

UNDERGRADUATE RESEARCH ASSISTANT PROGRAM (URAP)

SUMMER 2012

Students: Jonathan Cabai and Theodore Weyna

Faculty Member: Dr. Daniela Andrei, chemistry

Professor Andrei is adding to her work on nitroxyl (HNO) as a potential pharmacological compound used to treat heart failure and other medical conditions. In doing so, Professor Andrei will supplement her library of HNO donor compounds synthesized from primary amine diazeniumdiolates. After synthesizing novel compounds, they will subsequently be tested for their structure-activity and reactivity properties, in the hope of optimizing methods for probing for HNO compounds. The amount of HNO released from each of the compounds can be measured by allowing the diazeniumdiolate compounds to degrade, which occurs naturally and quickly, and then testing for the amount of HNO present via UV-VIS, FT-IR Spec and other analytical techniques. Jonathan and Theodore have worked with Professor Andrei before, and will aid her in her endeavors by synthesizing diazeniumdiolate compounds, analyzing the compounds to characterize their specific properties and maintaining the lab by organizing and ordering chemical reagents. Jonathan and Theodore will be working as Professor Andrei's assistants for the Summer 2012 and Fall 2012 terms.

SPRING 2012

Student: Yasen Azmanov

Faculty Member: Dr. J. Brent Friesen, chemistry

Yasen helped Professor Friesen to continue his work in trying to harness the untapped economic potential of used coffee grounds. Professor Friesen and Yasen analyzed the chemical composition of extracts from the coffee grounds, which are produced by using organic solvents, such as ethanol. One particular extract of the coffee grounds that has been identified is a percentage of triglyceride esters of fatty acids, or vegetable oil. Yasen helped by fractionating the crude extract by liquid-liquid and column chromatography techniques. The extract is then analyzed via high pressure liquid chromatography, infrared spectroscopy and gas chromatography to gather vital information about the nature of the extract. Professor Friesen and Yasen hope that their work can be used in certain commercial applications, such as the production of vitamin E, soaps and lotions.

Student: Karina Cisneros

Faculty Members: Dr. Paul Coe and Dr. Sara Quinn, mathematics

Professors Coe & Quinn worked with Karina to assess the effectiveness of Dominican University's Mathematical Placement Exam, which is administered to incoming Freshman students. Specifically, they looked into the format and scoring of the exam, which currently takes into account a student's score on each individual portion of the exam, the student's total score on the exam as a whole and the student's score on the math portion of the ACT. The hope for the project was to see if this scoring information can be coupled with grades that Freshman

receive in any math courses they take in their first semester at Dominican, to provide an informative collection of data. To analyze this data set, Professors Coe & Quinn and Karina used standard statistical tools, including cross-tabulations, chi-squared tests and linear regression. Karina helped by preparing the data for analysis using the statistical software SAS, and also helped with the analysis itself. Karina became familiar with a useful statistical program, data analysis and applying statistical tests to practical applications.

Student: Carly Connelly

Faculty Member: Prof. Noelle Allen Wright, sculpture

Professor Allen Wright continued her original sculpture work entitled *These Engulfing Folds*, with the help of her student assistant, Carly Connelly. The sculpture work was expanded upon, and revolved around the topic of child birth and the life-giving female body. The existing pieces of the collection consist mainly of clay, plaster and resin, but Professor Allen Wright and Carly created a number of new pieces that were made from more diverse materials, such as wax, concrete and steel. Carly's responsibilities included helping with the numerous molding steps, utilizing clay, wax, concrete and resin, as well as plaster carving and woodworking. Carly also aided in editing the work, in order to prepare it for a showing at the Carrie Secrist Gallery in Chicago. Along the way, Carly gained an understanding of the methodology and conceptual approach of the project, and also learned about the various processes and stages that go into art production.

Student: Isamar Heras

Faculty Member: Prof. Bill Kerr, graphic design

Continuation of grant awarded for Fall 2011

Student: Alexandra Howard

Faculty Member: Dr. Melissa Carr, apparel design and merchandising

Continuation of grant awarded for Fall 2011

Student: John Pontikis

Faculty Member: Dr. Daniela Andrei, chemistry

Professor Andrei and John continued their work with primary amine diazeniumdiolates by collecting supplemental data on the properties of four previously synthesized compounds, as well as designing novel compounds to add to their product library. Having collected data on the half-lives and UV-VIS spectra of their existing compounds, they continued their analysis by performing further kinetic degradation studies, nuclear magnetic resonance (NMR) analyses and HNO release studies. One of the main goals of the project was to achieve publication in a scholarly journal by submitting a paper on the work they accomplished. The work that Professor Andrei and John have done will contribute to certain health applications, particularly the treatment of heart disease, as HNO has the interesting biological effect of increasing heart muscle contractile strength.

Student: Andrew Reyes-Burkholder

Faculty Member: Prof. Kim Theriault, art history

Continuation of grant awarded for Fall 2011

Student: Julia Siwierka

Faculty Member: Dr. Tina Ritzler, psychology

Professor Ritzler and Julia used a mixed-methods program of research entitled *the Racial Privilege and Discrimination Studies* in order to understand adults' perceptions and experiences of racial privilege and discrimination, in the hope to better understand oppression and racism. The project involved four studies: one which was previously carried out by Professor Ritzler, a qualitative study of individuals' assessed perceptions and experiences of racial privilege and discrimination, a quantitative measurement validation study and a focus group study. Julia helped Professor Ritzler by analyzing qualitative data for the qualitative study, reviewing published measures to refine the study's measure and by identifying groups to target for inclusion in focus groups. During this process, Julia developed her knowledge and skills as a researcher, learned to write up a qualitative study in APA format and developed her knowledge base in many other vital areas of psychology.

