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## Department of Chemistry and Physics

Departmental Newsletter  
Volume 4 (Fall 2007)

### New Hires for 2007 – 2008

Due to continued growth, the 2007-2008 academic year has seen the addition of two new faculty members to our department. Dr. Rachel Smith (left) is an organic chemist, and Dr. William Brandon (right) is a physicist. Let us welcome them to our department.



### Fall 2007 Graduates

Due to continued growth at UNCP, the 2007-2008 academic year has so far given us one of our largest Fall semester graduating classes. Let us take the time to honor these students for their achievements.

Reese Bell  
Mary Beth Butler  
Dezia Chavis  
Joshua Campbell  
Aaron Corcelius  
Kalyn Dukes  
Ira Edge

Andrea Fissel  
Brian Hough  
Joshua Locklear  
Arika Patel  
Jason Smith  
Kalia Spooner  
Hassan Allen

Matthew Blue  
Ashleigh Brewer  
Leanna Carter  
Desiree Clark  
Tiffany Corley  
Justin Deese

### Chemistry and Physics Club Given Award

The Student Affiliates of the ACS (ie our chem/phys club) was recently awarded an honorable mention award at the ACS meeting in Boston. The chapter was selected over the summer when selected advisors reviewed the annual reports in Washington, D.C. Kristi Sinclair (now at VCU School of Dentistry) and Jessica Ortiz-Carerro (now at the University of Florida in the doctor of physical therapy program) did a wonderful job with the club last year and their efforts were rewarded with this award. Out of all of the awards, UNCP was the only NC school who received an award. This information was also recently published in the “in Chemistry” magazine for ACS student affiliates.



## Summer PURC Forum

A number of students from our department attended the Summer 2007 PURC (Pembroke Undergraduate Research and Creativity) forum, held on August 15, 2007. The students, with their presentation titles, are listed below.

Emily Howden (Dr. Paul Flowers)

*Ambient Pressure Sampling Mass Spectrometry for Determination of Atmospheric Carbon Dioxide*

Joshua Locklear (Dr. Paul Flowers)

*Development of a Sensitive Gas Chromatographic Method for Atmospheric Carbon Dioxide*

Shane Gutierrez (Dr. Paul Flowers)

*Toward Development of a Voltammetric Sensor for Carbon Dioxide*

Qahtan Alsaïdi, Ashley Clark, and Ladipo Eso (Dr. Tom Dooling, Dr. Sivandane Mandjiny, Dr. Maria Periera, Dr. Cornelia Tirla, and Ms. Shanna Harrelson)

*Production of Biodiesel from Vegetable Oil by Transesterification through Continuous Enzymatic Reactor*

Joseph Lemanski and Bradley Eidschun (Dr. Sivandane Mandjiny)

*Determining the Isoelectric Point [pI] for Amino Acids and Peptides: A Teaching Tool*

Chris Concepcion (Dr. Tom Dooling)

*Cookie Monte Carlo Program*

Kalyn Dukes (Dr. Tom Dooling, Dr. Sivandane Mandjiny, Dr. Maria Periera, Dr. Cornelia Tirla, and Ms. Shanna Harrelson)

*Exploration of Solid Acid Catalysts in the Production of Biodiesel Fuels*

Adam Ruiz (Dr. Tom Dooling, Dr. Sivandane Mandjiny, Dr. Maria Periera, and Dr. Cornelia Tirla)

*Study in Biodiesel Synthesis: Applications of Glycerol*

Brian McMullen (Dr. Tom Dooling, Dr. Sivandane Mandjiny, Dr. Maria Periera, Dr. Harold Teague, and Dr. Cornelia Tirla)

*The Extraction of Glucose from Paper to form Ethanol via Fermentation*

Samantha Schrock (Dr. Tim Ritter and Dr. Sivandane Mandjiny)

