

The St. Joseph's University Sigma Xi Newsletter

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Social Sciences Move Into Newly Renovated Post Hall

Psychology, Sociology and Interdisciplinary Health Services now have a new, high-tech home.

The newly refurbished John R. Post Hall, formerly Villiger Hall, was formally dedicated in an outdoor ceremony attended by hundreds of SJU students, faculty administrators, alumni and friends of the university last October 12.

Post Hall was officially renamed in honor of benefactors John and Maryanne Post in 1999 at a special Mass and luncheon on campus. Mr. Post, a 1960 graduate of what was then Saint Joseph's College, has made the largest single alumni gift in the university's 150-year history.

The Posts are contributing \$6 million to Saint Joseph's over a five-year period. Most of those funds have been used for classroom and laboratory technology and external renovations of the former Villiger building, one of the oldest and most important academic facilities on campus. Mr. Post's other beneficiaries have included Sacred Heart Elementary School and Holy Name High

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12th Annual SJU Sigma Xi Symposium Set for April

Dr. Philip and Phylis Morrison of MIT to be keynote speakers

The 12th annual St. Joseph's University Sigma Xi student research symposium is scheduled for April 27, 2001. It will open with a keynote address by Dr. Philip Morrison, Institute Professor Emeritus, MIT and his wife, Phylis Morrison. Readers of Scientific American will recognize the Morrisons' photo below from their monthly column, "Wonders" in which they explore the impact of science and technology on society today and throughout history. You may also recognize them from their very popular book "Powers of Ten" which explores the cosmos from the macroscopic level of the universe to the subatomic realm inside the atom. PBS fans will remember Philip from his series "The Ring of Truth" which was produced in the late 1980's.

Their lecture is entitled: "Planets, planets, planets: the discovery of extrasolar worlds". An abstract of the talk

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Authors, educators and prognosticators: Phylis and Philip Morrison of MIT will be the keynote speakers at this year's SJU Sigma Xi Student Research Symposium

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School in his hometown of Reading, Pa. Post was also influential in the recent building of Mandeville Hall at SJU, contributing \$1 million to that project.

The Villiger renovations have supplied the Departments of Psychology, Sociology, Criminal Justice and Health Services, as well as the Comey Institute of Industrial Relations, with state-of-the-art networking and in-class computer technology. The building also sports a new gothic-style roof to match other campus architecture.

The dedication ceremony began with the ringing of the Barbelin bells and an academic procession. Remarks were given by President Nicholas S. Rashford, S.J., Executive Vice President Dr. Daniel J. Curran, Vice President for Mission and Identity Bruce M. Bidingler, S.J., Vice President for Development John Zabinski and John R. Post, himself.

There were also three student speakers who represented the various academic departments benefiting from the major improvements to the building. Graduate psychology student Chanelle Bishop, junior interdisciplinary health services major Gina Bundy and senior sociology major Michael Goetz described how the Post's contribution has enhanced their academic experience.

Mr. Post founded Post Precision Castings, Inc., in 1964. The company is a leader in the production of cast valve and pump parts for the chemical, petroleum, pharmaceutical, and food and beverage industries.



John R. Post (3rd from left) with student speakers Michael Goetz '01 (left), Chanelle Bishop, MS student, and Gina Bundy '02 (right) at the Post Hall dedication ceremony.

SJU Holds First Annual Research Student Dinner

Student researchers, their mentors and the supporters of research at SJU recognized

Last October 20, some 100 people gathered in the Haub Executive Center of McShain Hall for the first annual celebration to recognize student research in the sciences at SJU. The dinner brought together 50 students, their faculty mentors, SJU administrators and some of the individuals whose generosity has helped to support both undergraduate and graduate research in the natural sciences at SJU.

The evening began with some of the students from Biology, Chemistry and Environmental Sciences presenting the results of their research in poster form. This was accompanied by a research booklet which included descriptions of each faculty member's ongoing research projects and detailed summaries of the individual student research projects.