FALL 2011

Student: Isamar Heras

Faculty Member: Prof. Bill Kerr, graphic design

Izzy contributed to Professor Kerr's work for the *Modern Quilts Illustrated* magazine by assisting with the sewing of quilts, and the testing/proofing of patterns for the magazine. Izzy's responsibilities included sewing quilts from original patterns for publication, proofing and critiquing step-by-step instructions and illustrations and assisting with aspects of the magazine production and development. While she was working with Professor Kerr, Izzy was able to refine her professional sewing skills, and gain an understanding of sewing that is specifically designed for photography. Izzy also developed her color work and fabric selection skills, worked with others to develop and produce a magazine and learned about the business aspects of art and design. The first issue of the *Modern Quilts Illustrated* magazine was launched at the International Quilt Market in Houston last Fall.

Student: Alexandra Howard

Faculty Member: Dr. Melissa Carr

Professor Carr has had been working on authoring a textbook for fashion design and fashion management students, which instructs students on the ready-to-wear process, how to identify market opportunities, how to execute product differentiation and how to market a new product or brand in retail. Alexandra assisted Professor Carr by gathering primary and secondary research sources for the textbook. Alexandra also helped with auxiliary components and the art program for the textbook. By helping Professor Carr, Alexandra learned about the entrepreneur's role in merchandise management, and also gained an understanding of the merchandising cycle, and the factors that are involved in the planning of an assortment when

launching a new brand. This significantly helped Alexandra as she began to develop her own jewelry business and brand. The textbook will be completed by September 2012, and will be published in the fall of 2013.

Student: John Pontikis

Faculty Member: Daniela Andrei

John continued his Undergraduate Research Assistantship from Spring 2011, in assisting Dr. Andrei with her project, Synthesis and Evaluation of Primary Amine Diazeniumdiolates as HNO Donors. John learned the synthesis of the diazeniumdiolates and prepared such compounds. He maintained an updated inventory list of chemicals for Dr. Andrei's lab as well as a good laboratory technique. John also helped to order different chemicals and train new students.

Student: Andrew Reyes-Burkholder

Faculty Member: Prof. Kim Theriault, art history

Andrew helped Professor Theriault continue her work entitled, *Beyond the Wall: The Vietnam Veterans Memorial in American Culture*, which evaluates the effectiveness of the memorial as an aesthetic object, commemorative site and human cultural landmark. Professor Theriault's work investigated the ways in which "the Wall" mediates trauma, remembering and cultural history. It also looked into how the Wall's aesthetic characteristics have inspired literary, popular culture and ceremonial reactions. Andrew helped expand research on the memorial in a number of ways. Andrew contacted various organizations and compiled survey data in order to collect research on the personal impact and influence of the memorial. Andrew also contacted the memorial's administrators to inquire about the memorial's appearances in TV, film, literature, etc. Andrew verified previously completed research and facts, and looked for new research in the fields of memorialization, mourning and trauma studies.

Student: Nicola Toritto

Faculty Member: Dr. J. Brent Friesen, chemistry

Nico helped Dr. Friesen further investigate the chemical process of dehydration of methylcyclohexanols in a mineral acid catalyst. Nico performed experiments similar to those run previously by Dr. Friesen and his student, Bobby Schretzman, but with cyclohexanol compounds with variable locations for the methyl substituent group. Nico also carried out kinetic studies for the reaction. He contributed to the data analysis portion of the research, and in the process learned about various laboratory instrumentation and procedures, such as gas chromatography and nuclear magnetic resonance. Nico had the opportunity to contribute to Dr. Friesen's manuscript for a scientific journal article, and also had the opportunity to present his work at the Great Lakes Regional Meeting of the American Chemical Society and the URSCI Expo.

SUMMER 2011

Student: Ernie Krause

Faculty Member: Dr. David Perry, history

Ernie helped research the appearance of St. George's image in a larger Mediterranean context as part of Dr. Perry's article-length project on St. George and Venice. He became familiar with the relevant background material on medieval culture, especially as it relates to St. George. Ernie hopes this experience will aid him with his plans to apply to graduate school.

Student: Tatum Wilson

Faculty Member: Dr. Tina Ritzler, psychology

Tatum continued her work with Dr. Ritzler from their Spring, 2011, URAP award (please see the full description below).

SPRING 2011

Student: Carly Connelly

Faculty Member: Prof. Noelle Allen Wright, sculpture

Carly worked with Dr. Wright on her project Lattice and Tension. Carly's role was to assist in the production of the sculpture. She helped complete the complex and time-sensitive steps of the mold making process from the clay original to the urethane multiple part molds to the final experimental pours. Carly was responsible for some plaster carving and thread work on the wood sculpture. She also helped edit the work and made decisions about a material or color or scale choice that most suits the conceptual direction of Lattice and Tension.

Student: Alexandria Garcia

Faculty Member: Dr. Chavella T. Pittman, sociology

Alexandria helped provide support for all parts of Dr. Pittman research project that continues her research agenda which examines the relationship between social norms and multicultural behaviors. Alexandria assisted Dr. Pittman with data collection, data analysis, methodology refinement/creation, and summary reports. She gained hands-on experience with every stage of research. Alexandria worked with SurveyMonkey, data analysis with SPSS, and create APA formatted tables and purposive literature reviews as they refine the methodology.

