

UNIVERSITY of PENNSYLVANIA *Almanac*

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Ronald Lauder Endowed Term Chair: Randall Wright

Dr. Randall Wright has been appointed to the Ronald Lauder Endowed Term Chair, according to SAS Dean Samuel H. Preston. Dr. Wright, Professor of Economics, received his B.A. from the University of Manitoba in 1979 and his Ph.D. from the University of Minnesota in 1986. He came to Penn as an assistant professor in 1987, and his research interests include labor and monetary economics. He has also served as an assistant professor at Cornell University, a visitor at the University of Wisconsin-Madison, and a fellow at Stanford University's Hoover Institution. He is an active scholar and has published extensively.

He is the editor of the *International Economic Review* and has served on the editorial boards of several other publications. Dr. Wright is also a consultant to the Federal Reserve Bank of Cleveland. He has been the recipient of several National Science Foundation grants, and he previously held the Joseph M. Cohen Term Chair in Economics and the William Smith Term Chair. He was named a fellow of the Econometric Society in 1997.

The Ronald Lauder Endowed Term Chair was established in 1991 by the Honorable Ronald S. Lauder, W'65, former U.S. ambassador to Austria. Mr. Lauder has also served as deputy assistant secretary of defense for European and NATO policy, chairman of the Central European Development Corporation, and chairman of Lauder Investments, Inc.

Patricia Williams Term Chair: Richard Schultz

Dr. Richard Schultz has been appointed to the Patricia Williams Term Chair in Biology, SAS Dean Samuel H. Preston announced. Dr. Schultz received his B.A. from Brandeis University in 1971 and his Ph.D. from Harvard University in 1975. His research focuses on egg activation and gene expression in mouse embryos. Before coming to Penn in 1978, he was a postdoctoral fellow of the Rockefeller Foundation at Harvard Medical School.

He is a fellow of the American Association for the Advancement of Science and the recipient of the Jan Purkinje Medal of the Czech Academy of Sciences. He has served as a member of the developmental biology study section at the National Science Foundation and the reproductive biology study section at the National Institutes of Health. He is also the recipient of several grants from the National Institutes of Health and an NIH MERIT Award. He is a member of the editorial boards of *BioEssays*, *Biology of Reproduction*, and *Developmental Biology* and is a director of the Society for the Study of Reproduction. In addition to his scholarly activities, he has served as a member of the biology department's executive committee and chairman of the biology graduate group.

The Patricia Williams Term Chair in Biology was established by Paul C. Williams and is named in honor of his mother. A 1967 graduate of the Wharton School, Mr. Williams is a University trustee and a member of the SAS Board of Overseers. Mr. Williams is vice president and manager of Nuveen Investments, a financial services firm in Chicago.



Randall Wright



Richard Schultz

Moody's Improved Ratings on Penn's and UPHS's Bonds

Moody's Investors Service recently revised the outlooks to stable from negative on bond ratings for Penn and UPHS. Their report affirmed the A1 rating on the University's bonds and the A3 rating on the Health Services bonds. The University of Pennsylvania Health Services has approximately \$825 million of outstanding debt, of which \$480 million is rated A3; a large portion of the remaining debt is variable rate and supported by bank letters of credit. In addition to the Health Services debt, the University has approximately \$560 million of outstanding debt, of which \$340 million is rated A1. \$1.4 billion of total debt is affected by this rating.

The rating revision for both Penn and UPHS reflects "substantial progress at the Health Services operations in producing an operating profit,

reversing a history of large operating losses, stabilizing liquidity and implementing more consistent financial practices and more stringent financial controls. Despite notable improvement, we believe a rating upgrade is precluded at this time based on challenges the health system continues to face including a modest cash position, short-term cash requirements above normal debt service and capital spending, and wage and other expense pressures," Moody's report said.

The A3 rating for Health Services also incorporates "the strength of the University's commitment to and close relationship with the health system and the financial resources of the School of Medicine, although neither the University nor the School of Medicine is legally obligated for the Health System's debt."

Public Safety Presentation

Members of the University community are invited to join Maureen Kelly of Public Safety for a Brown Bag Lunch Presentation to be held Wednesday, December 12, from noon until 1 p.m. at the Terrace Room, in Logan Hall.

The presentation will include:

- 1) Personal Safety Presentation: including Holiday Safety Tips
- 2) Short Video: *Safety and Security at Penn*
- 3) Workplace Violence:

Information about situations that may arise with employees who have interactions with the public, etc.

- 4) Questions and Answers

Beverages and cookies will be served.

Strategic Plan: Open Forum

A Strategic Plan Open Forum will be held on Tuesday, January 15, at 4 p.m. in Bodek Lounge, Houston Hall. Executive Vice President John Fry and Provost Robert Barchi will summarize where they are now in the planning process and solicit additional input from the University community. The development of Penn's new strategic plan which builds on *The Agenda for Excellence* (Almanac May 1, 2001) is progressing, according to Provost Barchi. He gave an update on the strategic planning process at Council's State of the University address in November (Almanac November 13). The 14 strategic planning committees have submitted draft reports which will be finalized in the coming weeks.

A draft of the Strategic Plan is expected to be published For Comment early next semester.

MLK Day: No Classes

Please note that there will be no classes on January 21, 2002, in honor of the University's commemoration of Martin Luther King Day. Please see the January AT PENN calendar in the December 18 issue of *Almanac* for lists of University-sponsored events on that day and in the following weeks."

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University Council Open Forum: Focus on Funding, Flexibility and Fairness

At Council's annual Open Forum last week, five issues of concern to various constituencies were presented for consideration by the Council Steering Committee. Two other topics that were anticipated were not presented since their speakers were not present.

The first issue concerned the University's commitment to financial aid, recruitment and retention, and development of standard resource centers in the context of the Strategic Plan. Several student organizations were represented: UMC, Latino Coalition, UMOJA, and Asian Pacific Coalition. UA representative and College sophomore Papa Wassa Nduom & two others spoke about their hope that the University would increase the pool of resources for such resource centers. President Rodin and Provost Barchi stressed the institutional commitment that the centers would continue. President Rodin explained that the new Strategic Plan being developed does not deal with this level of specificity, but rather "meta-goals."