*Flame Dynamics in Microgravity*

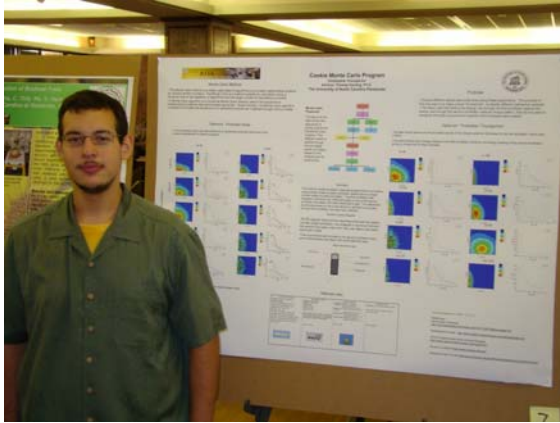
Melody Hunt and Katie Lewis (Dr. Meredith Storms)

*HPLC and TLC Determination of Selected Compounds in Feverfew Capsules*

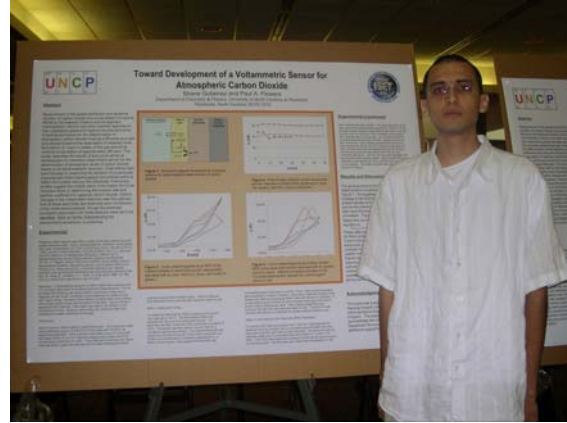
Donna Gilchrist (Dr. Meredith Storms)

*Using HPLC to Determine Metformin and Glyburide in Human Serum by Solid Phase Extraction*

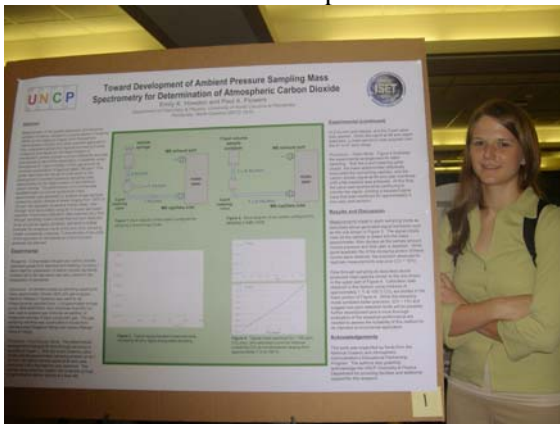
Marisol Waters (Dr. Leonard Holmes)  
*Characterization of Hog Lagoon Bacteria*



Chris Concepcion



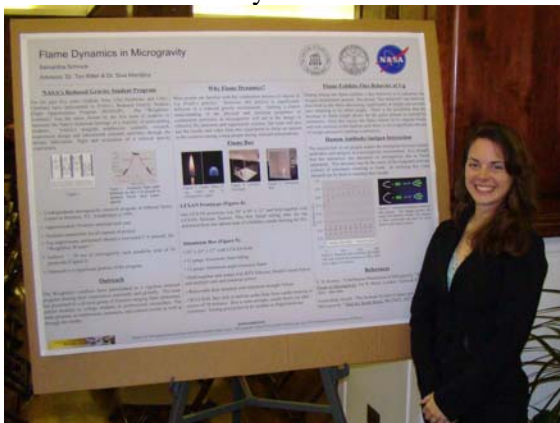
Shane Guterrez



Emily Howden



Adam Ruiz



Samantha Schrock



Heather Walters and Marisol Waters

## SNCURCS 2007

A number of UNCP students attended SNCURCS (State of North Carolina Undergraduate Research and Creativity Symposium), held on November 17 at the University of North Carolina at Greensboro. A listing of presentation titles is shown below.