Student: John Pontikis

Faculty Member: Dr. Daniela Andrei, chemistry

John assisted Dr. Andrei with her project, Synthesis and Evaluation of Primary Amine Diazeniumdiolates as HNO Donors. John helped by learning the synthesis of the diazeniumdiolates and preparing such compounds. He maintained an updated inventory list of chemicals for Dr. Andrei's lab as well as a good laboratory technique. John also helped in ordering different chemicals and training new students.

Student: Raquel Robles

Faculty Member: Dr. Scott Kreher, biology

Raquel assisted Dr. Kreher in conducting behavioural assays and in mating fruit flies to create desired genetic combinations. She also helped analyze DNA sequences of odor receptor genes. Raquel worked with Dr. Kreher on the statistical analysis of the data, including fundamental knowledge and practical use of the statistics software package, SAS. She will be a co-author on the ultimate publication.

Student: Tatum Wilson

Faculty Member: Dr. Tina Ritzler, psychology

Tatum was involved with all parts of Dr. Ritzler's research project which seeks to understand adult perceptions and experiences of racial privilege and discrimination (important in understanding oppression and racism). Tatum reviewed the previous literature on the subject, perform data collection, and data analysis, which included coding interviews of the subjects who participate using Atlas ti software, as well as drafting a method and results section. Tatum learned the mechanical skills required to physically perform the experiments as well as an understanding of the scientific research process itself.

FALL 2010

Student: Bryan Deziel

Faculty Member: Dr. Liesl Orenic, history

Bryan worked with Dr. Orenic to evaluate groups of union contracts dating back to the 1940s to assess the broader contours of unionization for workers in several sectors of Chicago's economy including electrical warehousing, the lamp manufacturing industry, unskilled hospital work and at the catalog giant, Montgomery Ward. Bryan and Dr. Orenic focused on the primary sources related to Montgomery Ward and the immediate output of the assistantship will be an article on the unionization of Montgomery Ward in the 1950s.

Student: Ryan Forrest

Faculty member: Dr. Gerald Gulley, physical sciences

Ryan assisted Dr. Gulley in his research to attempt to understand a potential mechanism that causes lithium ion batteries to have shortened lifetimes. Ryan was trained in how to use the potentiostat (PARC 273) and will then carried out the proposed work. He will meet with Dr. Gulley each week to discuss results and upcoming experiments.

Student: Meagan Morales

Faculty member: Dr. Tama Weisman, philosophy

Meagan assisted Dr. Weisman with her project, Restorative Environmental Justice. Meagan will help in doing library research on Environmental Restoration and its possible role for REJ as well as compiling an annotated bibliography. Meagan discussed with Dr. Weisman the ideas generated through the essays and books as well as with the translations of sections of the Constitution de la Republica del Ecuador. She helped with the copying as needed.

Student: Michael Wesolowski

Faculty member: Dr. Scott Kreher, Biology

The short-term goal of this research is to produce data to present at the international Drosophila research conference; this goal will be met during the spring 2010 semester. The long-term goal is to incorporate this data into a publication. Michael assisted in conducting the behavioral assays and in mating fruit flies to create red genetic combinations. Michael also learned molecular biology, including analysis of DNA sequencing. Dr. Kreher worked with Michael on the statistical analysis of the data, including fundamental knowledge and practical use of the statistics software package, SAS. Michael will be a co-author for the conference presentation and will be a co-author on the ultimate publication.

SUMMER 2010

Student: Jane Arvis

Faculty Member: Prof. Bill Kerr, graphic design

This summer Professor Kerr prepared a book, *Transparency in Quilts* (working title) for publication. It will be the fifth book on modern quilt design that he has co-written with his wife Weeks Ringle. The book is scheduled for release by C&T publishing of Concord, California in October 2011. Jane assisted in making the quilts and in developing color studies for the book. Jane's fine craftsmanship, keen color sense and strong illustration skills made her a valuable assistant. Her responsibilities included sewing quilts, prototyping color variations and creating illustrations for publication. In addition to being credited in the book, Jane had the opportunity to learn about the business of publishing and design as she worked alongside Prof. Kerr and his wife in their studio.

Student: Maria Deri

Faculty Member: Dr. David Perry, history

Maria helped Dr. Perry with his ongoing book project on stolen relics and medieval Venetian identity. The book examines the construction of medieval narratives by the recipients of eastern relics after the Fourth Crusade (1204). It is an interdisciplinary project in nature, incorporating elements of historical, art historical, literary, theological, and ecclesiastical research. Maria engaged with specific texts, all in Italian that examine related phenomena along the Adriatic coast and Southern regions of Italy (including Naples, Amalfi, Bari and Venice).

Student: Julia Goetz

Faculty Member: Dr. Alisa Beyer, psychology

Julia worked with Dr. Beyer to finish data preparation for a Parent-Child Interactions study. Approximately 50 preschoolers and their parents came into a lab to complete four tasks (free play, clean up, reminiscing and problem solving). Additionally, parents filled out questionnaires on child behavior, parenting beliefs and the parent-child relationship. Julia assisted with data collection, video tape transcription, the preparation of transcripts for language software and data entry in SPSS to allow Dr. Beyer to begin analysis of the data. Julia also helped analyze the

data to examine relations between parent-child narratives across the four study tasks. Julia also assisted in a conference submission and manuscript preparation. Dr. Beyer plans to submit this study to a developmental psychology journal and a Society for Research in Child Development conference.

