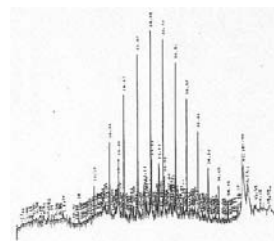


UNDERGRADUATE RESEARCH PROJECTS



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Taking Special Project in Chemistry or Undergraduate Research (CHEM 355/451/452) is the way to experience the academic research environment in Chemistry and Biochemistry. Students with prerequisites can take this class with the consultation of the faculty researcher. It is observed that students with undergraduate research experience are placed much better in the graduate and professional schools than those without the experience. If you are interested, talk with the faculties about their work. Then he/she could direct you to register for the course. Students (a list shown below) who finished undergraduate research in my group have written comprehensive research reports and presented the results at the end-of-semester departmental seminar. Some of their results were published in top journals.

UNDERGRADUATE RESEARCH PROJECTS

- Laor Boonsamer, 1987, Undergraduate research CHEM 451, *Reaction Headspace Gas Chromatography: Measurement of Artificial Sweeteners, Sodium Cyclamate*. Presented
- Sharma Shobna, 1988, Undergraduate, *Study of Equilibria in Micellar Solution by Headspace Gas Chromatography*. Presented
- Richard Kendall, 1989, Undergraduate, *Comparison of Differential Pulse and High Performance Differential Pulse Voltammetry in Trace Metal Analysis*. Presented
- Mark Hixon, 1989, Undergraduate, *Development of a General Method for the Study of Solute-Micelle Equilibria by a High Precision Headspace Gas Chromatography (PRF Fund. Anal. Chem. Publication.)*. Presented
- John Thomas, 1990, Undergraduate, *Pressure-Volume Study of a Commercial Headspace Analyzer*
- Zohra Olumee, 1991, Undergraduate, *Measurement of Hydrophobic Interactions of Benzene by Headspace Gas Chromatography (PRF Fund, Anal. Chem. publication)*. Presented
- Katrice Lippa, 1991, Undergraduate, *Measurement of n-Butanol in Microemulsions by Headspace Gas Chromatography (PRF Fund)*. Presented.
- Malcolm Pon, 1991, Undergraduate, *Development of a Basic Program for Electrochemistry Experiment with PAR-273 Analyzer*
- Saam Tabar, 2000, Undergraduate, *Testing of Groundwater for Trace As(III) by Anodic Stripping Voltammetry*. Biology Major. Presented
- Shehrazeh Shah, 2000, Undergraduate, *Measurement of Volatile Organic Compounds in the Environment by Solid Phase Microextraction*. Biology Major. Presented
- Bamshad Tabar, 2000, Undergraduate, *Testing of a High Resolution Protein Electrophoresis System for Clinical Applications*. Biology major.
- Zeshaan Ahmed, 2000, Undergraduate, (I) *Development of a Membrane Separation System for Arsenic and its Application in Groundwater Arsenic Measurement*, (II) *Hydrogen Bonding of Acid-Base Systems in Hydrocarbon Fuels*. (J. Petroleum Sci. and Tech.). Presented both
- Syed U Ali, 2002, Undergraduate, *Reflectance Measurement and Microwave Extraction of Filters Containing Air Particulates from Indoor Pollutants. (Fall 2002)*. Biology Major. Presented
- Naseeruddin Qureshi, 2003, *Micro-scale Organic Synthesis and Characterization by Solid Phase Microextraction*, CHEM 451 Undergraduate Research Project, Presented December 5, Fall 2003
- Naseeruddin Qureshi, 2004, *Thick Film Hybrid Chip Electrochemical Cell for the Measurement of Arsenic in Groundwater*, CHEM 452 Undergraduate Research Project, Presented December, Fall 2004.
- Kyle Purdy, 2004, *Development of a Virtual Electrochemical System for the Measurement of Arsenic in Ground Water by Using Ultramicroelectrodes in Flow Cells*, \$1000 Scholarship to Kyle from University Research Office. Presented in Tech Showcase.
- Kirubel Assegid, 2005. *Solute Partitioning in FC-70 (Perfluorotripropylamine)*, Project supported by National Science Foundation Grant and University of Pittsburgh. CHEM 452 Undergraduate Research Project. Presented
- Hung Au, Spring 2005. *Stripping Voltammetry with a Quartz Crystal Microbalance Electrode: Measurement of Arsenic in Water*. CHEM 451 Undergraduate Research Project Report.
- Auteen Brahimi, Fall 2006, *Development of Gas Phase Chemiluminescence Device to Measure Arsenic in Groundwater at Part-Per-Billion*. CHEM 452 Undergraduate Research Project.
- Jessica Bajkowski, Summer 2007. *Evaluation of arsenic measurement kits and development of reflectance spectrophotometric quantitation technique*. Summer undergraduate researcher from Wagner College, NY, July-August 2007.
- Faridi Qaium. *Development of Delphi based Data Acquisition and Control Application Software for Custom Analytical Instruments*. Undergrad Research. Summer 2007.
- Salman Ellekey. *Acid-Base Reactions on the Surface of Composite Iron Matrix*. Undergraduate Honors Student Research Project. June-August 2008.

- Munif Saza, *Composite Iron Matrix Embedded Fabrics for Water Filtration*, High School Student Project, July – September 2009.
- Farhan Ahmed, *Gas Phase Chemiluminescence of Arsine-Ozone and Headspace Gas Chromatographic Measurement of Methylated Arsenic Species*. Senior Undergraduate Research Projects, 2010. (CHEM 451, CHEM 452)
- Joan Rozario, *Composite Iron Matrix Embedded Fabrics for Arsenic Removal I and II*. Undergraduate Research Projects, 2010. (CHEM 355, 451 CHEM 452).
- Joan Rozario, *Study of Ag-AsH₃ Reaction by Reflectance Photometry: Application in Trace Arsenic Measurements*. Undergraduate Research Projects, 2010. (CHEM 452).
- Yousuf Azim, *Toxicity Characteristic Leaching Procedure*. Biology Honors Undergraduate Research Project, 2010