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EUGENE M. LANG
STUDENT RESEARCH EXPERIENCES

2001 – 02

Accounting
Biology
Chemistry
Literature
Philosophy
Speech Pathology

The Eugene M. Lang Student-Faculty Research Fellowships at Pace University are designed to support and encourage undergraduate students who exhibit promise for advanced study and careers in research. Students selected for this prestigious award devise and undertake worthy research projects in collaboration with Pace University faculty mentors. In most cases, the research projects completed by student-faculty teams culminate in publication and/or presentation at scholarly conferences. Pace University gratefully acknowledges the generous contribution provided by the Eugene M. Lang Foundation in support of our outstanding students.

RESEARCH IN ACCOUNTING

STUDENT RESEARCHER:

Tracy L. Magann, Class of 2002, Major: Public Accounting

FACULTY MENTOR:

John Y. Lee, Ph.D., Schaeberle Professor of Accounting, Lubin School of Business

TITLE OF RESEARCH PROJECT:

Accounting Administrators' Cost/Benefit Assessment of Their 150 Hour Program: A National Survey

DESCRIPTION OF RESEARCH:

The 150-hour education requirements established by the American Institute of Certified Public Accountants (AICPA) as the minimum qualification to take the CPA examination has been blamed as a reason for the steady decline in student enrollment in Accounting Programs nation-wide. The 150-hour requirement, in a very general way, is believed to impose additional costs on students, accounting educational institutions, and public accounting firms and their clients. In her research, Ms. Magann and Professor Lee surveyed accounting program administrators using a questionnaire containing six questions compiled to assess the costs and benefits of the 150-hour program. Whether administrators were influenced by the sheer number of other schools adopting, or likely to adopt, a 150-hour program is also examined. Responses to the project were overwhelming from hundreds of universities nationwide. There is a statistically significant, positive correlation between pre-adoption assessments and post-adoption assessments overall.

TRACY'S SUMMARY OF HER RESEARCH EXPERIENCE:

The problem investigated was the change made by universities to incorporate and adopt the 150 credit hour program as their mandatory accounting curriculum. The method used to investigate the bandwagon effect of this change was to utilize a custom made survey/questionnaire that was distributed to approximately 3,000 accounting program heads nationwide. Our survey received an overwhelming response with approximately 48% of the surveys returned in time for the empirical analysis. The results of the investigation demonstrated that several accounting program chairs viewed the change to have a negative effect on the number of students enrolling in their program of study. Before making the change, it was perceived to be extremely beneficial to adopt the 150-hour rule, however, the costs outweighed the benefits in the majority of the universities surveyed.

The highlight of this research project was having the opportunity to work on a one-to-one basis with Dr. John Lee. Dr. Lee is a well-regarded professor with an outstanding wealth of knowledge. His desire to teach students to be "the best" cost accountants by passing on his learned knowledge makes him a great colleague to work with on a collaborative basis. He taught me the importance of acquiring additional knowledge to aid my future endeavors and how to engage in professional-level research. I learned that it is vital to challenge presumptions made by people when incorporating new rules into their existing objectives and strategies. From this survey, I have concluded that today's universities should concentrate more on placing greater emphasis on incorporating the best quality education rather than on requiring larger quantities of education.

Our findings were presented at the 2002 Annual Regional Meeting of the American Accounting Association at The Ohio State University on May 2 - 4, 2002. We hope to see our research paper published in a professional journal

In the future, I hope to return to Pace University to earn my Masters of Science in Taxation or Accounting or go to Law School to study Business Law. I completed the Audit & Law portion of the Uniform CPA Exam in May and will take the final two parts of the exam this November. I would also like to become a Certified Fraud Auditor. I am beginning my Accounting career this October as a first year Staff Accountant in the Audit Practice at Deloitte & Touche, LLP. I thank the Eugene M. Lang Foundation for its generous support and for providing Dr. Lee and myself with this wonderful opportunity.



Proud Graduate Tracy Magann

RESEARCH IN BIOLOGY

STUDENT RESEARCHER:

Vivienne Tedesco, Class of 2001, Major: Biology

FACULTY MENTOR:

Nancy A. Krucher, Ph.D., Professor of Biology, Dyson College of Arts and Sciences

TITLE OF RESEARCH PROJECT:

Effect of Cellular Stress on the Cancer Protein, Retinoblastoma

DESCRIPTION OF PROJECT:

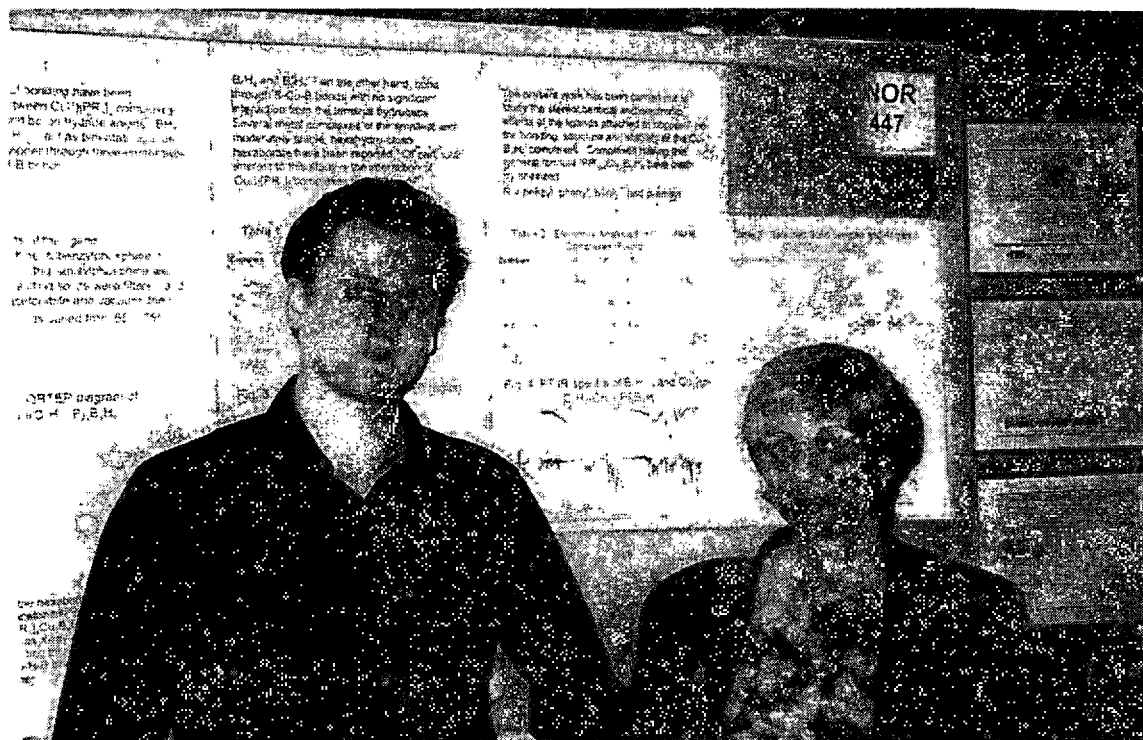
Under the Eugene M. Lang student/faculty research fellowship, Biology major Vivienne Tedesco and her Professor, Dr. Nancy Krucher, engaged in cancer research that focused on cell cycle controls. The cell cycle is a highly regulated process that is controlled by many different types of proteins. Related proteins that are mutated or dysfunctional can lead to uncontrolled proliferation, a hallmark of cancer cells. Their focus was the pRb, a growth suppressive protein involved with a major checkpoint in the cell cycle. pRb binds to various entities throughout the cell cycle and is modulated by a vast array of proteins.