Student: Hannah Weber

Faculty Member: Dr. Judith Beto, nutrition sciences

This research project is the creation and implementation of the new 3-year curriculum cycle for the 12th Hephzibah/Dominican Summer Academy at special request of University President Donna Carroll to Nutrition Sciences. The program was held August 6–20, 2010, with a Saturday field trip to the summer bi-monthly Maywood Multicultural Farmer’s Market, of which Nutrition Sciences is a sponsor. The new 3-year cycle theme is reading with an emphasis on childhood stories that use food as either a focus or primary storyline. Hannah assisted with all aspects of the project which involves planning effective hands-on food experiences appropriate for the Hephzibah population of 20 children with instruction materials linked with appropriate outcome measure assessments.

SPRING 2010

Student: Marina Barbosa

Faculty Member: Dr. Lisa Amor Petrov, Modern Foreign Languages

This project, part of a larger one entitled “Hernán Cortés and the Historians: Masculinity and the Narration of Violence” studied how Carlos de Sigüenza y Góngora, in his *La piedad heróica de don Hernando Cortés* (1689), reproduces and modifies the conquistador’s initial depiction of his historical legacy in his letters to the king of Spain. Professor Petrov’s principal interest was to study whether Cortés’s emblematic masculinity is essentially accepted or contested within Sigüenza y Góngora greater narrative. I reexamined key events of the conquest, when Cortés narrates acts of violence for greatest rhetorical impact, and determined how the expectations and assumptions of the ideals of Western masculinity influence how he is later represented by a self-identified Mexican historian, who nevertheless remains a colonial subject. Marina’s work as research assistant was to help Professor Petrov with the identification and review of relevant historical sources.

Student: Salmaan Bokhari

Faculty Member: Dr. Wayne Koprowski, Brennan School of Business

Professor Koprowski worked on a research project concerning the use of technology in monitoring employees in the workplace and the effects of that monitoring on employee privacy. His undergraduate assistant (Salmaan Bokhari) conducted a literature review of relevant articles. The object of the research was to produce an article publishable in a peer reviewed journal, such as the *Journal of Labor and Employment Law*. Since Salmaan indicated an interest in attending law school, this project will provided him not only with research experience, but also with the opportunity to research a single topic in depth.

Student: Drew Carson

Faculty Member: Dr. Ellen McManus, English

Literary Darwinism is a controversial approach to literary studies, only about twenty years old, based on the idea that in order to understand our mind and its productions, including literature, we must understand our evolutionary past. Its practitioners make connections between literary studies and fields such as neuroscience and evolutionary psychology, and they use not only traditional textual analysis and contextual studies but also quantitative methods used in the social sciences. Professor McManus is planning to investigate, for a conference paper and later an article, whether and how literary Darwinism is being taught in undergraduate literature courses and whether it is presented in the context of its connections to other disciplines. Drew will continue to help Professor McManus search for relevant articles and correspond with scholars who use the literary Darwinist approach.

Student: Luis Garay

Faculty Member: Dr. Germaine Goetz-Sota, Theater

Luis assisted Professor Goetz-Sota with her book about Graham Greene's manic-depressive disorder and its impact on his dramaturgy. In particular, Luis will be helping her gather information on Greene's less well-known plays: *For Whom the Bell Chimes* and *A House of Reputation*. Luis will find critical reviews in newspapers and magazines published at the time of each play's production. Professor Goetz-Sota is under contract with Mellen Press to have her manuscript completed by fall, 2011.

Student: Michael Wesolowski

Faculty Member: Dr. Scott Kreher, Biology

The short-term goal of this research was to produce data to present at the international *Drosophila* research conference; this goal was met during the spring 2010 semester. The long-term goal was to incorporate this data into a publication. Michael assisted in conducting the behavioral assays and in mating fruit flies to create desired genetic combinations. Michael also learned molecular biology, including analysis of DNA sequencing. Dr. Kreher also worked with Michael on the statistical analysis of the data, including fundamental knowledge and practical use of the statistics software package, SAS. Michael was a co-author for the conference presentation and will be a co-author on the ultimate publication.

FALL 2009

Student: Mackenzie Brooks

Faculty Member: Dr. Clodagh Weldon, Theology

This project entailed preparing a manuscript of a book for the American Academy of Religion's Teaching Religious Studies Series published by Oxford University Press. The book, which is under contract with Oxford University Press (deadline January 31st, 2010) is co-edited with Kelly Bulkeley of Graduate Theological Union and was entitled *Teaching Jung*. Other books in the series include *Teaching Freud*, *Teaching African American Religions* and *Teaching Islam*. *Teaching Jung* contains 16 chapters by different scholars, most of which have been

received. As with all publishers, OUP has very specific guidelines on things relating to style, especially footnotes and endnotes, quotations, chapter bibliography etc. Mackenzie's work as research assistant was to help edit this manuscript for publication.

Student: Drew Carson

Faculty Member: Dr. Ellen McManus, English

Literary Darwinism is a controversial approach to literary studies, only about twenty years old, based on the idea that in order to understand our mind and its productions, including literature, we must understand our evolutionary past. Its practitioners make connections between literary studies and fields such as neuroscience and evolutionary psychology, and they use not only traditional textual analysis and contextual studies but also quantitative methods used in the social sciences. Dr. McManus investigated, for a conference paper and later an article, whether and how literary Darwinism was being taught in undergraduate literature courses and whether it was presented in the context of its connections to other disciplines. The first stage of the research involved surveying textbooks, searching article databases, and contacting scholars who used the literary Darwinist approach. Drew Carson helped Dr McManus with this part of the research.