The next topic was presented by Troy Odom, the chair of the A-3 Assembly, to facilitate the

attendance at University Council meetings and committee meetings of A-3 employees who are members of Council and Council committees. He suggested that either a policy should be established or that supervisors should provide the needed flexibility for the employees. Dr. Rodin said that input from Human Resources would be sought before the next Steering Committee meeting to determine what is possible.

Med School student David Dinan, LGBT Advisory Board co-chair, then presented a proposal about the addition of gender identity and gender expression to the University's non-discrimination policies. He noted that of the top 25 universities in the US only one is this inclusive, then suggested that Penn could be "on the cutting edge of this issue." Dr. Gerald Porter then pointed out that this could be a challenge when it comes to "binary gender restroom facilities."

The next topic concerned the unavailability of SAC funding for campus religious groups and was presented by College junior Hanni Batzel on behalf of SPECIAL—Student Program on Education Concerning Interfaith Activities and Life

on campus. She said SPECIAL serves as an advocate for interfaith groups and serves as a forum about religious understanding among groups. UA Chair Dana Hork requested clarification as to whether the funding is for the umbrella group which does not promote a specific religion. It was also pointed out that University Council does not control how SAC, a part of the UA, allocates its budget. President Rodin also noted that the Chaplain's Office is another source of funding for such interfaith activities.

The final proposal concerned "economic justice" as College senior Reshma Mehta, the Penn Students Against Sweatshops coordinator, focused on the needs of Penn Dining Services employees. She said her organization is concerned about what could happen to the employees when the dining contract expires and they "do not wish to benefit from exploitation of employees with a potential new sub-contractor." Adam Sherr, PPSA representative to Council and former Dining Service employee noted that only the management positions were outsourced to BonApetit, not the union positions.

DEATHS

Mr. Huang: Psychology Student

Abraham Huang, a junior in the College majoring in psychology, died December 5, in a motorcycle accident. He was 20 years old.

Mr. Huang had transferred to Penn in September from Purdue University in Indiana. He was from Framington, Connecticut.

He is survived by his parents, and a sister.

Mrs. Green:

Retired Lecturer in Human Sexuality

Mrs. Sally Green, a retired lecturer in psychiatry, died on November 23 at the age of 71.

Mrs. Green came to Penn in 1948 as a student and received a B. A. in architecture in 1952. She earned her master's of science in education from Penn in 1974. She began teaching at Penn in 1973 and retired as a lecturer in Academic Support Staff in the School of Medicine in family study in psychiatry. She taught a course on human sexuality which was very popular. She also conducted family therapy at the Penn Council for Relationships, the then Marriage Council.

Mrs. Green is survived by her husband, Rodney; sons, Jesse and Anthony; and four grandchildren.

Memorial donations may be made to Temple Beth Hillel-Beth El's Educational Endowment Fund, 1001 Remington Rd., Wynnewood, PA 19096.

Memorial Service for Mr. Majumdar

A memorial service for Anirban Majumdar, the recently deceased SEAS graduate student, will be held on December 11, from 4:30-5:30 p.m., in the Hall of Flags in Houston Hall. A reception will follow.

Mr. Majumdar, was a first year Ph.D. student in computer and information science from Calcutta, India. His mother will be in attendance.

Dr. Helen O. Dickens: A Pioneer in Women's Health



Helen O. Dickens

Dr. Helen Octavia Dickens, a distinguished emeritus professor of obstetrics and gynecology and former associate dean of medicine died on December 2, at the age of 92.

Dr. Dickens was born in Dayton, Ohio in 1909. She graduated from the University of Illinois School of Medicine, in 1934, and was the only African-American woman in

her class. After graduation she worked at Provident Hospital in Chicago then practiced with Dr. Virginia Alexander in North Philadelphia. In 1943 she attended the Penn Graduate School of Medicine for one year concentrating in obstetrics and gynecology. In 1945, she became the first female African-American board-certified ob/gyn in Philadelphia.

In that same year, Dr. Dickens became director of the department of obstetrics and gynecology at Mercy Douglass Hospital in Philadelphia. She joined the courtesy staff of Women's Hospital in 1951 and became a member of the staff and faculty in the department of obstetrics and gynecology in the School of Medicine in 1956 when Penn acquired Women's Hospital. At that time she was the first African-American woman to serve in this position. She was also professor of obstetrics and gynecology.

In 1967, Dr. Dickens founded the Teen Clinic at Penn for school-age mothers in the inner city. The clinic's services included counseling and group therapy, educational classes, family planning assistance, and prenatal care. She also initiated a project that brought temporary cancer detection facilities into Philadelphia's inner city. Additionally, Dr. Dickens implemented a program funded by the NIH that encouraged doctors to perform Pap smears to test for cervical cancer.

In 1969 Dr. Dickens was named associate

dean for minority admissions. She helped recruit African-Americans to the medical school. In her first five years she was responsible for increasing minority numbers from three students to 64.

In 1982, Dr. Dickens received an honorary degree from Penn. She also received one from the Medical College of Pennsylvania in 1979.

The Helen O. Dickens Center for Women's Health at HUP was named for Dr. Dickens in 1999 (*Almanac* May 18/25 1999) in honor of the 50 years she "dedicated to healing, helping and guiding women of all ages."

A portrait of Dr. Dickens by Charlotte Franklin was hung in the School of Medicine in 1985; then, in 1992 another portrait of her was unveiled, this one by her colleague Dr. Burnett L. Johnson, professor and vice chair of dermatology.

Dr. Dickens was a member of the Pan American Medical Women's Association and its president from 1968-1970. A member of the board of directors for the American Cancer Society, the Children's Aid Society, the Devereaux Foundation. She was also the recipient of many awards including the Gimbel Philadelphia Award for "outstanding service to humanity," the Medical Woman of the Year, Distinguished Daughter of Pennsylvania; Daisy Lumpkin Award; the Mercy Douglass Hospital Award; and the Sadie Alexander Award for community service by Delta Sigma Theta.

In 1991, she received the faculty/staff award at Penn's Women of Color celebration where their most prestigious award was named for Dr. Dickens. Known as the Dr. Helen O. Dickens Lifetime Achievement Award, it is awarded to exemplary candidates with a long history of service to Women of Color in the Penn and Delaware Valley communities.