VIVIENNE'S SUMMARY OF HER RESEARCH EXPERIENCE:

As a recipient of the Eugene M. Lang Student/Faculty Research Fellowship I was given the opportunity to perform cancer research with Dr. Nancy Krucher that focuses on the control of cell division, particularly the Rb protein. Under Dr. Krucher's guidance, I have become proficient in cell culture, western blotting, immunoprecipitation, and transfection. As research is accomplished through trial and error, it is advantageous to work on several projects simultaneously. While working under this grant, Dr. Krucher and I have maneuvered through four projects that are described below:

- #1 The goal of this project was to determine the mechanism by which cdk4 activity is inhibited toward Rb in hypoxic conditions. Through the efforts of Dr. Krucher, her former student and Pace graduate Adam Zygmunt, and myself, we found that the inhibition of cdk4 activity in hypoxic cells is due to a marked increase in p16 expression and concomitant association with cdk4. This work has led to the publication of a paper entitled "Hypoxia Stimulates p16 Expression and Association with cdk4" which appeared in the journal *Experimental Cell Research*, 278, 53-60 (2002).
- #2 The goal of this project is to investigate the effect of Rb dephosphorylation under hypoxic conditions. My work with Dr. Krucher has shown that the hypophosphorylated form of Rb associates with the transcription factor E2F-1 in hypoxia. This project resulted in a poster presentation and publication of an abstract entitled "Rb Dephosphorylation and Association with E2F-1" at the annual meeting for the American Society for Cell Biology in Washington D.C. in December 2001.

I would like to thank my mentor, Dr. Kabbani, for her time, support, direction with the project, and her caring nature, as well as the Eugene M. Lang Fellowship and the Summer Research Grant which financed this research.



Paul Markel and Dr. Raifah Kabbani

at the ACS 224th National Symposium in August 2002

RESEARCH IN LITERATURE

STUDENT RESEARCHER:

Jeanna Engelman, Class of 2001. Major: Speech Pathology

FACULTY MENTOR:

Laura Hapke, Ph.D., Professor of English, Dyson College of Arts and Sciences

TITLE OF RESEARCH PROJECT:

The Russian Dreiser: A Faculty-Student Research Project on Russian Attitudes Toward an Important American Social Protest Novelist

DESCRIPTION OF RESEARCH:

This faculty-student research project focuses on the literary naturalist, Theodore Dreiser (1871-1946). Author of numerous novels including An American Tragedy (1925), Dreiser remains the subject of controversy both in the United States and in the former Soviet Union, two of the many venues where he was ardently read in the years following the Russian Revolution and beyond. The student in this project – Jeanna Engelman – brings a very special perspective to this analysis of Dreiser for she first encountered Dreiser as a young girl growing up in the former USSR. Attending the Cherkassay #19 High School in the Ukraine, Jeanna studied Dreiser as a “proletarian” author. Since coming to the U.S. in 1990 and now studying at Pace University, Jeanna’s project was to revisit this key American social protest writer – this time from a new perspective gained through life in the U.S., her mature reflections on life in the former Soviet Union, her understanding of family dynamics (she’s a wife and mother), and her major studies in the area of speech pathology and language.

SUMMARY OF JEANNA’S RESEARCH EXPERIENCE:

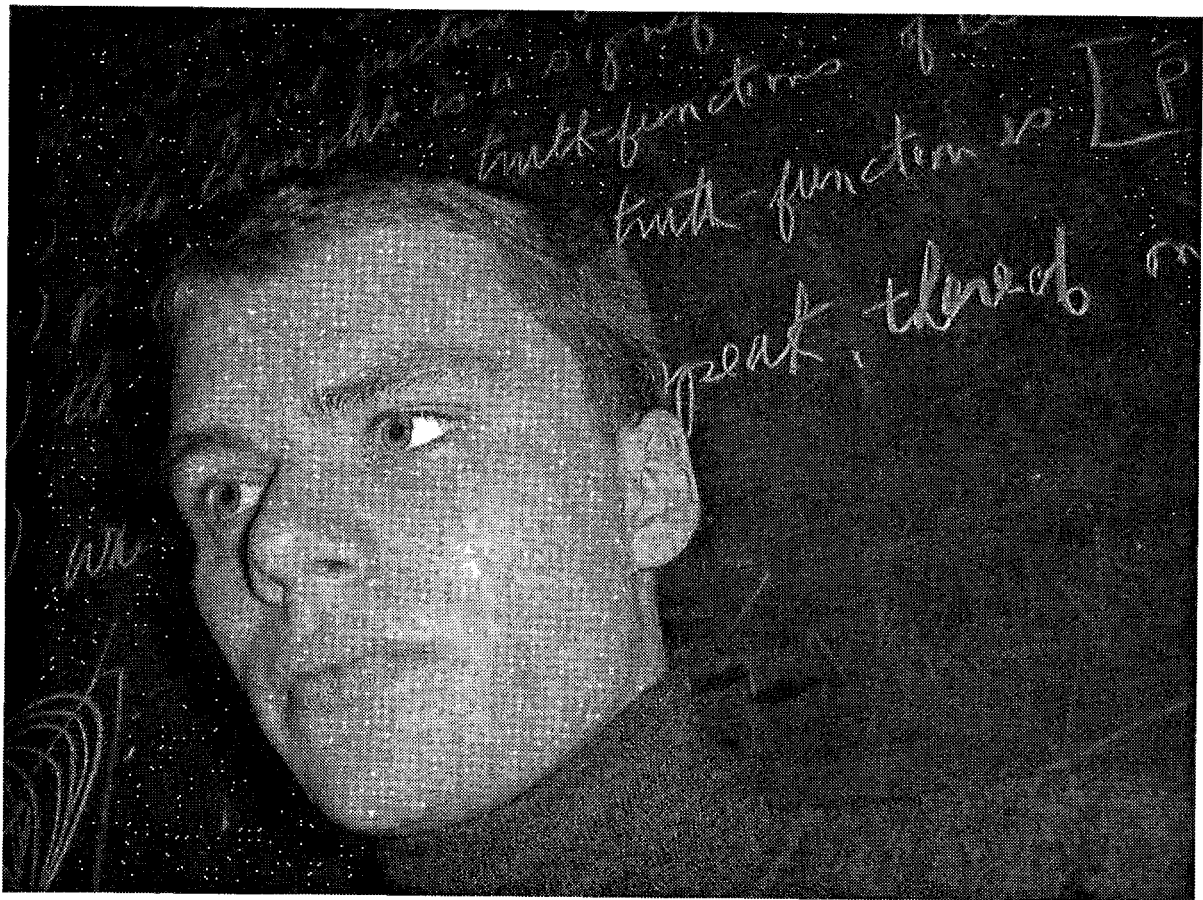
Throughout her research, Jeanna sought to answer this question: Why was Dreiser interesting to the Russian reader? She compared writing styles of Russian and American authors to answer that question. She also examined the themes and problems that were central to Dreiser’s novels. Thanks to the mentorship of Professor Laura Hapke and their weekly conferences, Jeanna was able to develop her thoughts and write the following papers:

- “The Russian Dreiser: A Narrative History of a Research Project” that appeared in Transactions, the journal of the Pace University Dyson Society of Fellows in Spring 2001. (Vol. 9)
- A revised version of the above paper appeared in the Fall 2001 MELUS Newsnotes (MELUS is an e-publication for the Society for the Study of Multi-Ethnic Literature of the U.S.)
- “The Russian Steinbeck” was published in the Winter 2002 issue of MELUS Newsnotes.