Stephanie Baker (Dr. Mark McClure)

*Applications of Two-Dimensional NMR to the Study of Cobalt(III) Complexes Containing Tris(2-Aminoethyl)amine and 1,10-Phenanthroline*

Ashley Clark and Ladipo Eso (Dr. Tom Dooling, Dr. Sivandane Mandjiny, Dr. Maria Periera, and Dr. Cornelia Tirla)

*Production of Biodiesel from Vegetable Oil by Transesterification through Continuous Enzymatic Reactor*

Chris Concepcion (Dr. Tom Dooling)

*A Study of Radioisotope Identification using Thin vs. Thick Scintillator Combination*

Kalyn Dukes (Dr. Tom Dooling, Dr. Sivandane Mandjiny, and Shanna Harrelson)

*Exploration of Solid Acid Catalysts in the Production of Biodiesel Fuels*

Clint Haywood and Samantha Schrock (Dr. Timothy Ritter and Dr. Sivandane Mandjiny)

*Microgravity: A Down to Earth Approach to Science for Today's Youth*

Matthew Hoover and Michael Everhart (Dr. Jose D'Arruda)

*Methods of Recording and Measuring Laser Diffraction Laser Diffraction Effects Using Various Objects*

Joseph Lemanski and Bradley Eidschun (Dr. Sivandane Mandjiny)

*Determining the Isoelectronic Point for Amino Acids and Peptides: A Teaching Tool*

Edgar Mendoza (Dr. Leonard Holmes)

*Antioxidant Extraction Procedure on Four Different Fruits*

Chad Rigsbee (Dr. Leonard Holmes)

*Comparison of UV/Vis Absorption Spectra of Rhodospirillum rubrum Pigment Extracts Taken from Cultures Grown under Various Conditions*

Tala Smith and Lisa Walters (Dr. Timothy Ritter)

*The Influence of Micro- and Hypergravity on Immune Complex Formation*

Jason York and Michael Everhart (Dr. Jose D'Arruda)

*CCD Photography Spectroscopy in a Small College Observatory*

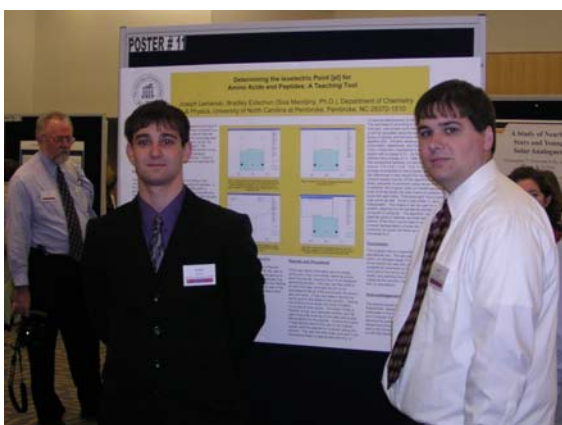
Shown on the following page are some pictures from this event.



