

PARI SUMMER STUDENT RESEARCH PROCEEDINGS

The 2007 Summer Research Students at PARI experienced a rich set of special guest lectures by world-renowned scientists, conducted research, learned new research skills, and presented their research results. The collaboration between PARI and the NC Math and Science Education Network (MSEN) in the ROBOTS program brought 210 sixth graders to their first annual Symposium at PARI. Forty-nine resident high school students conducted research ranging from solar physics to studying black holes in other galaxies. Undergraduates residing at PARI enjoyed research challenges that included earth science instrumentation control, development of internet security, studying open star clusters, testing radio receivers that will combine the power of the two 26-m radio telescopes into a single telescope, and developing computer control of the roll-off roofs on the PARI Optical Ridge.

This was truly an outstanding summer! We want to share the summer student research papers in these proceedings. The student research papers in the proceedings are:

- ROBOTS – 210 sixth graders bring their home-built robots to PARI
- Space Science Lab – 27 students studying optical and radio solar activity
- Duke TIP – 22 students engaged in astronomical research
- J. Donald Cline Space Grant Scholar – Justin Ritchie, UNC-Charlotte
- Information Technology Scholar – Michael Mashburn, Western Carolina University
- Sherry and Richard Austin Scholar – Michael Aubrey, UNC-Chapel Hill
- Joe and Karen Phillips Scholar – Derrod Williams, NC A&T
- Furman Scholar – David Edwins, Furman University
- PARSEC Intern - Ezra Root Kirbach, UNC-Asheville
- PARSEC Intern - Joshua D. Karpen, UNC Asheville

We want to thank all of the summer 2007 students for sharing their enthusiasm to learn. We are honored to work with Verna Holoman and Rita Fuller from MSEN in the ROBOTS program. Their enthusiasm is reflected in the bright young minds we seek to inspire. We thank the Space Science Lab Teaching Assistants Isa Acevedo and Kim Rochester, and volunteer mentors Paul DuPont, Joe Phillips, Ed Comer, and Thurburn Barker, for their guidance to the students throughout the Space Science Lab Program. The Space Science Lab is made possible with the generous support of the Burroughs-Wellcome Fund Student Science Enrichment Program under the guidance of Carr Thompson. We enjoyed our sixth year with the Duke TIP Summer Field Studies for high school students at PARI. We send a special thanks to Nicki Charles, TIP Program Director, and TIP coordinating staff at PARI, Evan Ronken, Megan Jourdan and Zach Wagner. We thank John Meriwether, Don Cline, Brian Dennison, Chris Brown, and David Moffett for their research seminars presented to the TIP students. We owe a special debt of gratitude to: Joe and Karen Phillips; Sherry and Rick Austin; and J. Donald Cline for their generous contributions to support Summer Undergraduate Scholars. We thank Brian Dennison, Chuck Bennett, and David Moffett from PARSEC for the continued research collaboration and giving their students the research experience at PARI. In particular, we greatly appreciate Stephanie Brown-Houston, NASA Education Program Specialist, for her support of the PARSEC-PARI collaboration. We thank the PARI staff for their unrelenting support to assure the programs run smoothly. Jo and Don Cline are two very special people whose vision we share for student enrichment in science, technology, engineering, and mathematics. We are deeply thankful for their many contributions and involvement in making the programs at PARI successful. Thanks Jo and Don!



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