opportunity for Research Experience (SCCORE) program** was held at New Mexico State University from June 22-July 31, awarding scholarships to nine (9) statewide community college students. Awarded students include Cintia Avila, biology, from Central New Mexico Community College (CNM); Bethany Davis, Mechanical Engineering, New Mexico State University-Alamogordo (NMSU-A); Clyde Gonzales, Engineering Technology, Luna Community College (Luna CC); Edgar Gonzalez, Doña Ana Community College (DACC); Chris Herrera, Engineering Technology, NMSU-A; Diane Jimenez-Stinson, Biology, CNM; Abraham Ojeda, Physics, NMSU-A; Andrew Montaña, Engineering Technology, Luna CC; and Jacob Trujillo, Civil Engineering, Luna CC. Two students transferred to NMSU and two transferred to UNM in fall of 2009. During the SCCORE program, students attended a credit-bearing class that included training on the scientific method and engineering design process and poster training and development. Phyllis Baca, SFCC Institutional Coordinator, co-taught the class for the first week of the program. Several campus orientations were provided as well as a tour of six science and engineering labs. In addition, two panel discussions were presented, one comprised of Bridge to the Doctorate participants and one comprised of transfer students. Students also attended an All-Programs Luncheon on July 20 with New Mexico AMP program students. The highlight of the program was a Farewell Luncheon/Research Symposium at which the students presented their research.

Dr. Nader Vadiee, **Southwestern Indian Polytechnic Institute (SIPI)** Engineering Programs coordinator, and Scott Askew, NASA electrical engineer of the Software, Robotics, and Simulation Division at NASA Johnson Space Center (NASA JSC), hosted the largest group of engineering and engineering technology students from tribal colleges and universities (TCU's) from July 25-31, 2009. A group of 16 tribal college engineering students attended, including five (5) from SIPI, five (5) from Salish Kootenai College (SKC), four (4) from Oglala Lakota College (OLC), one (1) from **Dine'**, and one (1) from Little Big Horn College (LBHC). One mentor and three faculty members from SIPI, SKC, and Dine', also participated in the week-long visit to NASA JSC. While at JSC, the group toured the JSC facility and attended robotics engineering workshops. In addition, the SIPI and SKC students presented their Summer Research Experience projects during the week-long visit. All students who attended had already completed a five-week **NASA-AIHEC Summer Research Experience Programs at SIPI** or SKC.

Chris Lopez, **New Mexico AMP student at New Mexico Institute of Mining and Technology**, worked as an intern at Northern Mountain Contractors in Taos, New Mexico. In this position, he studied and worked with asphalt and seal coat mix used for the state's GRIP II projects.

Jared McDonald and Ricardo Medina, students in the Scholarships for Science, Technology, Engineering, and Mathematics (S-STEM) program, experienced interesting internships this summer. **Jared** completed a National Science Foundation (NSF) Research Experience for Undergraduates (REU) program at the University of New Mexico (UNM) with the Center for Micro-Engineering Materials. Jared studied catalyst sintering useful to maintaining a number of active sites in a chemical reaction, and he analyzed different chemical substrates to test catalyst activation properties and particle analysis. **Ricardo** conducted research at Stanford University on the micro air vehicle (MAV), a type of Unmanned Aerial Vehicle (UAV) smaller than a UAV with fixed, flapping, or helicopter-like wings. The objective of his research was to create a geometry using the Ansys ICFM-CFD software of an actual flapping-wing toy. This software was used to create a Finite element Model (FEM) and a Computational Fluid Dynamics (CFD) model.