Following the poster session was the dinner, which began with remarks from Dr. Judith Chapman, Dean of the College of Arts and Sciences. Dr. Chapman spoke of the importance of student research as a means of teaching students and its role in preparing them for their future in the work force or in graduate or professional school.

Next, some of the individuals and corporations who have provided generous support of student research at SJU were recognized by Drs. Tudor, Murray and King Smith. Plaques were presented to representatives of Covance Periapproval Services, Hitech Instruments, Fisher Scientific, E. I. duPont de Nemours, the BetzDearborn Division of Hercules, the Rohm and Haas Company and the Philadelphia Society of Coatings and Technology. Together, these companies have provided more than \$25,000 in support of student research and related activities. Several individuals and families were also recognized for their generous support of undergraduate research at SJU. These included

Mr. and Mrs. William J. Gross, Mr. and Mrs. Byron J. Leach, and former SJU Board of Trustees member Katharine Schneider. Together, these individuals supported several undergraduate students doing full-time research projects for ten weeks during the summer of 2000.

Perhaps the most important part of the evening was that it provided an opportunity for these friends of research at SJU to meet the students who have directly benefited from their support. It was gratifying to the faculty and administrators involved to see the conversations between these students and their benefactors going on throughout the dinner and afterwards.

Sigma Xi is already planning the second annual research dinner for the fall of 2001. More information regarding this celebration will be given in our June 2001 newsletter.

Buddy, Can You Spare Some Time (Or Skills, Or Money)?

Do you know of internship opportunities or employment openings and things consistent with Sigma Xi's mission?

SJU needs you. We are looking for help on a variety of fronts and it has been our experience that alumni are often the best place to look for that help.

"What do we need?" you might ask. Well, various departments are always looking for internship opportunities for their students. The SJU Career Development Center (their web address is www.sju.edu/careers/), is looking for more alumni from all fields to join the Alumni Mentor Alliance in which current SJU students are paired up with alums working in fields they are interested in pursuing.

Maybe you or your company might be willing to directly support student research at SJU (see related story on page 2) and the related activities, such as our Student Research Symposium (see related story on page 1). It is only because of the generous support of companies, individuals, and groups like the SJU medical alumni that we have been able to host such speakers as Nobel Laureate Dr. Arthur Kornberg and Pulitzer Prize winner Jonathan Weiner. For more information, please contact Dr. Michael McCann, SJU Sigma Xi secretary, at (610)660-1823 or by e-mail at "mmccann@sju.edu". You can also fill out the enclosed, postage-paid reply card and return it to us.

is included at the end of this article. The seminar will begin at 4:00 in the Teletorium of Mandeville Hall at the corner of City Avenue and 54th Street on the St. Joseph's University campus. The talk is free and open to the public and no special knowledge of astronomy is required. There will be a public reception for the Morrison's at 5:00 in the Mandeville Hall Tower Foyer following their talk.

The student poster session will then be open to the public from 6:00 until 8:00 in the Sun Rooms and North Lounge of the Campion Student Union Center. Undergraduate and Masters-level students from colleges and universities throughout the Eastern US will be there to present the results of the work in the areas of mathematics and computer science, the natural and the social sciences. For more information please contact Dr. Michael McCann, SJU Sigma Xi secretary, at (610) 660-1823, by e-mail at "mmccann@sju.edu" or on the web at www.sju.edu/honor-society/sigma-xi.

ABSTRACT OF THE MORRISONS' TALK "PLANETS, PLANETS, PLANETS: THE DISCOVERY OF EXTRASOLAR WORLDS"

The watchers of the sky learned long ago that the sun, the moon, and a number of bright wandering stars moved steadily against the fixed backdrop of stars that moves only as a whole. But until 1995 we had never found any second system beyond our very own.

Since then we have detected fifty remote suns encircled by planets, out to a mere hundred light years away. How it is done, what is learned, and what is planned next in space, will be our topic, one likely to occupy a century of search for the millions of solar systems we now infer.