Right now we are in the process of gathering pertinent information from journals and other publications specializing in classical Greek philosophy with the goal of publishing our work. This process will involve amending the size and possibly the content of the paper in order to suit the requirements and area of focus of the journals.

This work contributed substantially to my understanding of Classical Greek thinking and allowed me to engage the subject with a depth and intensity that is rare for most undergraduates. The actual process of thinking through the issues, reading, writing and eventually presenting my work in a professional philosophical conference contributed to my decision to pursue philosophy and philosophical research at a graduate level where I hope to have similar experiences to the one I had at Pace.

Currently I am a part of a team of technologists working in Aristotle Consulting; a firm that I co-founded with a friend. I plan to continue expanding on our operations but my ultimate goal is to pursue a graduate degree in Philosophy. The year hiatus in schoolwork will undoubtedly prove to be a much needed rest period after years of hard work at Pace. As I look ahead to graduate school, I am confident that I am ready for new challenges. The Eugene Lang Student Research Grant enabled me to have a "graduate type" experience during my undergraduate career at Pace.



Student Researcher, Michal Klincewicz

RESEARCH IN SPEECH PATHOLOGY

STUDENT RESEARCHER:

Erin J. Oyster, Class of 2002, Major: Communications Sciences and Disorders

FACULTY MENTOR :

Carol S. Alpern, Ph.D., Associate Professor of Communications, Dyson College of Arts and Sciences

RESEARCH PROJECT:

Mother-Toddler Language Interactions in Dominicans In New York City: A Comparison of Dominican and American Mothers' Input to Toddlers During Play

DESCRIPTION OF RESEARCH:

Five mother-toddler dyads were videotaped in a non-structured play situation using a consistent set of unfamiliar toys provided by the examiners. Transcripts were analyzed to describe the nature of the maternal linguistic input that characterized this population. Results were compared to those of a population of five Dominican mothers previously tested in the Dominican Republic. Significant differences were found in the use of directives, demonstrations, questions, modeling, and terms of endearment.

ERIN'S SUMMARY OF HER RESEARCH EXPERIENCE:

The Dominican Republic population has grown in the New York City area and little research has been done on the language development and/or mother-child interaction in this population. Speech Language pathologists need this information in order to provide speech-language therapy for young children of Dominican background. Dr. Alpern and I compared data from five white American mothers and five Dominican Republic mothers with similar educational background and ages. The mothers and toddlers were videotaped playing with a consistent set of unfamiliar toys provided by the examiner. The transcripts were analyzed and compared. The research showed that there was a significant difference in the amount of directives, demonstrations, questions, modeling and terms of endearment between the two populations.

My Eugene M. Lang Faculty-Student Research experience was significant on many levels. As a future speech-language pathologist, I learned that one must remember to be aware of different cultures and understand that if mother-child interaction is different from a typical white American interaction it is not necessarily a wrong way of approaching language development. Also, I feel very lucky to have worked with Dr. Alpern outside of the classroom. I learned so much from her. Dr. Alpern showed me step by step the process of doing research.

I prepared an article on my research findings that was published in Pace's *Transactions of the Society of Fellows* (Vol. 9 2002). Also, I have been invited to present a report on my work at the Spring 2003 Convention of the NYSSLHA (New York State Speech-Language Hearing Association). My personal plans for the future include attending graduate school in the fall 2003 studying Speech Language Pathology.



EUGENE M. LANG
STUDENT RESEARCH EXPERIENCES

2002 – 03

Biology
Biochemistry
Business
English

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EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT 2002-2003

STUDENT RESEARCHER:

Yekaterina Kleydman, Class of 2004, Major: Biology

FACULTY MENTORS:

Nigel Yarlett, Ph.D., Professor of Chemistry and Physical Sciences
Thomas Gorrell, Ph.D., Associate Professor of Biological Sciences

TITLE OF RESEARCH PROJECT:

Studies of Ammonium in the Biochemistry, Metabolism, and Host Cell Interactions of Trichomonads

DESCRIPTION OF RESEARCH:

Under the Eugene M. Lang student/faculty research fellowship, I pursued studies in the significance of arginine and ammonium to the metabolism of trichomonads, *Tritrichomonas foetus*, a cattle strain and *Trichomonas vaginalis*, a human strain. Both parasites obtain energy by metabolizing arginine to ammonia in the arginine dihydrolase pathway. I demonstrated for the first time that the rate of metabolite flow through the arginine dihydrolase pathway can be determined by the measurements of ammonium ions or volatile ammonia production by cells. The specific mechanism of production of ammonia remains to be determined. Our studies demonstrated that trichomonads thrive in high concentrations of ammonium that would be toxic to the tissues of their mammalian hosts.

YEKATERINA'S REFLECTIONS ON HER RESEARCH EXPERIENCE:

The opportunity to do research at the Haskin's Laboratory at Pace University helped me advance my understanding and skills of the laboratory techniques. I received training in diverse research methods, such as: cell culture methodology with parasites, aseptic techniques, microanalysis, instrumental techniques, enzyme kinetics. In addition, I learned to work under anaerobic conditions and with caustic chemicals. Methods developed in this study proved useful in clarifying an overlooked aspect of protozoan metabolism. I shared the results of this research project at the spring 2003 meeting of The Society of Fellows in the Dyson College of Arts and Sciences at Pace

Over the years of my undergraduate study, I have been able to participate in research that increased my knowledge of infectious diseases. By far, this research has made a difference in my understanding of the underlying concepts of the biochemical reactions of the microbial world. The knowledge gained through this research experience will tremendously aid me in my future work in the field of medicine. I gained further insight into the microbial world by presenting results of these ongoing studies at the 11th East Coast Conference on Protozoology (Baltimore, MD), and as a co-author of a presentation at the International Conference on Anaerobic Protists (Hilo, Hawaii). A manuscript, (Kleydman, Yekaterina; Gorrell,

Thomas; Yarlett, Nigel. Production of ammonia by *T. foetus* and *T. vaginalis*), is being prepared for submission to a peer review journal.

I would like to thank my mentors, Dr. Thomas Gorrell and Dr. Nigel Yarlett. They are superb teachers, and I am grateful for their support, time, and expertise on the subject matter. I wish to express my thanks to all of the members of the Haskin's Laboratory as well.

Finally, I thank the Eugene M. Lang Foundation for giving me the opportunity to gain knowledge about one of the most prevalent parasitic diseases in the western world. The results will provide the scientific community with a greater understanding of the contribution of arginine and ammonia to the energy metabolism of parasitic trichomonads.



YEKATERINA KLEYDMAN

**EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT
2002-2003**

STUDENT RESEARCHER:

Lynn M. Liotta, Class of 2004, Major: Business

FACULTY MENTOR:

Claudia G. Green, Ph.D., Associate Professor of Management

TITLE OF RESEARCH PROJECT:

Strategic Responses to Business Slowdown Due to the 9-11 Terrorist Attack

DESCRIPTION OF RESEARCH:

The purpose of this project was to analyze the business slowdown in New York City following the September 11, 2001 attack on the World Trade Center. In a three-phase project we focused first, on the restaurant industry and, later, on hotels and Bed & Breakfasts. We sought to record responses to the dramatic drop in business and to identify creative approaches employed to maintain economic viability. We hope that the lessons learned in New York might help the tourism industry in other locations around the world if affected by similar dramatic circumstances.