She also received the Family Planning Council of Southeastern Pennsylvania Award for her "lifelong contributions to women's health care both as an outstanding teacher-clinician and as a pioneer in programming to assist teen-aged mothers in the region to complete their education" in 1995.

Dr. Dickens is survived by her daughter Jayne Brown; son, Norman S. Henderson; and three grandchildren.

Bottom Line Now Online

The December issue of the *Bottom Line* is now available at www.finance.upenn.edu/ftd/bline.html. Listed below are some of the items that you'll be able to find in this edition:

- Message from the Vice President for Finance and Treasurer—Craig Carnaroli
- Return of Sponsored Programs Workshops to the calendar
- Final preparation information for the launch of BEN Financials
- SFS Spring '02-Fall '02 billing schedules
- BEN Financials training dates for new users, transition users, and refresher courses
- Course descriptions for all BEN Financials training course
- New FTD training registration form

For the fifth and tenth individuals who respond correctly to the Quarterly Quiz, the Financial Training Department will pay for a one-year membership to the Faculty Club, with a start date of September 1, 2002.

—Financial Training Department

Applications for Women of Color Scholars Awards: January 21

The Women of Color Scholars Award is being presented at the University. It will provide support to one Woman of Color in each of these groups: undergraduate, graduate and non-traditional evening school student. Each student will be given a \$1,000 award to support their efforts in higher education through the purchase of books, professional conference travel or purchase of equipment.

The award is designed to encourage highly motivated and achieving students to continue their pursuits in finishing their undergraduate and/or professional degrees.

This award has been made possible by donations from Penn administration, faculty and Penn Women of Color. (See the Women of Color website for more information).

Since its inception in March 1988, Penn's Women of Color Day Celebration has included the conferral of awards upon deserving members of the Penn community who have made a difference in the lives of Women of Color. It is with great pride that on March 7, 2002, we will confer the first Women of Color Scholars Award and present its recipients to the Penn community.

The application deadline for awards is *January 21, 2002*. Awards to be received fall of 2002.

Eligible applicants:

- Must be U.S. citizen or permanent resident
- Must have completed at least one year at Penn or will be an entering second year graduate student
- Must be an exceptional student who has demonstrated academic merit and need
- Must be a Woman of Color

To view/print the application form, see www.upenn.edu/ccp/WomenofColor.html. Copies of the application are also available from the African-American Resource Center, Greenfield Intercultural Center, Penn Women's Center, and at all School Deans Offices. Applications can also be obtained from any members of Scholarship Committee. Anyone interested in joining the committee please call (215) 898-6612.

—Donna Brown, Committee Chair

—Winnie Smart-Mapp, Scholarship Sub-Committee Chair

Launching Ben Financials: The Countdown Begins

BEN Financials will go live on January 2, 2002, at 8 a.m., replacing FinMIS, which will be no longer be available after December 19, 2001, at 8 p.m. Although the upgrade will directly affect those of you who are FinMIS users, others may also be affected, especially by the shutdown during Winter Break. This includes researchers whose grants are closing, anyone planning year-end purchases, and faculty and staff who want to access financial and grant information during Winter Break. We therefore ask all of you to observe the key dates and review the other information (*at right*) as you make year-end plans; we urge users to rely on the support structure that has been put in place to help achieve a smooth transition.

What's Changed

BEN Financials builds on what is familiar and working in FinMIS. It still provides integrated purchasing, accounts payable, and general ledger functions, but under new names: BEN Buys, BEN Pays, and BEN Balances. Though many procedures and proven features have been retained, they will be easier to use and sport a new graphical look and feel. New functionality has also been added, most notably, the Penn Marketplace, a purchasing environment that will be available to current FinMIS users as well as faculty and other staff who would like to purchase products and services. Featuring customized online catalogs from a host of suppliers and an electronic shopping cart, the Penn Marketplace will make purchasing easier and more convenient for everyone.

Training and Support

With the introduction of BEN Teaches and BEN Helps during the past year, training and support for users have been augmented significantly. The comprehensive BEN Financials training program developed under the BEN Teaches initiative covers policies and procedures and provides hands-on experience both in the classroom and at users' desks. The BEN Helps support service at 6-HELP has already started helping users through the transition, handling questions arising from training classes and post-training practice. In fact, Financial Support Providers (FSPs) were among the first groups trained on BEN Financials.

In January, training will begin for new users, and resume for those FinMIS users who did not complete their BEN Financials training by December 19. Refresher sessions will also be offered during January.

Going Forward

As we move through the transition, the BEN Project Team asks for your patience and continued cooperation. BEN Financials is a new system, and it would be unrealistic to expect everything to operate perfectly from day one. Users may need to make adjustments as it settles into place. We will do our best to iron out any issues as smoothly and efficiently as possible.

We thank the entire Penn community for helping us to accomplish this significant upgrade. BEN Financials will improve the way we do business at Penn.

—Robin H. Beck, Vice President, Information Systems and Computing

—Kenneth B. Campbell, Comptroller

—Michael J. Masch, Vice President, Budget and Management Analysis

—Robert Michel, Director, Acquisition Services

Key Dates

These are the key dates for the FinMIS to BEN Financials conversion.

Wednesday, December 19, 8 p.m.

FinMIS to BEN Financials upgrade begins.

FinMIS is no longer available.

Wednesday, January 2, 8 a.m.

BEN Financials is available.



Reminders

This checklist will help you prepare for the launch and Winter Break:

- All work on grants that require closing activities in December must be completed by December 19.
- Are there any items you will need during the Winter Break? Let your business administrator know early as purchase orders have to be completed before December 19.
- If you are a user, have you updated your desktop? If not, please contact your Local Support Provider (LSP) at once.
- The BEN web site is a handy source of information, especially the FAQs about the BEN Financials launch.

Log on to http://upenn.magpage.com/tools/faqs/index.cfm?action=faq&topic_match=447.

Support During the Winter Break

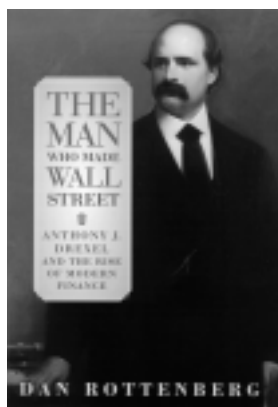
What remains accessible during the Winter Break?

