

Fun with Electrical Engineering @ St. Edmund's Academy

IEEE Pittsburgh's Student Activities has been working on starting an engineering outreach program for younger K-12 students. As part of this effort, IEEE Pittsburgh worked with St. Edmund's Academy to bring engineers into elementary school classrooms to develop interests in engineering and technology. IEEE members Rajiv Garg (Carnegie Mellon University) and Parviz Famouri (West Virginia University) visited St. Edmund's Academy (www.stedmunds.net) on April 20, 2010 to talk about basic engineering principles and in-depth about electrical motors.



Rajiv and Parviz also helped students create simple motors using

- Magnet wire (something like <http://www.radioshack.com/product/index.jsp?productId=2036277>)
- Magnet (<http://www.radioshack.com/product/index.jsp?productId=2103429>)
- D-cell battery (<http://www.radioshack.com/product/index.jsp?productId=3928387>)
- Paper-clips and rubber-band.



It was a really fun project and students were excited to learn about the physics behind motors. The same question "How many of you want to become an engineer?" when asked in the beginning of the session got only 6 hands but in the end got 18 hands. This small effort at St. Edmund's Academy improved (at least temporarily) the interest in engineering by 200%. It is wonderful to see a preK-8 school bring in engineers for advancing and improving the science and technology education. Efforts like these will

definitely improve the number of engineers, scientists, and professionals created by the American education system.

This event hosted over 20 fifth grade students and lasted about 2 hours. Rajiv Garg, on behalf of IEEE Student Activities, thanks Dr. William Kindler, Ms. Elizabeth Harbist, and Ms. Mindi Feldstein of St. Edmund's Academy for their cooperation in organizing this engineering outreach program.

Dr. Parviz Famouri is the author of over 70 papers in the fields of electro-mechanics and applied control.



His primary interests include design, analysis, modeling and control of electric machines, electric and hybrid electric vehicles, and MEMs. He has served as Principle Investigator on projects for NSF, DOD and NASA and has been involved with projects funded by Electric Power Research Institute and electric utilities. He is an active member of Institute of Electrical and Electronics Engineers (IEEE) professional organization (source: <http://www.lcsee.cemr.wvu.edu/faculty/faculty-detail.php?id=35&type=faculty>). Dr. Famouri is currently nominated for the position of IEEE R2 Regional Director.



Rajiv Garg is a doctoral candidate at Heinz College at Carnegie Mellon University. He earned his graduate degrees in computer science and electrical engineering from University of Southern California in Los Angeles and BS in electrical engineering from Institute of Technology, BHU in Varanasi, India. Rajiv has previously worked in varied fields ranging from information technology to power engineering in responsibilities ranging from a systems analyst to a mid-level manager. He is currently focusing on research on online social networks and innovative

internet technologies. His research papers have appeared in both national and international conferences and journals in the fields of information systems, business intelligence, robotics, artificial intelligence, transportation, and health informatics. He currently serves on the executive committee of the IEEE section in Pittsburgh, PA. Additionally, he has been chairing the annual robotic car race contest (IndEEE) held at Carnegie Science Center in Pittsburgh, PA for the last three years. Rajiv is the Chief Technology Officer of RAMS consulting and serves on the board of TTG Consultants. (source: <http://www.andrew.cmu.edu/user/rgarg/>).