LYNN'S SUMMARY OF HER RESEARCH EXPERIENCE:

In Phase I of this project we administered a survey and built a detailed database for 275(+) restaurants in the Lower Manhattan neighborhood. We included detailed information provided by owners and managers regarding the impact of the September 11th tragedy on the restaurant industry. The surveys were administered primarily by fax. We sent approximately twenty-five percent (25%) of the surveys via mail to those restaurants not having fax numbers.

Phase II of this project allowed us to select a group of businesses at random and interview the restaurant owners with a more in-depth questionnaire. We worked in conjunction with Sue Murrman, PhD., of Virginia Tech, and Pat Bartholomew, PhD., of NY City Technical College (CUNY). Based on our analysis of the results, we wrote an article entitled "New York Restaurant Industry: Strategic Responses to Business Slowdown Due to the 9-11 Terrorist Attack" that was published in the *Journal of Travel & Journalism Marketing*, 2002.

The third phase of this research project was to build a second database of the hotels and Bed & Breakfast places south of 14th Street in Lower Manhattan, New York. As Dr. Green and I have collectively spoken with either Human Resources or the concierge regarding employment, occupancy, and basic people traffic since the tragedy of September 11th, 2001, we have gained a new perspective on their lack of business. Because of the nature of the situation, we have had to spend a great deal of time determining what is accessible and making local connections in order to

facilitate research contacts consistent with the mission of Pace's Center For Downtown New York.

In the weeks following the terrorist attack, much of the help was aimed at small businesses, providing information on government services and developing government programs. Through these research efforts, I was able to use the resources of the Pace University Small Business Development Center. On several occasions, I have also met with Dan Slippen, Pace's Director for Government and Community Relations in NYC and Director of Pace's Center for Downtown New York. Although Lower Manhattan was the site of a terrorist attack, the strategies used here may be used as a model for any business owner in other cities where there is a serious downturn in business.

FUTURE PLANS:

Currently, I am a consultant/creative director for Creative Ink, a pre-press production and design studio. I am part of a team of managers and creative directors working in both New York and Pennsylvania on new product development in the health industry. I am able to work with a group of good friends and colleagues from the early 90s who have built several businesses from concept to fruition, along with allowing me to consult for their needs in marketing. I will graduate from Pace in September 2004. After that, I plan to expand my operations by continuing to present research for new product and new business development. I am confident that these challenges will help me to pave my way toward my next goal, a graduate degree.

My Eugene M. Lang Student-Faculty Research Fellowship experience has contributed substantially to both my research and my networking skills. The highlight of this project was meeting all the people and organizations, who so kindly took the time to speak with me, sometimes with just one or two cold calls. As an Executive Board member of Pace University Marketing Association, I created a project that I recently named *Rejuvenate Downtown NY*, a title that I felt would provide a smooth merge with the name, creation and website Center for Downtown NY. The major focus of the P.U.M.A. project was to follow up after two years with some of the merchants affected by the 9/11 tragedy. I approached them and asked them to stay in touch with Pace and to continue to be part of the Pace Community. They have agreed to become part of the new website created by Dan Slippen of the Center for Downtown NY. I have recently contacted Dan via e-mail, and we will be meeting to fine-tune details of the project.

I would like to thank my mentor, Dr. Claudia Green, for her time and support, as well as the Eugene Lang Fellowship. The opportunity to work outside the classroom and do research with my mentor, Dr. Green, has given me new definitions to the words dedication and determination.



LYNN LIOTTA WITH DR. CLAUDIA GREEN

**EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT
2002-2003**

STUDENT RESEARCHER:

Caroline Pomietlarz, Class of 2003, Major: English

FACULTY MENTORS:

William Offutt, Ph.D., Associate Professor of History

Walter Raubicheck, Ph.D., Professor of English

TITLE OF RESEARCH PROJECT:

Spirituality and the Beat Generation

DESCRIPTION OF RESEARCH:

The spirituality and religion of the Beat Generation, including Black Mountain School and San Francisco Poetry Renaissance authors is a vast topic. I'm not quite sure a lifetime of research could truly envelope the mystique of Gary Snyder's study of Buddhism in Japan with Joanne Kyger; Allen Ginsberg's evolution through Judaism, Hinduism, and Tibetan Buddhism; Kerouac's passion for both Christianity and Mahayana Buddhism; Diane di Prima's development from Zen to Tibetan Buddhism, with Western Magical practices, too; and Michael McClure's relationship with both the visionary and scientific, and Zen Buddhism. The field is enormous, and sadly -- or, fortunately for the young scholar -- disregarded in most literary criticism and theory. The study of religion in the post-World War II era, when much of America was booming financially but deprived culturally, is one of the most important influences on American poets at that time.

As mentioned, little has been published on the topic of the Beat Generation's involvement with Eastern and Occult Religions. I was lucky to have found a few obscure dissertations from various mid-western colleges, and a smattering of articles published by the authors of the movement. What little there was to read on the subject left the wonderful opportunity to interview some of the surviving members of the San Francisco Poetry Renaissance and the Beat Generation. Spending time in San Francisco allowed me to speak to Michael McClure, an integral part of the famous reading at Gallery 6 where Ginsberg's *Howl* was first recited, and author of *Scratching the Beat Surface* and many volumes of poetry. Thanks to a stroke of lucky scheduling and a few pulled strings by another great mentor of mine, Robert Creeley, I also was able to interview Diane di Prima, a lesser known poet, but very well established as a San Francisco Renaissance figure and political revolutionary in the 1960s. Finally, I was able to meet John Cassady, the son of the late Neal Cassady -- the subject for Kerouac's Dean Moriarty in *On The Road*, who was able to reflect on his father's relationship with Kerouac, and his memories of Kerouac's Buddhist practice. On the East Coast, I attended the "Lowell Celebrates Kerouac!" Conference in Lowell, Massachusetts, where Kerouac was raised, in which I was able to confer with many other scholars of the Beat Generation, and speak with David Amram, a close friend of Kerouac's in the 1950s.

DISSEMINATION OF RESULTS:

I have plans to prepare three articles for publication and have many ideas for future research. Currently, I am in the process of constructing a study of the development of religion throughout the entire movement -- mainly focusing on Buddhism, as it is the religion which, in its varied forms, was most practiced by the writers I am focusing on. This essay will start with the discovery of Buddhism, how it affected the writers' work, and how it eventually led to the founding of the Jack Kerouac School of Disembodied Poetics at Naropa Institute, a Tibetan Buddhist University. I also hope to publish an article specifically on Kerouac's Buddhist work, namely *Some of the Dharma*, *Scripture of the Golden Eternity*, *The Dharma Bums*, and *Mexico City Blues*. This article will be published in Poetrybay, a literary magazine edited by Beat scholar and poet, George Wallace. My final article will be on Diane di Prima, who has not, in my opinion, received the attention she deserves for her work and studies. Her knowledge and passion for Eastern religions -- including the Tao, I Ching, Zen and Tibetan Buddhism -- mixed with her work as a healer, has shaped her work in a way that deserves commendation. I hope to continue studying this topic, as there is much more of which I know only the surface, and have been considering focusing on this topic at the doctoral level.