- BEN Reports, GRAM, and the Data Warehouse will be available, with general ledger data as of December 19.
- Acquisition Services' staff will be on campus to assist with emergency purchases. Call a procurement specialist for assistance.

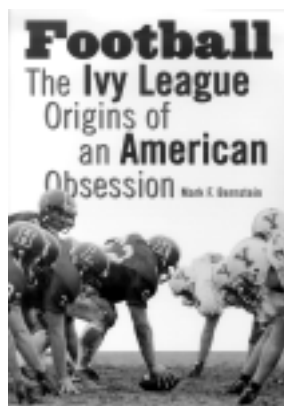
The complete schedule and instructions for December month-end closing are posted at www.finance.upenn.edu/comptroller/accounting/closedec.shtml and are also accessible from the Comptroller's Home Page, under "What's New."

Penn Press Presents

The University of Pennsylvania Press presents not only books with a Philadelphia connection and a Penn connection—*The Man Who Made Wall Street* by alumnus Dan Rottenberg—but has books with an international flavor—*La Foce: A Garden and Landscape in Tuscany*.



The Man Who Made Wall Street: Anthony J. Drexel and the Rise of Modern Finance “He was the best friend I have ever had in every way.”—*J. P. Morgan*. After decades of detective work, Penn alumnus Dan Rottenberg has succeeded in writing the first biography of the man who put J.P. Morgan in business. \$29.95/Cloth



Football: The Ivy League Origins of an American Obsession “Mr. Bernstein offers dazzling descriptions of long-forgotten people and events.”—*The Wall Street Journal* Mark F. Bernstein/ \$29.95/Cloth

Benjamin Franklin Takes the Case by Robert Lee Hall. Benjamin Franklin and his young “Watson” investigate the murder in London of a fellow printer. “A totally involving work.”—*Library Journal*. \$14.95/Paper

These and many other books from the Penn Press are available at the Penn Bookstore. Visit the Penn Press website, www.upenn.edu/pennpress/ or the Penn Bookstore for more information. Another idea for the book-lover on your list is to give a Penn Press associate membership (see *Gifts of Involvement* on page 5 for details).

First City Covering more than two centuries of social, economic, and political change, and offering a challenging, innovative approach to urban as well as national history. Gary B. Nash/ \$34.95/Cloth



La Foce: A Garden and Landscape in Tuscany by Benedetta Origo, Morna Livingston along with Penn landscape architecture professors Laurie Olin and John Dixon Hunt. *La Foce* offers a rare look at the majestic, romantic, and personal aspects of one of the loveliest places on earth. \$49.95/Cloth



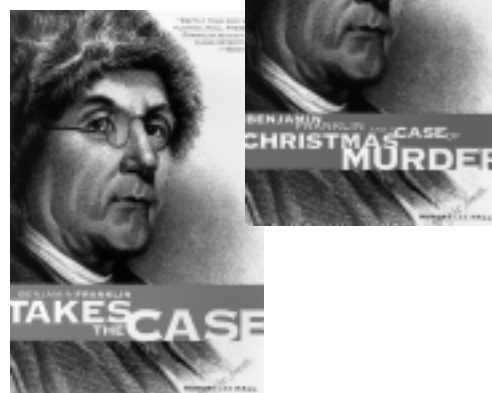
The 1921 seal of the Penn Press: a tribute to Benjamin Franklin, publisher, statesman, inventor and founder of the University



Uplift: The Bra in America Jane Farrell-Beck and Colleen Gau use this item of clothing to gauge the social history of women and to understand the business history of fashion. \$35/Cloth

Now In Paperback from Pine Street Books

Benjamin Franklin and the Case of Christmas Murder by Robert Lee Hall. Benjamin Franklin solves a case of murder and blackmail in London during the Christmas season. “A tale as delicious as Christmas pudding.”—*Publishers Weekly*. \$14.95/Paper



Sanctuary by Edith Wharton. “A striking little book, striking in its simplicity and penetration, its passion and restraint.”—*Times Literary Supplement* \$14.95/Paper



The Academic Job Search Handbook, 3rd Edition Mary Morris Heiberger and Julia Miller Vick, Penn’s own experts from Career Services, have updated their guide trusted by tens of thousands, now in its third edition. \$15.95/Paper

The Gift of Involvement

Want to give someone a sense of belonging? Want to give something different this holiday season? Can't find that special gift in stores or online? Here are some ways to give friends and family opportunities to experience a Penn treasure, like...



... Anthropology/ Archaeology: Those who treasure the past will be delighted with a full year's membership in the *University of Pennsylvania Museum of Archaeology and Anthropology*. They will enjoy free admission, Museum Shop discounts, invitations to openings and other members-only events, and *Expedition Magazine*; and they will be kept up-to-date about the latest discoveries from the Museum's worldwide fieldwork and research. The gift membership will be mailed. Individual membership is \$45, dual membership \$55, household \$65, sustaining \$100, patron \$250, and fellows \$500. Information: (215) 898-5093 or www.upenn.edu/museum/PublicServices.

... Art: Members of the *Institute of Contemporary Art* receive free admission to the exhibitions, lectures and programs, invitations to preview opening receptions and the annual benefit, a calendar listing lectures, programs, tours, and special events, 20% discounts on ICA catalogues, use of the ICA library, and discounts on selected Penn Presents programs. Individuals \$40; family \$100; contributor \$250, participating \$500, benefactor \$1,000, with additional membership bonuses for each. Information: (215) 898-4980.

Generations of Tradition, a lithograph of the University campus by Jane Wooster Scott, is available at four different prices depending on the edition: \$150, \$200, \$400, \$1,000. Profits benefit the Shoemaker Fund for Women's Athletics. Information: (215) 898-6123 or www.pennathletics.fansonly.com/genrel/lithograph.html.



Operation Santa Claus

Operation Santa still needs some thoughtful elves to provide gifts for both the youngsters and senior citizens who will be coming campus for the annual party. If you would like to donate a gift, please wrap it and place a label on the outside marked with the name of the item, whether for a man or woman, girl or boy and the size, if relevant.



Please bring all gifts to Yvonne Giorgio in Suite 212 Franklin Building, no later than Monday, December 17.



1829 or www.library.upenn.edu/friends/members/benefits.html.