Student: Kim Crawford

Faculty Member: Dr. David Perry, History

Kim helped Dr. Perry develop a better understanding of the connections between relics and politics in the Middle Ages. This study was part of Perry's ongoing book project on stolen relics and medieval Venetian identity. Kim worked with both primary and secondary sources, as well as constructed an extensive annotated bibliography.

Student: Ashley Gans

Faculty Member: Dr. Robert A. Faltynek, Physical Sciences

Ashley worked with Dr. Faltynek to extend and refine an infrared spectrophotometric (IR) technique for the quantitative analysis of aqueous solutions that mimic blood plasma in their composition. Preliminary results shown that measured and predicted concentrations of the targeted analytes (the anions H_2PO_4^- , HPO_4^{2-} , PO_4^{3-} , HCO_3^- , and CO_3^{2-}) differ markedly, and Ashley looked into ways of improving the method. Ashley's project included instrumental analysis, traditional volumetric wet chemical analysis, and mathematical modelling of the effect of pH on a multi-component aqueous solution of interacting solutes.

SUMMER 2009

Student: Rose Beausoleil

Faculty Member: Dr. Tracy Caldwell, Psychology

Rose helped Dr. Caldwell continue her research project that sought to explain a previous finding that men are not romantically attracted to funny women (Bressler & Balshine, 2006; Bressler, Martin, & Balshine, 2006). According to role congruity theory, prejudice stems from a mismatch between a group's stereotype and behavior; when women violate the feminine stereotype by using humor in situations that prescribe the stereotypical behaviors (e.g., in romantic

relationships) they are likely to experience sanctions. Two experiments explored the effect of traditional gender role beliefs (Johannesen-Schmidt & Eagly, 2002) on attraction judgments.

Student: Kim Crawford

Faculty Member: Dr. David Perry, History

Kim helped Dr. Perry develop a better understanding of the connections between relics and politics in the Middle Ages. This study was part of Perry's ongoing book project on stolen relics and medieval Venetian identity. Kim worked with both primary and secondary sources, as well as constructed an extensive annotated bibliography.

Student: Theresia Dschida

Faculty Member: Dr. Tracy Jennings, Apparel Design & Merchandising

This project was a book about creativity and innovative fashion design. The book presents creativity as a confluence of traits: 1) cognitive, 2) personality, 3) motivational, and 4) environmental. By understanding these characteristics of creativity, designers can knowingly focus on traits that can foster creativity and avoid traits that can inhibit it. The text is presented in workbook form and includes activities, photos, illustrations, vignettes, and examples. Theresia assisted with these auxiliary components and the art program.

Student: Matthew Earle

Faculty Member: Dr. Alisa Beyer, Psychology

Matthew helped Dr. Beyer analyze data collected during previous semesters to examine the role of Pecha Kucha (PK) as a presentation style and review technique for students in developmental psychology courses. PK is a fast paced presentation style in PowerPoint where slides are presented for 20 seconds and minimal text is used. The PK format forces the presenter to be organized and prepared for each slide. They investigated whether PK enhances student presentation skills and student learning outcomes. Mathew assisted in data entry, data analysis and manuscript preparation. Dr. Beyer planned to submit this study to a teaching journal.

Student: Austin Hall

Faculty Member: Prof. Jeffery Cote de Luna, Art

Austin worked with Jeffery to continue his project that involved research on the stylistic periods, regions, artists, and individual paintings from which he developed his next series of quantitative monochromes. Once the selections were made, he assisted in scanning and downloading the images into Photoshop, determining the color averages of the scanned images, and prototyping the series in Adobe Illustrator. Together they determined the appropriate scale and medium for the new work.

SPRING 2009

Student: Jason Dudek

Faculty Member: Dr. J. Brent Friesen, Chemistry

Jason explored two-phase solvent systems which are used in countercurrent chromatography

(CCC). The long-term goals of this project were to develop CCC technology to render it more transparent and user-friendly to other research applications. We are particularly interested in the use of “green” solvents in CCC to replace petroleum-derived solvents that are so prevalent in chromatography applications such as HPLC and column (flash) chromatography. Two-phase solvent systems with green solvent components were first evaluated for their CCC compatible properties. Then, a mixture of about 20 natural products, called the “GUESSmix,” were used to evaluate the polarity characteristics of the solvent systems as well as their performance characteristics. All of this work was performed “in-house” at Dominican with the instruments currently available. This project was part of an ongoing partnership between DU and the UIC College of Pharmacy that has produced five scientific articles over the past five years.

Student: Ashley Gans

Faculty Member: Dr. Robert A. Faltynek, Physical Sciences

Ashley worked with Dr. Faltynek to extend and refine an infrared spectrophotometric (IR) technique for the quantitative analysis of aqueous solutions that mimic blood plasma in their composition. Preliminary results show that measured and predicted concentrations of the targeted analytes (the anions H_2PO_4^- , HPO_4^{2-} , PO_4^{3-} , HCO_3^- , and CO_3^{2-}) differ markedly, and Ashley looked into ways of improving the method. Ashley’s project included instrumental analysis, traditional volumetric wet chemical analysis, and mathematical modeling of the effect of pH on a multi-component aqueous solution of interacting solutes.

Student: Jacqueline Travers

Faculty Member: Dr. Tracy Caldwell, Psychology

Jackie helped Dr. Caldwell conduct research that sought to explain a previous finding that men are not romantically attracted to funny women (Bressler & Balshine, 2006; Bressler, Martin, & Balshine, 2006). According to role congruity theory, prejudice stems from a mismatch between a group’s stereotype and behavior; when women violate the feminine stereotype by using humor in situations that prescribe the stereotypical behaviors (e.g., in romantic relationships) they are likely to experience sanctions. Two experiments explored the effect of traditional gender role beliefs (Johannesen-Schmidt & Eagly, 2002) on attraction judgments.