FUTURE PLANS:

My future is rather inconclusive. As I prepare to graduate and await the letter from Brown University, the only graduate school to which I applied, I've made a list of "Plan A, Plan B, etc." I am currently interning in the book division of Fairchild Publications in production editing, which, to my surprise, I truly enjoy. Thus, if I don't go for my MFA at Brown this year, I plan to continue working in publishing, get a Masters degree in graphic arts, and pursue my poetry and research, as ever. Eventually, I do hope to earn a Ph.D. and teach at the college level, but getting an extra degree or two in the meantime couldn't possibly hurt. And, of course, after visiting the West Coast, I am desperately looking for jobs in San Francisco, as I believe I left my heart there while I was conducting my interviews.

I would like to thank Bill Offutt and Walter Raubicheck for their endless guidance on this project, Associate Provost Beverly Kahn for the opportunity to do this project, Robert Creeley for the good words he put in to his colleagues, George Wallace for his support and introductions, Brian Hassett for his advice and knowledge, and, of course, Michael McClure, Diane di Prima, Gary Snyder, John Cassady, and David Amram for the time and memories they shared with me. I am also grateful to the Eugene M. Lang Foundation. Without its support, my research would not have been possible.



CAROLINE POMIETLARZ

**EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT
2002-2003**

STUDENT RESEARCHER:

Eshwar Udho, Class of 2003, Major: Biochemistry

FACULTY MENTOR:

Nancy A. Krucher, Ph.D., Assistant Professor of Biology

TITLE OF RESEARCH PROJECT:

Inhibition of Cancer Cell Growth by Activation of the PP1 Phosphatase

DESCRIPTION OF RESEARCH:

The research I performed with support from the Eugene M Lang Foundation was the culmination of 2 years of work in the area of cancer research performed under Dr. Krucher's supervision. We are interested in how cells divide, and how the process goes awry in the development of cancer. My focus was to elucidate the mechanism by which a "cancer gene", Rb, gets activated. Our work involved several techniques utilized in Cell and Molecular Biology such as cell culture, western blotting, immunoprecipitation and enzyme assays. Our results were that we determined at least one function of a newly identified protein, and its role in cell division control. The work I performed serves as the basis for future work of Dr. Krucher and her students in the development of a novel way to stop cancer cells from growing.

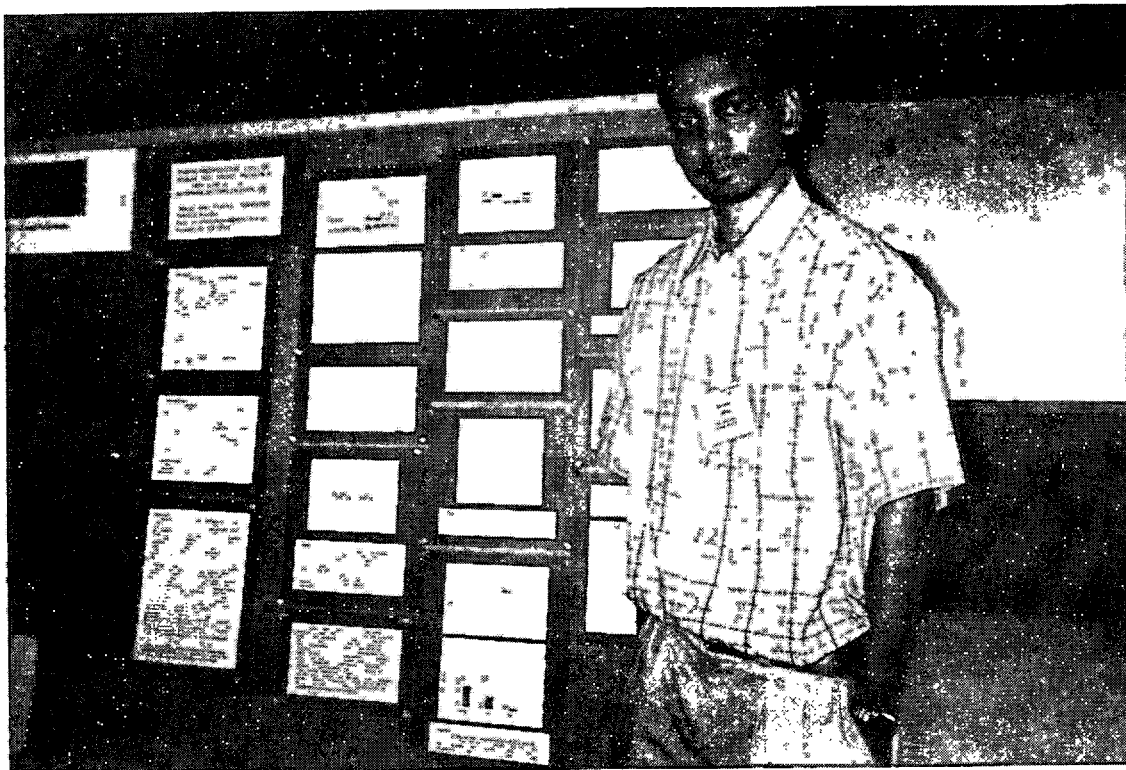
I learned an enormous amount in the research lab including cell and molecular biology techniques, experimental design, interpretation of results, and completion of a research project through oral presentation and publication. My experience at Pace allowed me to acquire the opportunity to participate in the summer research program at Albert Einstein School of Medicine and has only strengthened my career goal of pursuing a Ph.D. in Biochemistry and or Cell and Molecular Biology.

DISSEMINATION OF RESULTS:

At the "Cancer Genetics and Tumor Suppressor Genes" meeting held at Cold Spring Harbor, N.Y. in August 2002, I gave a poster presentation describing this work, entitled, "PNUTS (Phosphatase Nuclear Targeting Subunit) inhibits PP1 activity toward the retinoblastoma protein, RB"

The results of my research project entitled, "PNUTS (phosphatase nuclear targeting subunit) inhibits retinoblastoma-directed PP1 activity" were published in the journal, *Biochemical and Biophysical Research Communications* 297 (2002) 463-467.

In Fall 2003, I entered a Ph.D. graduate program in Biochemistry/Molecular Biology at Albert Einstein School of Medicine. I am enormously grateful to my mentor, Dr. Krucher, for all that she has taught me. I am also appreciative of the support provided by Pace University's Eugene Lang Presidential Grant for Student Research.



ESHWAR UDHO



EUGENE M. LANG
STUDENT RESEARCH EXPERIENCES

2003 – 2004

Biology (2)
Biochemistry
Computer Science
History

The Eugene M. Lang Student-Faculty Research Fellowships at Pace University are designed to support and encourage undergraduate students who exhibit promise for advanced study and careers in research. Students selected for this prestigious award devise and undertake worthy research projects in collaboration with Pace University faculty mentors. In most cases, the research projects completed by student-faculty teams culminate in publication and/or presentation at scholarly conferences. Pace University gratefully acknowledges the generous contribution provided by the Eugene M. Lang Foundation in support of our outstanding students.

EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT 2003-2004

STUDENT RESEARCHER:

Kenneth J. Huth, Class of 2004, Major: Biology

FACULTY MENTOR:

Joshua Schwartz, Ph.D., Assistant Professor of Biological Sciences

TITLE OF RESEARCH PROJECT:

Impact of Acoustic Interference on Mate Choice in Treefrogs

DESCRIPTION OF RESEARCH:

We studied how certain patterns of acoustic overlap and signal dropout impact the attractiveness to females of male calls in the gray treefrog. A main question was whether females are able to compensate for masked or missing call segments by using a process analogous to "phonemic restoration" in humans. This is when the brain reconstructs masked segments of words. **Methods:** We captured female treefrogs in a pond and then offered them a choice of different kinds of computer-generated synthetic calls in an indoor testing chamber. Females indicated a mating preference by moving toward one of two speakers that were broadcasting the call alternatives. **Results:** We found that females do not employ phonemic restoration to "fill in" missing call segments. However, although call overlap reduces call attractiveness, if a sufficient percent of call elements are not acoustically degraded, females may ignore perceived call abnormalities. **Implications:** Our data indicate that these treefrogs may need to rely on behavioral strategies to reduce the harmful effects of acoustic interference. My mentor is planning experiments to investigate this possibility.

DISSEMINATION OF RESULTS:

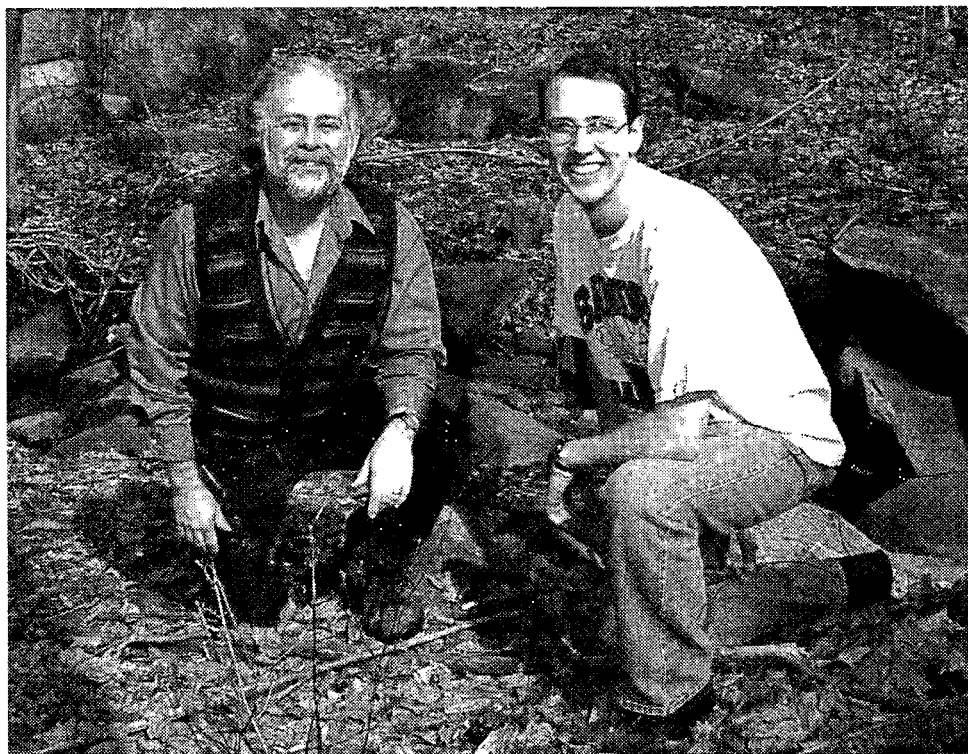
Dr. Schwartz and I described our research on October 17th, 2003 at the Faculty Development Program (theme: Partnerships for Collaborative Learning). Dr. Schwartz and I presented our results at the annual meeting of the Acoustical Society of America in May, 2004 in New York City. Another Pace student, Jeffrey Lasker, was also a co-author.

KENNETH'S REFLECTIONS ON HIS RESEARCH EXPERIENCE:

This experience was extremely significant to me because of what I learned about animal communication and the hard work required to make a research project successful. I found designing experiments with my mentor as we accumulated data especially stimulating. More than ever, I am enthusiastic about pursuing a career in science.

FUTURE PLANS:

I graduated from Pace in May 2004 with a BS in Biology and an Organic Chemistry concentration and I completed my third field season with Professor Schwartz. I am currently working at the Bronx Zoo in the special animal exhibits department, as well as working and volunteering at Teatown Lake Reservation. I will eventually pursue a Masters degree, and hopefully continue to perform behavioral research.



PROFESSOR JOSHUA SCHWARTZ AND STUDENT RESEARCHER KENNETH HUTH

**EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT
2003-2004**

STUDENT RESEARCHER:

J'Ada M. Thomas, Class of 2004, Major: Biology

FACULTY MENTOR:

Dr. Cyrus J. Bacchi, Professor of Biology, Director Haskins Labs

TITLE OF RESEARCH PROJECT:

Extracts of African Plants as Potential Antitrypanosomal Agents

DESCRIPTION OF RESEARCH:

My research project involved finding new anti-trypanosomal agents to combat the African Trypanosomiasis disease, also known as African Sleeping Sickness, by screening extracts of African plants received from the Walter Reed Army Institute for Research and the Laboratory of Dr. J. Ayafor at the University of Dschang in Cameroon. This research is a part of a large international effort to identify useful medicinal agents from native plants. It is funded by the Fogarty Division of NIH and is one of seven programs of the International Cooperative Biodiversity Grant (ICBG).

African Sleeping Sickness is a prevalent disease that is a daily threat to more than sixty million men, women, and children in thirty-six countries of sub-Saharan Africa. It is currently treated with suramin, pentamidine, melarsoprol, and eflorinithine, but since these agents have been used for many years, studies have shown resistance is rising. There is an immense need for cost-effective new agents against sleeping sickness in order to control the disease.

By working at Haskins Laboratory along with Dr. Bacchi and Donna Sarno, Lab Supervisor, I was able to play an important role in the initial screening of plant extracts. This research is fundamental to finding trypanocidal activity of West African medicinal plant extracts.

DISSEMINATION OF RESULTS:

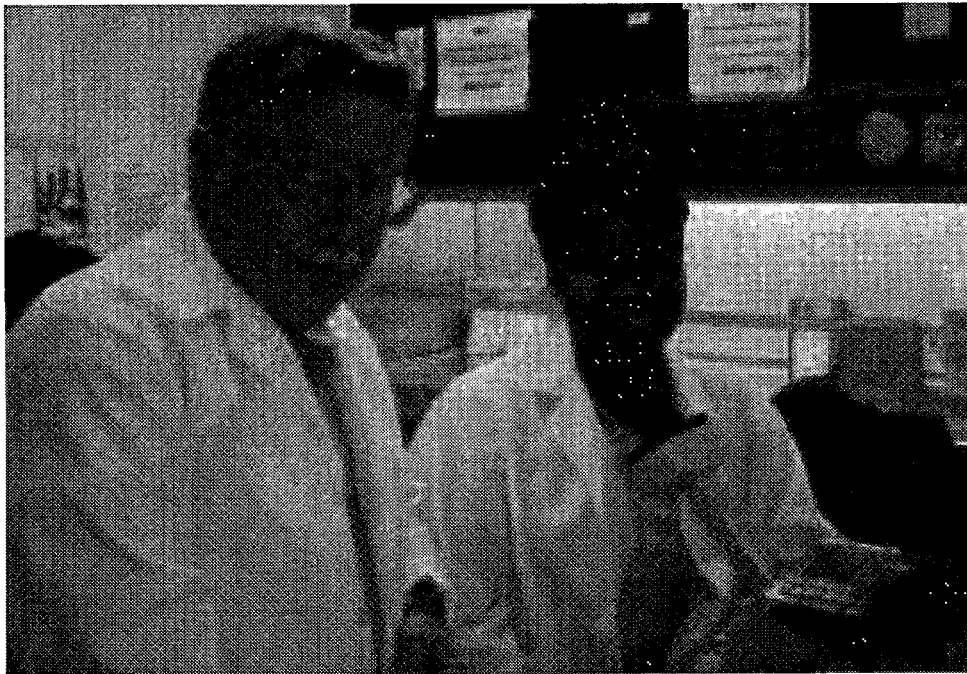
My research was shared with the Society of Fellows of Dyson College. My paper has been submitted for publication to the *Transactions of the Society of Fellows of Dyson College*.