Annual membership of the *Penn Press Associates* is available at \$100 and \$500 levels. Members receive the book, *Historic Houses of Philadelphia*, get a 50% discount off Penn Press books, are invited to events to meet authors and publishing professionals. Information: (215) 898-6263 or cjack@pobox.upenn.edu.

... Readings: Members of *Friends of the Kelly Writers House* help sustain the Writers House's seminars, readings and webcasts. Friends will be acknowledged in the Writers House Annual Membership fees: \$40, \$100, \$250, \$500, and William Carlos Williams Circle \$1,000. Information: (215) 573-WRIT or www.english.upenn.edu/~wh/support/become.html.

... Performances: *International Music Series* The International House presents concerts featuring music from around the world each month through April. Shows include folk music, Latin jazz, Irish, Scottish and Gypsy music, R&B and Doo Wop. To subscribe: (215) 895-6545 or www.ihousephilly.org/ARTS/tickets.html.

Penn Presents will stage numerous shows including music, dance and theatre from now through May. To subscribe: (215) 898-3900.

... Music: WXPX 88.5 FM, Penn's member-supported radio station offers several membership choices for those who enjoy discovering emerging artists and re-discovering some old favorites. For \$60, the music-lover gets an XPN card good for discounts at numerous companies, and a Fall Music Sampler or CD of the week. For \$75, the recipient gets the card and a choice of Kids' Corner CD, Live at the World Cafe Vol. #12 or World Cafe 10th Anniversary T-Shirt. Information: www.xpn.org.

... Flora: Members of the *Morris Arboretum*, Pennsylvania's official arboretum, receive free admission, free bonus plant, orientation tour and reception, 10% course discounts, the quarterly newsletter, plant sale benefits, access to the Reciprocal Admissions Program, gift shop discounts, and invitations to events and lectures. Membership fees are: Regular \$50, Franklinia \$75, Chestnut \$125, Holly \$250, Oak \$500, and Laurel \$1,000. Membership form is available online for print-out at www.upenn.edu/morris/member.html. For your favorite gardener, the Arboretum Gift Shop has a full line of "garden-inspired items including a tapestry tote, tapestry pillow and coasters—all featuring a graceful swan at the



... Books: Members of *Friends of the Library* are invited to a variety of special events and receive a newsletter. Membership fees: regular \$50, sponsor \$100, patron \$250, benefactor \$500, Red and Blue Society \$1,000, Benjamin Franklin Society \$2,500. Information: (800)-390-

Arboretum's Love Temple. All are available by calling the Morris Arboretum Gift Shop at (215) 247-5777.

... Food: *Houston Market* gift certificates in the amount of \$10 are available for purchase at any Houston Market cashier station.

The Faculty Club offers faculty and staff in their first year at the University a year of membership free; you could make a deposit into a declining balance account for the member to enjoy meals at the Club's Buffet or Hourglass a la carte Dining Room. Gift certificates for membership are \$30, a Club mug is \$5, certificates for dining are also available. Information: (215) 898-4618 or fsclub@pobox.upenn.edu.



... Sports and Fitness: *The Class of 1923 Ice Rink* offers a discount book of 10 admission passes to any public skating session



for \$40 with a PENNCard or \$55 for the public. Why not stuff a stocking with skating lessons? Six

weeks of group lessons, beginning week of January 1, are available for ages 6 through adult in a variety of skill levels. The registration deadline is December 27. Cost \$85. Information: (215) 898-1923.

Levy Tennis Pavilion memberships are \$15 students and spouses, \$25 faculty, staff and spouses, \$40 alumni, \$75 public, \$35 senior citizens, guest fee \$5; valid through August 2001. Information: (215) 898-4741.

The *Katz Fitness Center* in Gimbel Gym, along with the *Penn Fitness Center* in Hutchinson, with a variety of weight training and aerobic equipment is the perfect gift for those who have made a New Year's resolution to get in shape and exercise. Membership for the spring semester is \$50 for students, \$80 for faculty, staff and affiliates, and \$100 for alumni and community members. Information: (215) 898-8383.

The Men's Basketball Club offers various gift levels from \$25 to \$1,000 with benefits that increase with the level. Benefits include invitation to Club receptions, Hoopenings, media guide, Club memento, and preferred seating assignments. Information: (215) 898-4717.

... World Culture: *International House* members receive reduced admission to most International House programs, the *International House Newsletter* and *Calendar* with advance notice of upcoming programs and Members Only events, exhibits, lectures, and the chance to meet with graduate students and visitors from over fifty countries studying at Philadelphia universities who live at International House. Individual Member \$40, Household Member \$60, Contributing Member \$100, Sustaining Member \$250, World Member \$500, International Member \$1,000. Call (215) 895-6531.

December Volunteer Opportunities

Dear Penn Community,

During the month of November, because of your generous contributions, we donated 50 boxes of food to the Carroll Park Community Council's Food Program that serves members of our West Philadelphia community. Further, we hosted 21 students from Parkway High School for the Annual Shadowing Day Event held on November 15. As always, these opportunities were developed from the many requests we get from the surrounding community to be partners in a particular initiative and/or sometimes to provide assistance. Our surrounding community continues to express thanks for the many services and partnerships the Penn community is involved in. If you would like to volunteer for any of the following programs, please let me know via e-mail (sammapp@pobox.upenn.edu).

—Isabel Mapp, Associate Director, Faculty, Staff and Alumni Volunteer Services
Director, Penn Volunteers In Public Service, Center for Community Partnerships

Christmas Drive Through December 14: Please join us in the Annual Penn Volunteers In Public Service Christmas Drive. As you buy gifts for the holiday season, please consider spreading some cheer to the less fortunate members of our community. All toys and gifts donated will support the efforts of organizations including the People's Emergency Shelter, McMichael School, Potter's Mission, My Sister's Place and Caring About Sharing. (See December AT PENN, at www.upenn.edu/almanac for drop-off locations.)

Departments: *There is still time to adopt a family during the holidays:* Several departments have adopted a deserving family for the holidays and will be providing the family with toys and gifts so that they too can have a joyous holiday.