Student: Katarzyna Zadlo

Faculty Member: Dr. Mickey Sweeney, English

Kat and Dr. Sweeney worked on the introduction to Dr. Sweeney’s book, “Unhappy Happy Endings,” which discusses the problems in defining the romance genre and why certain expectations, such as a happy ending, are transformed and transforming in terms of how an audience interprets the text. Even the proposal of a happy ending as generic requirement presents a problematic assertion, which has not, however, prevented many romance critics from claiming just such a necessity, hence the need to establish the veracity of such a claim for English romances. Equally difficult will be trying to exhaustively define the romance genre, but the need is clear from the “problematic” status that Shakespeare’s *Troilus and Cressida* still suffers from, as well as the “misreadings” of Tennyson or for that matter all of the poets in this collection, demonstrating that cultural contexts still need to be examined for more fruitful readings of these popular texts to be achieved.

FALL 2008

Student: Melanie Bonifacio

Faculty Member: Dr. J. Brent Friesen, Chemistry

Melanie's work included fractionating and identifying used coffee ground extracts that were prepared by a previous student researcher. The process of fractionating solvent extracts is done by chromatographic methods such as silica gel column chromatography, other forms of column chromatography, and countercurrent chromatography. Fractions are monitored by thin layer chromatography and gas chromatography to determine complexity and make-up. Identification of compounds is achieved by UV-vis spectrophotometry, IR spectrometry, and comparison with standards on GC-FID, GC-MS, and NMR spectroscopy. This research planned to lead to a proposal for external funding for the production of biofuels from used coffee grounds as well as a publication on the CCC separation of used coffee grounds extracts.

Student: Justyna Duda

Faculty Member: Prof. Jeffery Cote de Luna, Art

Justyna worked with Jeffery to determine and research the stylistic periods, regions, artists, and individual paintings from which he planned to develop his next series of quantitative monochromes. Once the selections were made, she assisted in scanning and downloading the images into Photoshop, determining the color averages of the scanned images, and prototyping the series in Adobe Illustrator. Together they determined the appropriate scale and medium for the new work.

Student: Ryan Forrest

Faculty Member: Dr. Robert A. Faltynek, Physical Sciences

Ryan worked on a research project with Dr. Faltynek to gain insight into the chemistry of breaking glass. He synthesized luminescent molecular tags capable of differentiating ionic and free radical "loose ends" that were likely to form in a propagating glass crack. After characterizing the tag compounds via luminescence and excitation spectroscopy, he applied them to cracked glass in order to sort out nature and number of each type of loose end being formed under various environmental conditions.

SUMMER 2008

Student: Ashley Martinez

Faculty Member: Dr. Doug Kebelein Gutierrez, History

Ashley helped Dr. Kebelein Gutierrez complete a manuscript for publication with the Edwin Mellen Press. The book is based on his dissertation in which he investigated the history of the Guatemalan military academy. She searched for recent books and articles related to this topic and verified the accuracy of footnotes. She also gained insight into the kinds of challenges historians face when they conduct research.

Student: Vanessa Noonan

Faculty Member: Dr. David Perry, History

Vanessa Noonan helped Dr. Perry develop a better understanding of how medieval authors constructed their narratives. This study was part of Perry's ongoing book project based on his dissertation. Noonan gained insight into how historians organize large-scale projects, as well as learned much about the Middle Ages, her professed field of greatest interest.

Student: Laura Volpe

Faculty Member: Dr. Lou Tenzis, Chemistry

For this project Lou Tenzis, with an honors program student Laura Volpe as assistant, worked on developing a usable transcription of one of the manuscript journals of Mary Moody Emerson, a little known but important figure in the intellectual history of the new U.S. republic. This particular journal is specifically dedicated to her study of Jonathan Edwards. The purpose of getting a readable copy of this journal was to find out exactly to what extent Edward's influenced her thinking on the limits of human understanding, freewill-determinism and the credibility of personal religious experience. Establishing a readable transcription is a very difficult task because of the physical condition of the manuscript, peculiarities of orthography, and idiosyncrasies of style. There is a reason none of her journals have been published—and this is it. The output of this project was to come up with a readable version of this 22 page journal.

SPRING 2008

Student: Anna Cooper

Faculty Member: Dr. Gina M. Zainelli, Biology

Anna helped Dr. Zainelli with a research project that examined the effects of ingestion of the enzyme transglutaminase in the nematode worm, *C. elegans*. Transglutaminase enzymes are involved in neurodegenerative diseases such as Alzheimer's and Parkinson's disease and are a common food processing additive. Anna conducted experiments, maintained cultures, and analyzed data which provided preliminary data for incorporation into grant proposals and a manuscript that was in preparation. Not only that, but Anna presented her findings at the first annual Dominican University Research and Creative Investigations Symposium.

Student: Victoria Y. Correa

Faculty Member: Dr. Robert A. Faltynek, Physical Sciences

Victoria continued a research project with Dr. Faltynek that examined the utility of infrared spectrophotometry in the quantitative analysis of multicomponent aqueous solutions. She focused on studying solutions containing the same carbonate / phosphate solutes as human blood plasma, with the goal of developing a precise method for accurately determining the concentrations of all components via a single measurement.

Student: Armir Doka

Faculty member: Dr. Julia Nephew, Modern Foreign Languages

Armir helped Dr. Nephew conduct research on the medieval mythological character Mélusine who appears in fictional work associated with a French noble family, the Lusignans.