J'ADA'S SUMMARY OF HER RESEARCH EXPERIENCE:

This project provided me with the opportunity to be a part of the team that is attempting to find medicinal agents from native West African plants. During the course of my research, I was able to study an infectious disease that I initially did not know anything about, as well as aspects of parasitology, botany, and epidemiology in third world countries. I would like to thank the Eugene M. Lang Foundation for this opportunity.

FUTURE PLANS:

I graduated from Pace in May 2004. Although I have not made any definite career choice decisions, I plan to take the GRE this fall in order to pursue a Master's degree. I am also studying for the August MCAT because I want to have the option of pursuing an MD/PhD degree in the future. I plan to take a year off to work and, hopefully, to teach. I plan to utilize my Pace college and Eugene Lang experiences to assist me in making my career decision.



J'ADA THOMAS WITH DR. CYRUS BACCHI

**EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT
2003-2004**

STUDENT RESEARCHER:

Ada Gjyzezi, Class of 2004, Major: Biochemistry

FACULTY MENTOR:

Dr. Raifah Kabbani, Professor of Chemistry

TITLE OF RESEARCH PROJECT:

Layered Solids and Liquid Crystals: TetraChlorometallates of 1,4-Diazabicyclo (2.2.2) Octane

DESCRIPTION OF RESEARCH:

Receiving the Eugene M. Lang Faculty-Student Research Grant provided me with a valuable opportunity to do independent research with my mentor, Dr. Raifah Kabbani. Our project involved the synthesis and characterization of composite organic-inorganic materials. This type of compounds has important applications because of their thermal and magnetic properties. They have the ability to work as switches or sensors in biological systems as well as other applications. We have synthesized three such hybrid materials from organic amines with copper and palladium salts. We are in the process of studying their structures and, as a result, I am learning the use of new equipment and techniques. I have used infrared and UV-visible to analyze the structures of these compounds and their interaction with light.

In addition to experimental work, I had to learn to research literature and had the chance to read papers related to the project I am involved with. Unlike classroom laboratory projects, which are designed by the professor to work, in real-world research things do not always work the way one plans them to. This sometimes leads to more interesting results. The answers are not always found in books, but that is valuable too. What does not work gives you just as much information as what does. I enjoyed the experience and am grateful to the Eugene M. Lang Foundation for giving me this opportunity.

ADA'S SUMMARY OF HER RESEARCH EXPERIENCE:

I do believe that independent student research complements traditional major courses and is an important part of the undergraduate experience. Students not only learn the latest methodologies in scientific research in their field, but they also learn how to communicate their findings with the scientific community and how to reason and explain the results from the project. In my personal experience, being able to work under the guidance of my mentor and having the opportunity to present my work at research conferences has given me one of my most memorable experiences. It has helped me grow as a student and as a future scientist. Conducting research in a real lab environment gave me the opportunity to learn and to analyze problems. Working on the different experiments to obtain good results and analyzing these results enhanced my problem-solving skills and was a challenge that I particularly enjoyed.

The undergraduate years are critical in the educational route, as career-choice points and as the first real opportunities for in-depth study. I strongly believe that this experience has shaped my career goals. Although my interest has always been in the medical field, I now know that familiarity with experimental science is very valuable in a medical school setting.

DISSEMINATION OF RESULTS:

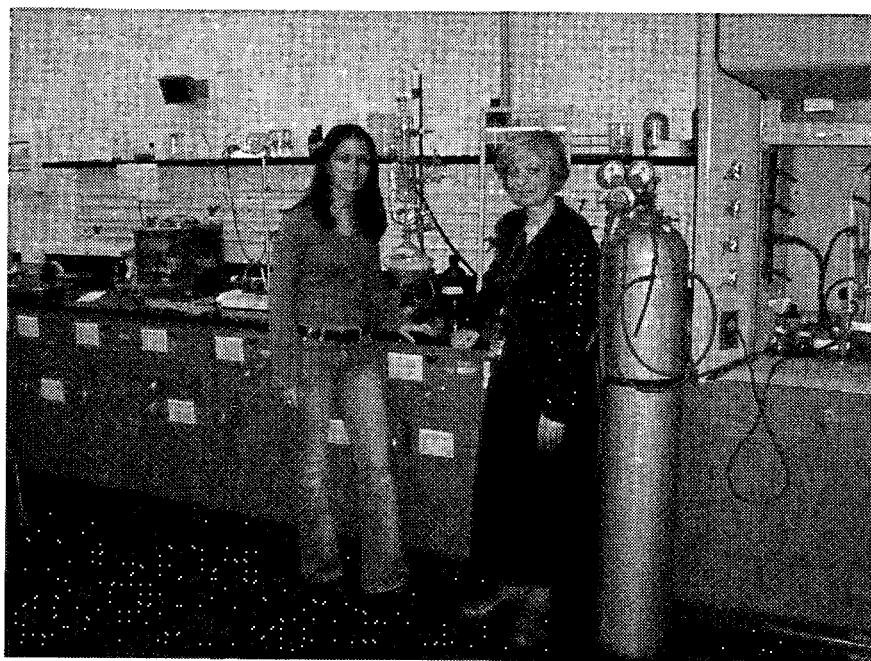
I presented our work at the "Partnerships for Collaborative Learning" Faculty Development Conference at Pace on October 17, 2003 and at the Dyson Society of Fellows in February of 2004, and our work has been submitted for publication in *Transactions*, the Society's Annual Journal.

I also presented our work "TETRACHLOROMETALATES OF 1,4-DIAZABICYCLO (2.2.2) OCTANE *Layered Solids: Intercalated Compounds*" at the 2nd Annual Undergraduate Research Symposium held at Queensboro Community College on May 1st, 2004.

FUTURE PLANS:

Throughout this summer I have been working in the Research Division of the Department of Anesthesiology at Weill Medical College of Cornell University. The research that I am doing deals with neuronal cell signaling and is done in their neurobiochemistry lab.

I have been preparing to take the MCAT and will apply to medical school. I hope that the bench-work I have completed during this research experience will provide me with the lifelong learning and communication skills necessary to become a physician. While the desire to become a physician has always been in my heart, I believe a love for science is also necessary to be a good physician because science and medicine are mutually dependent.