Donating Platelets There is a strong need for help at CHOP. The Apherisis Donor Center really needs people to donate platelet cells (it's very much like giving blood) to help out children with leukemia. Won't you and/or your group do something really worthwhile? It's a very worthy cause—these children have suffered through a lot in their lives. Visit their website for information <http://hematology.chop.edu/apheresis>

Ever consider being a Foster Parent? Contact: Lillian Jackson, Methodist Services, 4300 Monument Road, (215) 877-1925 x234.

Penn's Way 2002

Dear Penn Family Members:

We would like to thank those who have chosen to participate to-date in the Penn's Way 2002 Campaign. For other Penn community members, we want you to know that, at the mid-point of the campaign, we would be grateful for your support in reaching our campaign goal. We know that all "Penn people" have an abundance of compassion, generosity, and commitment to serve others that is reflected in this year's theme: "Commitment to Our Community". Many of you have given generously to help those deeply affected by our national tragedy of September 11 and its aftermath. In addition to the numerous challenges that have resulted from this tragedy, we encourage you to support, through Penn's Way, the on-going significant needs of our local communities.

In addition to helping others, we also want to let you know that all who participate have an opportunity to win some great prizes. It's not too late to participate: the drawing on December 17 will include two airline travel certificates! Also, remember that the grand prize is an Apple iBook laptop computer! For a list of the weekly raffle prizes awarded to-date, please see the website, www.upenn.edu/osl/pennsway.

Again, please join us in supporting Penn's Way 2002. We need you!

—Dr. Valarie Swain-Cade McCoullum

—Dr. Mitchell Marcus

Week Two Raffle Winners

1. Six tickets to the Stimulus Children's Theatre ("A Woolly Bully Itch")—Monique Betterson, School of Medicine
2. Free month of parking—Jeff Rusling, Business Services
3. Household membership to U. of P. Museum—Stuart Donaldson, Career Services
4. Overnight stay w/breakfast at the Inn at Penn—Mark Iseltine, ISC
5. One-year household membership to Morris Arboretum—Dave Curran, ISC/AIT
6. \$25 gift certificate to Morris Arboretum plant sale (spring 2002)—Neville Strumpf, Nursing
7. \$20 gift certificate to Shula's—Joanne Spigonardo, Wharton -Communications
8. Book of ten passes to the Class of 1923 Ice Rink—Julia Miller Vick, Career Services
9. Photographic Portrait Book—Brian Donlen, President's Office
10. \$10 gift certificate to Houston Market—Kathy Cassidy, Provost's Office

Week Three Raffle Winners

Winners will be listed in next week's issue.

Week Four Prizes

1. Two United Airlines Travel Certificates*
2. Five CDs from WXPB
3. Two one-day passes to the Katz Fitness Center
4. Two one-hour sessions on the Levy Tennis Court
5. Two tickets to the Penn Relays (Spring 2002)
6. Two one-hour personal training sessions
7. Two Aerobics class passes
8. \$20 gift certificate to University Jewelers
9. Picture frame from the Paper Garden
10. Two \$10 gift certificates for Houston Market

* For domestic coach tickets within the 48 contiguous states. Valid through 6/14/02



Holiday Safety Tips

As the holiday season approaches, crimes against people and property traditionally increase across the country. Unfortunately, Penn is no exception. Reports of pick pocketing and thefts from autos and buildings have risen over the past week in the Penn Police patrol area. In order to make your holiday joyous and safe, the University of Pennsylvania Police Department offers the following suggestions on how *not* to become a statistic:

Workplace Safety

- Keep personal items such as wallets, handbags etc. in a locked and secure area.
- Small electronic items such as laptops, Palm Pilots, etc. should never be left unattended.
- When leaving your office, even for a short period, secure your valuables and lock your office.
- Report suspicious behavior to University Police by dialing 511, giving a description and last known location where you observed this person/s.

Vehicle Safety

- Never leave items in your vehicle that are visible to the public:

During this time of the year thieves usually walk parking garages etc. looking for vehicles that have items such as gifts, computers, and other valuables that are visible. Stow all items in the trunk of your vehicle where they are not visible.


- Park your vehicle in a well lit area and be cognizant of your surroundings. If you see something suspicious don't get out of vehicle. Park at another location and call the police with your observations.

Shopping Safety

- Carry a minimal amount of credit cards and avoid carrying large sums of cash.
- Use ATM machines that are in well-lit and safe environments. Places such as WAWA usually are safe, well lit and there is no service charge. During this time of the year pickpockets will loiter around ATM's in the mall looking for people making large cash withdrawals. Don't count your money at the ATM machine.
- If you stop for a bite to eat be especially aware of your wallet or handbag. Don't leave handbags or shopping bags behind you. Place them in front of you where you can see them.
- *Be aware of your surrounding.* Call Penn Police (215-573-3333 or 511) if you observe any suspicious behavior.

Please pass this message along to all of your colleagues. This safety message was also sent to University Building Administrators. Thank you for being our partners in safety. We hope your holidays are joyful and safe.

—Maureen S. Rush,
Vice President for Public Safety



Are you responsible for some of the 181,000 hits to *Almanac's* web site last week?

Get on board Express Almanac: To register, send an e-mail message with "subscribe" as the Subject to almanac@pobox.upenn.edu and include your name, e-mail address, and mailing address. —Ed.

Update

DECEMBER AT PENN

SPECIAL EVENTS

11 *La Casa Latina Mosaic—Open House*; opportunity to stop by and view the mosaic; 10 a.m.-4 p.m.; The Arch Building, 3601 Locust Walk Through December 14. (La Casa Latina).

TALKS

13 *Negamycin Can Restore Dystrophin in the Mdx Skeletal Muscle*; R. Matsuda, University of Tokyo; 2 p.m.; rm. 251, BRB II/III (Pennsylvania Muscle Institute).

Immunochemical Analysis of Plasma Membrane Sphingomyelin During Cell Differentiation; Y. Nagata, University of Tokyo; immediately following previous talk; rm. 251, BRB II/III (Pennsylvania Muscle Institute).

Deadlines: Today is the deadline for next week's Update. January 2 is the deadline for the Update in the January 8 issue.