Two New Faculty Join The SJU Chemistry Department

Dr. Usha Rao and Dr. Brian Hammes bring the number of tenure-track chemistry faculty to eight.

The Department of Chemistry has seen some major changes in its faculty in recent years. Following closely on the heels of the unexpected deaths of Dr. Ernest DiCarlo and Dr. George Nelson was the retirement of Dr. William Kriner. Last year one of the newest chemistry faculty, Dr. Pamela Tanner, decided to leave SJU so she could be with her family in Pensacola, Florida.

In the midst of all this change, the Department of Chemistry has continued to look to the future and has aggressively recruited new tenure-track faculty members. In 1997, Dr. Roger Murray was appointed as Professor of Chemistry and Chair of the department. In 1998, Dr. Jean Smolen (see related story, this page) joined the department as an Assistant Professor. During the last year, Dr. Usha Rao and Dr. Brian Hammes, have also joined the department. Importantly, Dr. Rao's appointment also marks the first hiring of a faculty member specifically for the Environmental Sciences Program, which was begun in 1996.

Dr. Rao obtained her bachelor's degree in Geology from St. Xavier's College of the University of Bombay in India, and her Master's and Ph.D. degrees in Earth and Environmental Sciences from the University of Rochester. She comes to St. Joe's from Northwestern University, where she held an Environmental Research Council postdoctoral fellow in Geological Sciences.

Usha is an environmental geochemist, with research interests in the propagation of halogen radioisotopes from nuclear facilities, the use of wetlands to mitigate agricultural water pollution, and the dating and tracing of ground water and hydrothermal fluids. Currently, she is studying the presence of iodine isotopes in sediments from Lake Ontario in collaboration with scientists from Environment Canada, the Canadian National Environmental Protection Agency. Two Environmental Science undergraduates, Jessica Sherman and Andrea Bartolomeo, are involved in this project. At St. Joe's, Usha teaches Environmental Ethics and Theory, Environmental Geology, and

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Cleaning Things Up At The Molecular Level

Dr. Jean Smolen of the Department of Chemistry, and President Elect of the SJU Sigma Xi Chapter, is making the world a nicer place one molecule at a time.

In the lab of Dr. Jean Smolen, Assistant Professor of Chemistry, one finds bottles containing water and what might be generously described as muck. This is because she and three undergraduate chemistry majors, Megan McLaughlin, Michael McNevin, and Shannon Swantek are examining the fate of complex organic molecules in natural aqueous environments. This research is funded by a Cottrell College Science Award from the Research Corporation and a grant from the Petroleum Research Fund of the American Chemical Society. Dr. Smolen and her students are examining how different constituents of soils and sediments affect the degradation or persistence of complex organic pollutants. Examples of these chemicals are large-volume industrial solvents and chemicals left over from munitions work at old military bases. Projects such as this aim to predict the degradation rates of pollutants in the environment. This would facilitate the remediation of many contaminated sites. While conducting research in the summer months and throughout the semesters in their senior year, students are exposed to instrumentation and lab techniques they may not experience in a classroom setting, but which will be invaluable in future graduate work or industrial positions.



Dr. Jean Smolen of the Department of Chemistry, will be the next SJU Sigma Xi President.

Two SJU Psychology Faculty Involved in Major, Externally-Funded Projects

Drs. Jaeger and Schatz are both recipients of grant awards for work in psychology.

Dr. Elizabeth Jaeger, a developmental psychologist who joined the SJU faculty this past fall, is currently involved in four research projects supported by extramural grants. These include:

1. A project funded by the National Institute of Child Health and Human Development (NICHD), called the NICHD Study of Early Child Care and Youth Development. This study is a multi-site, prospective longitudinal study of the impact of child rearing contexts on developmental outcomes from birth through fifth grade. They are currently analyzing data concerning the impact of child-care experiences on child development from 4.5 years through first grade.
2. A project entitled "Barriers to Child-Care Subsidies: The Influence of Family Characteristics on Subsidy Utilization". This project, funded by the Administration of Children, Youth, and Families, is examining factors related to low rates of child care subsidy utilization among eligible families, how these factors are related to family characteristics and preferences regarding child care.
3. A project evaluating a child-care initiative in Philadelphia called Child-Care Matters. Both the initiative and its evaluation are funded by the William Penn Foundation. Child-Care Matters is a multidimensional initiative aimed at changing the policy context of child-care in Pennsylvania.
4. A project called the Early Childhood Planning Project, supported by the United Way of South-eastern Pennsylvania through its "Improving School Readiness Project". The purpose of this study is to collect baseline data concerning the quality of child-care available in Philadelphia.

In addition to these projects, Dr. Jaeger is continuing her basic research concerning parent-child attachment. She is currently analyzing data from the NICHD study to examine validity issues in the

measurement of attachment security in African American infants.

Several of Dr. Jaeger's graduate students are also using the NICHD data-base for their master's projects. Suzanne Funk is examining the use of 'kith and kin' care, i.e. child-care by neighbors and relatives, in the NICHD sample. Lori Simoni is examining the impact of attachment security on language development in children.

Dr. Phil Schatz, also of the Department of Psychology, is directing another grant involving the development and delivery of specialized distance-learning course materials. The NAN distanCE Project (NANCEP), as it is called, is funded and supported by the National Academy of Neuropsychology, and has been in operation since 1997. NANCEP offers internet-based continuing education courses for professional psychologists in the areas of Neuroanatomy and Medical Neurosciences and Mild Traumatic Brain Injury. Courses are custom-developed by leading neuropsychologists and the NANCEP development team, and utilize synchronous internet content and asynchronous CD-ROM materials. Courses are currently being developed in the areas of Ethics in Neuropsychology, Neuropsychology of Rehabilitation, and Neuropsychological aspects of Sleep Disorders. Dr. Schatz serves as the Project Coordinator and Director of the NAN distanCE Center at SJU.

SJU Masters Programs

Biology, Chemistry, Math & Computer Science all offer MS degrees for today's hitech pros

Considering a career change? Interested in moving into the areas of life sciences, chemistry or computer sciences? Maybe the SJU Masters programs in Biology, Chemistry and Computer Science are just what you are looking for.

These programs combine a flexible curriculum with full and part-time courses of study, to suit every student's need, whether their right out of college or coming back after years in the work

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Introduction to Planet Earth, a Science GER course.

Dr. Brian Hammes graduated from the University of Wisconsin at LaCrosse with a B. S. in chemistry. From there he attended graduate school at Kansas State University where he worked with Dr. Andrew Borovik in the area of bioinorganic chemistry (the study of metal ions in biology). Upon finishing graduate school Brian felt that larger universities often were neglecting the students, and instead the focus of the faculty was on obtaining external funding to pursue their research. Brian decided that he wanted to be a strong teacher both in the classroom and research laboratory. With this thought in mind, he chose to do a post-doctoral fellowship with Dr. Carl Carrano at Southwest Texas State University, a primarily undergraduate institution. Brian says that "my reasoning was that to succeed in research at an undergraduate university I had to learn how to succeed in research and how to manage my time effectively to always be available for the students and be successful in the laboratory."

His research interests lie in the use of metal ions in biology or bioinorganic chemistry. Brian was attracted to this area because nature uses metals to produce and transport energy, catalyze reactions, and transport small molecules. Brian and his

students want to determine why these systems evolved using particular metals for specific reactions.

At St. Joseph's, Dr. Hammes is teaching Inorganic Chemistry, Advanced Inorganic Chemistry, Inorganic Chemistry Lab, and a section of General Chemistry

place. Financial aid and teaching assistantships are available to those who qualify. For more information visit the SJU web site at www.sju.edu/cas and click on the links for the appropriate academic department. You can also contact the graduate program directors listed below:

Dr. Paul Tefft, Masters Program in Biology
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Dr. Roger Murray, Masters Program in Chemistry
Phone: 610-660-1789 E-mail: rmurray@sju.edu

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