ADA GJYREZI WITH DR. RAIFAH KABBANI

EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT 2003-2004

STUDENT RESEARCHER:

Oleg Yunakov, Class of 2004, Major: Computer Science

FACULTY MENTOR:

Dr. Dennis Anderson, Associate Dean, Information Systems

TITLE OF RESEARCH PROJECT:

User Identification System (UIS) Module for Personal Virtual Assistant

DESCRIPTION OF RESEARCH:

For most successful professionals, everyday business life is already extremely busy. We decided to research a solution for some of the overload of the individual's schedule with unnecessary trivial daily tasks that do not require their own expertise. Instead of passing all the tasks that the supervisor isn't required to perform personally on to an administrative assistant so that they will have more time to concentrate on the more important things, the Personal Virtual Assistant (PVA) is an innovative, inexpensive, and reliable virtual secretary. This user-friendly system performs many of the tasks commonly performed by a secretary. The foundation for this project came from research previously conducted in computer vision. The system offers communication and other solutions to users. This system can be implemented in various fields. Current prototype has the basic working functionality and allows expanding it further to achieve even better results.

DISSEMINATION OF RESULTS:

The results of my Research were included in my Undergraduate Honors Thesis under the supervision of Dr. Dennis Anderson. In addition, the research was presented at the "Partnership in Collaborative Learning" Faculty Development Conference at Pace along with other outstanding research projects performed by undergraduate students.

As an outcome of the research entitled "Personal Virtual Assistant" a prototype of the system was created, and the decision was made to make the source code available as an open source so that other students will be able to continue performing research in this field utilizing knowledge that was gained from our research. In addition, a combination of interesting technologies and modern programming tools allows current research to be continued and enhanced.

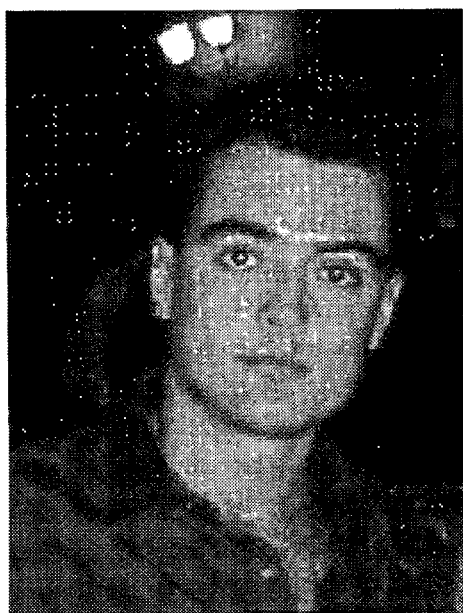
OLEG'S SUMMARY OF HIS RESEARCH EXPERIENCE:

This project is a result of collaborative help and support of various people. I would like to extend my sincere appreciation to Pace University for being a student in this institution during my performance of the project. **My greatest** thanks to Dr. Dennis Anderson who was my supervisor during this project and whose idea I tried to implement. This project couldn't have been done without his support, guidance, and direction. I would like to thank President David Caputo, Dr. Beverly Kahn, and the Eugene M. Lang Foundation for the financial support for this project through the Eugene M. Lang Student Faculty Research Presidential Grant. Special thanks to Dr.

Anthony Joseph who agreed to review my paper and offered many valuable comments and suggestions. Without Dr. Joseph's support, this paper would not have been able to exist and his contribution is very significant. Many thanks to Dr. William Offutt who approved this paper to be an Honors thesis. Last but not least, thanks to Dean Louise Kleinbaum for her support and to several other people not mentioned here, but whose help is very much appreciated.

FUTURE PLANS:

In my current position as a Software Developer for the Barnes&Noble.com, I do EAI (Enterprise Application Integration) and coordination of various applications across an integrated enterprise-wide system. I plan to continue taking Computer Science classes and apply for an MBA in the future.



STUDENT RESEARCHER OLEG YUNAKOV AND HIS MENTOR, DR. DENNIS ANDERSON

**EUGENE M. LANG STUDENT-FACULTY RESEARCH PROJECT
2003-2004**

STUDENT RESEARCHER:

Amy Lee, Class of 2004, Major: History

FACULTY MENTOR:

Dr. Joseph T. Lee, Assistant Professor of History

TITLE OF RESEARCH PROJECT:

"Living the 'American Dream': Korean War Brides in Suburban New York"

DESCRIPTION OF RESEARCH:

Under the supervision of Professor Joseph Lee (History, PNY), my research consisted of extensive interviews with several Korean military brides in a small Korean-American community in the predominantly white middle-class Newburgh, New York. From these interviews, conducted in the Korean language, I used five case studies to illustrate the experiences of these military brides, focusing on their association with the American military bases and prostitution in South Korea to their daily struggles and cultural adjustment in interracial marriages in the United States.

The main argument is that these Korean military brides came from diverse social backgrounds and chose to associate with the U.S. military camptowns and marry American servicemen for very complex reasons. What these women have in common is that they had employed marriage as a survival strategy in poverty-stricken Korea. Upon their arrival in the United States, these women sought to assimilate into mainstream society and fulfill the expected roles as housewives and mothers within an American middle-class family. Placed in the wider contexts of Korean-U.S. relations, their stories provide us with a unique lens through which to explore the complexities of social, cultural and economic interactions between Korea and the United States in the late twentieth century.

AMY'S SUMMARY OF HER RESEARCH EXPERIENCE:

Thanks to the Eugene M. Lang Student-Faculty Research Fellowship, I have been able to conduct oral history research and work closely with a specialist. I have not only gained a better understanding of the experiences of Korean military brides in American society but have also sharpened my research, communication, and analytical skills. This faculty-student research experience has made me a more critical person and enhanced my academic interest in gender politics and the complexity of Korean-U.S. relations.

DISSEMINATION OF RESULTS:

Dr. Joseph Lee and I co-authored a paper entitled "The Korean Military Brides in New York," which was presented at the Mid-Atlantic Region of the Association for Asian Studies' Annual Conference in George Washington University, Washington, D.C., October 25, 2003.

We presented our paper, "Of Love and War: Korean War Brides in New York," at the East Asian Seminar, Pace University in New York, October 14, 2003. I also co-presented, with Professor Lee, "The Korean Military Brides in New York" at the Faculty Development Program for "Partnerships for Collaborative Learning" Workshop at Pace University in White Plains, October 17, 2003.

I spoke on "Living the 'American Dream': The Korean Military Brides in Suburban New York" at the 23rd Annual Meeting of the Society of Fellows, Dyson College of Arts and Sciences, Pace University in White Plains, February 22, 2004.

Finally, I gave a presentation on "The Eugene M. Lang Faculty-Student Research Experience in my Senior Year" at the Annual Scholarship Program Dinner, Pace University, March 5, 2004.

Professor Lee and I have co-authored "The Korean Military Brides in Suburban New York." Professor Lee is revising this paper for publication in an international journal. Dr. Sem Vermeersch, Associate Editor of *Acta Koreana*, has expressed interest in reviewing this article for publication.

FUTURE PLANS:

I have been awarded a Fulbright Scholarship to South Korea for the year of 2004-2005. I plan to continue my oral history research project on the families of those Korean military brides in South Korea while teaching English at a local school and learning more about Korean culture and its complex relationship with the United States. Upon my return to the United States in July 2005, I plan to attend law school and pursue my ultimate dream of becoming a prominent judge of Korean American descent.



**AMY LEE WITH FELLOW RESEARCHERS, PROFESSOR JOSEPH LEE, PROFESSOR RONALD FRANK,
AND DIANA NEYMAN, ANOTHER PACE GRADUATE**