Cashier's Office Holiday Hours

The Cashier's Office has modified its hours of operation during the break:

Monday (12/24)	Closed
Tuesday (12/25)	Closed
Wednesday (12/26)	Open 10 a.m.-2 p.m.
Thursday (12/27)	Closed
Friday (12/28)	Open 10 a.m.-2 p.m.
Monday (12/31)	Open 10 a.m.-2 p.m.
Tuesday (01/01/02)	Closed
Wednesday (01/02/02)	Normal Hours

Do you know of an interesting Penn website that is up-to-date, and easy to navigate? *Almanac* is now accepting suggestions for inclusion in the "Other Interesting Sites" link on our homepage.

Rape Aggression Defense (RAD)

The RAD Program is being offered by the University of Pennsylvania Police Department; it is a physical defense program for women that:

- provides students with a Comprehensive Reference Manual
- offers no-nonsense, practical techniques of defense
- provides realistic and dynamic hands on training
- all students receive a life-time free return and practice session

This course is free to Penn students, staff, and faculty.

Class Schedule for Spring 2002:

Mondays: Jan. 28, Feb. 4, 11, 18, 5:30-8:30 p.m.

Saturdays: February 16, 23, 9 a.m.-3 p.m.

Tuesdays: Mar. 19, 26 Apr. 2, 9, 5:30-8:30 p.m.

Saturdays: March 30, April 6, 9 a.m.-3 p.m.

Course location: Penn Police HQ, 4040 Chestnut Street. Pre-registration is required.

Contact Police Officer Stacey Sullivan
Livingston, UPPD, (215) 898-4481 email:
stacey2@pobox.upenn.edu.

Help Wanted: Work Study-Student

A position for a work-study student is available for the spring 2002 semester at *Almanac*. Duties include desktop publishing, web design and maintenance, proof-reading, research.

Send e-mail to morrisma@pobox.upenn.edu.

CLASSIFIEDS—UNIVERSITY

RESEARCH

Want to Lose Weight After the Holidays? The UPenn Weight and Eating Disorders Program is offering a free 2-year weight loss program. Women aged 21-50 who are 50 or more pounds overweight (BMI 30-40) may be eligible. If interested, please call Leanne at (215) 898-3184 for more details.

Do you have high cholesterol? Doctors at Penn are launching a novel new research study looking at two well-known cholesterol lowering agents. The study involves several visits to the Hospital of the University of Pennsylvania. If you have elevated cholesterol levels, are not currently taking any lipid-lowering medications, and think you might be interested in this study, please contact David Berezich at berezich@mail.med.upenn.edu or (215) 662-9040. Compensation is provided.

Postmenopausal women age 55 to 100 years old are needed for a research study examining estrogen use, memory, and the ability to smell. Subjects compensated \$50 for approximately 2 hours of time. For study details contact the Smell and Taste Center at the Hospital of the University of Pennsylvania, (215) 662-6580.

To place a classified ad, call (215) 898-5274.

CLASSIFIEDS—PERSONAL

SHOW

Live! Charles Dickens' great-great-grandson performs *A Christmas Carol* on Dec. 14, 2001. Info. www.dickensdarley.org or (800) 824-4703.

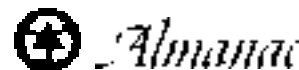
ACCOUNTANT

Tax Professional on Campus—Tax Return Preparation & Advice by Sage CPA/MBA for Personal & Small Business; NonProfits, Estates, Trusts, Alien & Green Card Residents, Advice, Appeals, Audits, No charge for First Appointment-Day/Evg. Early Filer & Off Season Discounts. Call Tim (610) 853-2871—3916 Locust Walk (Church Admin. Office).

THERAPY

Competent psychotherapy: group, family and individual. Please call for an appointment: Shari D. Sobel, Ph.D. (215) 747-0460.

Almanac is not responsible for contents of classified ad material.



Suite 211 Nichols House
3600 Chestnut Street, Philadelphia, PA 19104-6106
Phone: (215) 898-5274 or 5275 FAX: (215) 898-9137
E-Mail: almanac@pobox.upenn.edu
URL: www.upenn.edu/almanac/

The University of Pennsylvania's journal of record, opinion and news is published Tuesdays during the academic year, and as needed during summer and holiday breaks. Its electronic editions on the Internet (accessible through the PennWeb) include HTML and Acrobat versions of the print edition, and interim information may be posted in electronic-only form. Guidelines for readers and contributors are available on request.

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The University of Pennsylvania Police Department Community Crime Report

About the Crime Report: Below are all Crimes Against Persons and Crimes Against Society from the campus report for **November 26, 2001 to December 2, 2001**. Also reported were **28 Crimes Against Property (including 26 Thefts and 2 Retail Thefts)**. Full reports on the Web (www.upenn.edu/almanac/v48/n15/crimes.html). Prior weeks' reports are also on-line.—Ed.

This summary is prepared by the Division of Public Safety and includes all criminal incidents reported and made known to the University Police Department between the dates of **November 26, 2001 and December 2, 2001**. The University Police actively patrols from Market Street to Baltimore Avenue and from the Schuylkill River to 43rd Street in conjunction with the Philadelphia Police. In this effort to provide you with a thorough and accurate report on public safety concerns, we hope that your increased awareness will lessen the opportunity for crime. For any concerns or suggestions regarding this report, please call the Division of Public Safety at (215) 898-4482.

11/26/01	4:27 PM	3400 blk Sansom	Wanted on warrants/Arrest
11/27/01	6:52 PM	3610 Hamilton Wlk	Unauthorized charges on credit card
11/29/01	11:56 AM	420 Guardian Drive	Unauthorized purchases made on University credit card
11/29/01	8:50 PM	3450 Woodland Walk	Areas spray painted by unknown person
11/29/01	10:14 PM	303 S. 40th St	Property taken from residence
11/30/01	1:41 PM	3944 Pine St	Various property taken from residence
12/01/01	7:00 AM	3700 Spruce	Confidential Report
12/02/01	9:47 PM	4028 Walnut St	Sunroof to auto broken

18th District Report

13 incidents and 4 arrests (including 6 robberies, and 1 homicide) were reported between **November 26, 2001 and December 2, 2001** by the 18th District covering the Schuylkill River to 49th St. & Market St. to Woodland Ave.