Armir helped locate and summarize primary and secondary sources, build a bibliography, scan images, and locate medieval maps of the Middle East region. Dr. Nephew presented two papers on the subject at academic conferences during the spring semester. One explored the role of the Lusignan family in the Crusades and the other compared the European Mélusine myth with a similar Cambodian myth.

Student: Ryan Flores

Faculty member: Dr. Samina Hadi-Tabassum, History

Ryan Flores is a History student in RCAS who helped Dr. Hadi-Tabassum collect the historical data needed for the first chapter of a book titled "The Hispanization of Black Schools: Changing Demographics and Changing Schools." He spent most of the time on the following tasks: (1) located and analyzed academic texts on the history of inner-ring suburbs in the Chicagoland area; (2) located and analyzed academic texts on the history of Melrose Park and Maywood; and (3) collected and categorized census data on the recent Hispanic migration to the inner-ring suburbs in the form of tables and census maps. He searched our own library database, the libraries of these very same inner-ring suburbs, the Newberry Library, and the Chicago Historical Society for scholarly texts.

Student: Caitlyn Kamm

Faculty Member: Dr. Susan M. Strawn, Apparel Design & Merchandising

Caitlyn continued a research project with Dr. Strawn that explored factors of influence on the predicted demise of a 150-year-old style of traditional black church garments—a pron, cap, shawl—worn by women in the Amana Colonies, Iowa. She helped with selected parts of research, specifically transcription of recent in-depth interviews with Amana women and further literature review on utopian communities for the historical part of a manuscript in preparation. She also constructed an accurate set of replica church garments based on extant pieces in the collection at the Museum of Amana History.

Student: Philip Lenzini

Faculty Member: Dr. Marion Weedermann, Mathematics

Phil assisted Dr. Weedermann in her work on mathematical modeling of the Asian carp population in the Mississippi river. Phil conducted numerical experiments to a) validate baseline behavior of the mathematical model, b) complete a sensitivity analysis on the parameters in the model, and c) verify the existence of equilibria and their stability properties. Phil's results were included in a forthcoming article on this research.

Student: Cindy Matias

Faculty Member: Dr. Alisa Beyer, Psychology

Cindy worked with Dr. Beyer to study bilingual Hispanic and Latino families with preschoolers. They examined whether parents' narrative skills, the parent-child relationship, and other factors in the home related to children's narrative and memory skills. In addition, they explored relations among parent-child reminiscing measures, the home environment, the parent-child relationship, the child's behavior, and the child's social status at preschool. They planned to recruit bilingual Hispanic and Latino families as Cindy is bilingual and this is an understudied population. Cindy assisted with recruitment, data collection, coding data, and transcribing data.

Student: Tyson Schutz

Faculty Member: Father Richard Woods, Theology

Tyson helped Father Woods with a book on spirituality and human health that was planned on being published for Veritas Press in Dublin, Ireland. Tom found relevant materials for this manuscript and rechecked facts and figures pertinent to medical research.

Student: Barbara Van Loon

Faculty Member: Dr. Michelle VanNatta, Criminology

Ms. Van Loon helped Dr. VanNatta conduct research on the strategies and experiences of the young women of the Roger's Park Young Women's Action Team (YWAT) in their campaign against street harassment. Ms. Van Loon participated in all phases of this qualitative sociological research project, assisting with content analysis of YWAT documents, researching existing literature on street harassment and youth organizing, analyzing interviews, and contributing to the final manuscript. The article on YWAT was part of an anthology on resistance to street harassment around the world, which Dr. VanNatta was co-editing with Mariame Kaba of Northwestern University. Ms. Van Loon also collaborated in the book project, assisting with researching anti-harassment campaigns, disseminating the Call for Papers, assessing manuscripts, and communicating with contributors.

Student: Susan Wu

Faculty member: Dr. Tracy Jennings, Apparel Design & Merchandising

Susan helped Dr. Jennings investigate how technology can be used to enhance the figure. They created a digital print design and manipulated the line and proportion of that print to augment or minimize specific areas of the body. The textile design was customized to individuals to address their perceived figure problems.

FALL 2007

Student: Tom Blackwell

Faculty Member: Dr. John Jenks, Communications Arts & Sciences

Tom helped Dr. Jenks with foundational work for a book, tentatively titled Hearts, Minds, Media: Struggle over Post-Colonial Global Journalism Structures in the Cold War. Tom helped build a bibliography, track down historical figures for future interviews, and locate and summarize published primary sources.

Student: Ashley Martinez

Faculty Member: Dr. Doug Kebelein Gutierrez, History

Ashley helped Dr. Kebelein Gutierrez complete a manuscript for publication with the Edwin Mellen Press. The book was based on his dissertation in which he investigated the history of the Guatemalan military academy. She searched for recent books and articles related to the topic and verified the accuracy of footnotes. She gained insight into the kinds of challenges historians face when they conduct research.

Student: Mary Petrosko

Faculty Member: Dr. Bob Calin-Jageman, Psychology

Mary helped Dr. Calin-Jageman with a research project that examined the effect of the developmental environment on adult sensory processing in the marine gastropod *Aplysia californica*. Kelly was responsible for conducting the experiment, maintaining the animals, and analyzing the data. They planned to present the results of this study at a meeting of the Chicago Chapter for the Society for Neuroscience.

Student: Jacqueline Reich

Faculty Member: Dr. Kim Theriault, Art History

Jacqueline helped Dr. Theriault with her book, *Modern Making and the Myth of the Artist: Displacement, Trauma, and the Crisis of Arshile Gorky*. Jacqueline searched for recent material on Gorky, helped Dr. Theriault determine which images should be included in the book, and helped to obtain copyright approval for the use of the selected images.