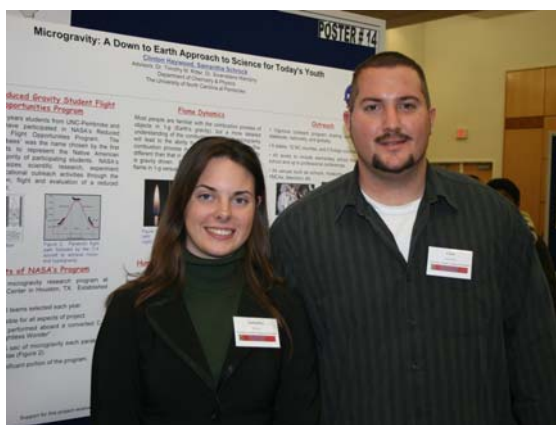
Ashley Clark and Ladipo Eso



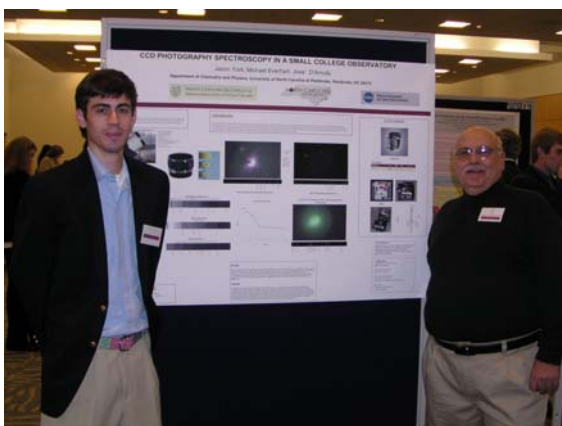
Kalyndukes



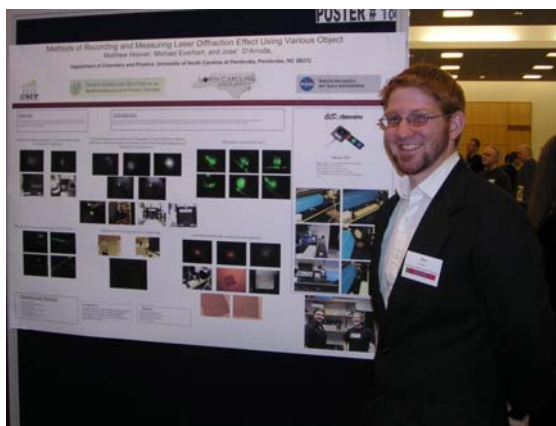
Joseph Lemanski and Bradley Eidschun



Clinton Haywood and Samantha Schrock



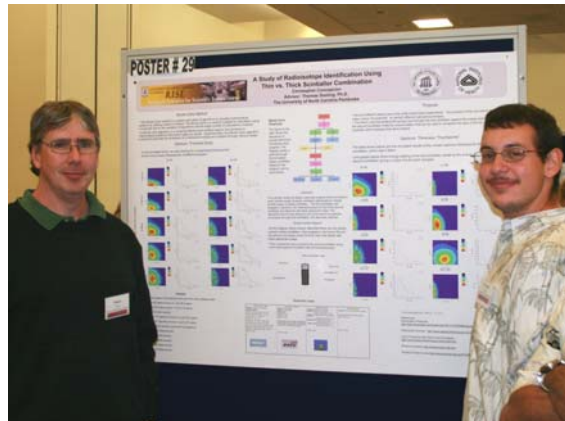
Jason York and Dr. Jose D'Arruda



Matthew Hoover



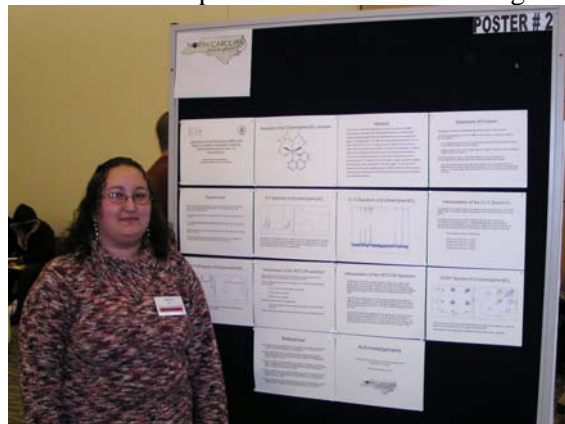
Chad Rigsbee



Chris Concepcion and Dr. Tom Dooling



Edgar Mendoza and Chad Rigsbee



Stephanie Baker

## Departmental Social

A department social honoring our graduating seniors was held on Wednesday, November 28. Special thanks should be extended to Shanna May Harrelson for planning the social, and to everyone who brought something. We had one of the best turnouts ever.



Lining up for the Food



Kristen Arnett with Fiancé Daniel and Mary Beth Butler



Rachel Smith, Cornelia Tirla, and  
Shanna Harrellson



Tim Ritter, Paul Flowers, William Brandon,  
Tom Dooling, and Siva Mandjiny



Stephanie Baker and Jennifer Sherman



Aaron Corcelius and Edgar Mendoza



Aaron Corcelius, Sarah Hymbaugh, and Jay  
Sibbett



Bobbie Scott, Felicia Scott, and Judy Hunt

### **A Note to Our Graduates (Present and Past)**

If you are a graduate of the UNCP Department of Chemistry and Physics, we want to hear from you! Please contact Shanna Harrellson ([maysm@uncp.edu](mailto:maysm@uncp.edu)) and let us know where you are and what you are doing.