Student: Tyson Schutz

Faculty Member: Father Richard Woods, Theology

Tyson helped Father Woods with a book on spirituality and human health that he planned on publishing for the Veritas Press in Dublin, Ireland. Tom found relevant materials for this manuscript and rechecked facts and figures pertinent to medical research.

SUMMER 2007

Student: Malini Ramadorai

Faculty Member: Dr. Judy Beto, Nutrition Sciences

The purpose of the summer research project was to gather information on the availability of current children's books that promote, rather than mock, healthy lifestyles or diet as part of their story line with the intention to write a manuscript with Malini as a co-author describing the findings of this research. Malini completed the initial search for books, rated the selected books using a standardized form, and tabulated the results in an excel spreadsheet. She was involved in the critical thinking necessary to make decisions as the project progressed.

Student: Jacqueline Reich

Faculty Member: Dr. Kim Theriault, Art History

Jacqueline helped Dr. Theriault with her book, *Modern Making and the Myth of the Artist: Displacement, Trauma, and the Crisis of Arshile Gorky*. Jacqueline searched for recent material on Gorky, helped Dr. Theriault determine which images should be included in the book, and helped to obtain copyright approval for the use of the selected images.

SPRING 2007

Student: Araseli Barajas

Faculty Member: Dr. Christina Perez, Sociology

Araseli helped Dr. Perez with her research on Preventative Medicine and Popular Participation in Venezuela. She helped to transcribe tapes, create analytical and theoretical notes, and assisted in the line-by-line coding of the English translations. Araseli then helped Dr. Perez in coding the data.

Student: Victoria Y. Correa

Faculty Member: Dr. Robert A. Faltynek, Physical Sciences

Victoria conducted a research project with Dr. Faltynek that examined the utility of infrared spectrophotometry in the quantitative analysis of multicomponent aqueous solutions. She focused on studying solutions containing the same carbonate / phosphate solutes as human blood plasma, with the goal of developing a precise method for accurately determining the concentrations of all components via a single measurement.

Student: Alana Devine

Faculty Member: Dr. Tracy Jennings, Apparel Design & Merchandising

Alana worked with Dr. Jennings on her proposed project, *With all the Trimmings*, in a design-based project that investigated the use of non-traditional media in art-to-wear apparel design. Alana helped throughout all the processes including design, patterning, and garment construction. She also helped co-write the manuscript that accompanied the designs that were submitted for publication and exhibit.

Student: Krista Johnson

Faculty Member: Dr. Mickey Sweeney, English

Krista helped Dr. Sweeney with her book project for the Christianity and Culture series with Boydell and Brewer. Krista helped with a series of editorial steps, firstly, library research, in which she found all the current articles relevant to each of the chapters to make sure that the authors had included the most recent and necessary materials. She then helped with the editorial process acting as a proofreader and footnote checker, and then was a final reader when they received the proofs.

Student: Stephanie Majkowicz

Faculty Member: Dr. Marion Weedermann, Mathematics

Stephanie helped Dr. Weedermann with her research on the Mathematical Modeling of the Asian Carp Population in the Mississippi River. She was in charge of collecting biological

information about the Asian carp as well as establishing a basic reproductive/competition cycle for the Asian carp and native fish populations. Stephanie also worked on numerical solutions.

Student: Jesus Molinar

Faculty member: Dr. Kelly Burns, Philosophy

Jesus was asked to use various databases to help find relevant articles and books relating to Dr. Burns' research on Maurice Merleau-Ponty's theory of the body and ecofeminism. He learned about the different databases that were available, discovered which were most helpful for particular topics, and learned how to navigate the various databases to find material.

Student: Allison Quinn

Faculty Member: Dr. Joseph Heininger, English

Allison helped Dr. Heininger with the publication of his findings dealing with Irish emigration to America and Irish-Americans returns to Ireland from 1960-present. Allison worked with libraries to obtain materials in the US and Ireland; assessed materials by reading and annotation sources; wrote a descriptive bibliography of the most useful materials; as well as wrote an essay evaluation of the most significant materials in one category.

Student: Malini Ramadorai

Faculty Member: Dr. Judy Beto, Nutrition Sciences

Malini completed two activities for Dr. Beto. She first helped Dr. Beto with the research needed for the revision of a Nutrition textbook. Second, she researched various ethnic cultures, which enabled her to write two short stories that were used for a new proposed sophomore seminar. The methodology for the book revision was straightforward documentation of new resources and updating of existing resources. The methodology for the short stories was the necessary research to create reasonable accuracies in the proposed scenario.

Student: Jacqueline Reich

Faculty Member: Dr. Kim Theriault, Art History

Jacqueline helped Dr. Theriault with her book, *Modern Making and the Myth of the Artist: Displacement, Trauma, and the Crisis of Arshile Gorky*. Jacqueline searched for recent material on Gorky, helped Dr. Theriault determine which images should be included in the book, and helped to obtain copyright approval for the use of the selected images.

Student: Ryan Sylverne

Faculty Member: Dr. Liesl Orenic, History

Ryan conducted research with Dr. Orenic at the Northwestern University Transportation Library. The library has an extensive collection of airline industry literature. Ryan helped survey the primary source material from the Air Transport Association as it related particularly to the organization's role in outsourcing efforts, mutual aid agreements and response to the multi-carrier strike in 1966. Ryan's second task was to provide feedback on the manuscript.