11/26/01	1:50 PM	4700 Spruce St.	Aggravated Assault
11/26/01	11:15 AM	5100 Spruce St.	Robbery
11/26/01	9:45 PM	5140 Market St.	Robbery/Arrest
11/26/01	3:15 PM	4 52nd St.	Robbery
11/26/01	1:45 PM	4800 Walnut	Robbery/Arrest
11/27/01	4:27 AM	1406 Grays Ferry	Aggravated Assault
11/27/01	3:00 PM	3000 Market	Aggravated Assault
11/29/01	9:44 AM	4500 Larchwood	Robbery
11/30/01	2:25 AM	4400 Spruce	Robbery
12/01/01	6:55 AM	3700 Spruce	Rape/Arrest
12/01/01	7:07 PM	4300 Market	Robbery
12/01/01	9:30 PM	5000 Chestnut	Robbery
12/01/01	1:05 AM	4700 Walnut	Robbery/Arrest

\$1.26 Million to Study Microfluidic Systems

Researchers at Penn have received a three-year, \$1.26 million grant, part of a push to develop minute, fluid-based systems that could be used to safely detect minuscule quantities of airborne pathogens, analyze blood in real time and inconspicuously monitor the safety of food and water.

The grant, to a Penn team led by Dr. Haim H. Bau, professor of mechanical engineering and applied mechanics, comes from the Defense Advanced Research Projects Administration, which is interested in furthering the development of such microfluidic devices. Microfluidic systems are intriguing to the military and others because they would allow for real-time, inexpensive testing of samples, in some cases continuously and remotely, without a need for skilled personnel.

Dr. Bau and Penn colleagues Dr. Irwin M. Chaiken, research professor of medicine and rheumatology, and Dr. Howard H. Hu, associate professor of mechanical engineering and applied mechanics, will model the transport of liquids, particles, macromolecules and cells in microconduits and study their effect on biological interactions. The fluids and particles will be driven and stirred by electrical and magnetic forces.

In order to test their ideas, the team will fabricate prototypes with low-temperature co-fired ceramic tapes. In a prior DARPA-supported effort, a Penn team demonstrated the applicability of the ceramic tape technology for the fabrication of microfluidic systems.

"These tapes allow one to fabricate devices and systems rapidly and inexpensively," Dr. Bau said. "We can literally go from a design to a prototype in a matter of days."

\$2.84 Million to Improve Reliability of Computers

Computer scientists at Penn and other institutions have received a \$2.84 million grant to boost the dependability of the specialized minicomputers embedded in electronic devices from toasters to passenger jets.

The three-year award, from the U.S. Department of Defense's Army Research Office, brings external funding awarded to Penn's embedded systems research group within the last 18 months to more than \$6 million.

"These tiny embedded computers can literally make the difference between life and death, so their reliability is crucial," said Dr. Lee, principal investigator and professor of computer and information science at Penn. "Even though they're small, these computers are growing more complex, meaning the number of problems that can develop in them is also growing."

Dr. Lee and his peers will examine ways to engineer reliability and reusability into embedded computers' software during the earliest stages of design. Among their goals: developing an integrated approach to development of reliable embedded systems that takes into account real-time issues and resource constraints the system will face, such as energy consumption, memory size and weight of the final product.

Embedded computers are ubiquitous, found in products ranging from dishwashers to automobile transmissions to cellular phones. They underpin much of modern medicine; equipment like heart-lung machines, infusion pumps, defibrillators, dialysis machines and mammography machines are all rife with embedded systems. "Embedded systems are becoming increasingly networked, meaning the failure of one can cause many others to fail," Dr. Lee said.

Lee's Penn colleagues on the ARO grant include Dr. Rajeev S. Alur, Dr. Carl A. Gunter and Dr. Sampath Kannan, each a professor of computer and information science, and Dr. Oleg Sokolsky, research assistant professor of computer and information science. Others on the project include Dr. Robert P. Cook at Georgia Southern, Dr. Elsa Gunter at NJIT and Dr. Kang G. Shin at Michigan.

National Technology Lab for Adult Education

Educational researchers at the national Center on Adult Literacy at Penn have been awarded a three-year, \$2.4 million grant from the U.S. Department of Education to foster the use of technology, including distance learning, the Internet and CDs, in adult education and literacy programs nationwide.

The goal of the project, TECH.21, is to make it possible for program directors and practitioners to know what is available and make the best choices for their students. Adult education and literacy teachers and learners from nine sites across the country will experiment with educational technologies designed to improve learning. The principle site of the National Technology Laboratory will be at Penn.

NCAL's partners in this technology initiative include the Sacramento County, Office of Education/Outreach and Technical Assistance Network, the Public Broadcasting Service and the National Adult Education Professional Development Consortium.

"Fuzzy" Molecules Assemble into Distinct Lattices

Physicists at Penn have determined that adding a "fuzz" of chemical chains to colloidal molecules can lead them to form a predictable array of lattices. The entropy-driven phenomenon represents a way in which the power of entropy

might be harnessed by scientists for constructive purposes.

The finding, in which researchers led by Penn physicist Dr. Randall D. Kamien, examined the effects of a halo of polymer limbs on otherwise spherical molecules suspended in liquid, is the cover story in the current issue of the *Journal of Physical Chemistry B*.

Dr. Kamien's work adds new evidence that entropy is far richer than the gloomy drive toward universal disorder it was once thought to be and suggests it could become a player in the world of self-assembling molecules. Entropy's knack for driving fuzzy molecules into distinct lattices offers scientists the promise of new materials designed rationally rather than through trial and error.

"Predicting the symmetry of the lattice formed by an organic compound is one of the oldest dreams of synthetic chemists," said Dr. Kamien, an associate professor of physics and astronomy at Penn. "By providing an empirical connection between molecular structure and macroscopic organization, our result will allow chemists to design new materials from the top down."

Dr. Kamien's theoretical work focused on colloids, which feature particles suspended in liquid. Colloids are all around us, from milk to microreactors, from pie filling to paint. Crystals formed from colloids form the basis for a new class of functional materials for use in optical switches, chemical microreactors and molecular sieves; the new finding suggests the possibility of creating "designer molecules" to speed this process along.

"The old view was that the densest packing wins," Dr. Kamien said. "Our work shows it's not that simple, especially as molecules grow less dense."

The molecules in the colloids Dr. Kamien studied were characterized by a relatively dense core surrounded by a corona of hundreds of spindly chemical arms. When virtually none of the fuzz was present, the particles did indeed organize themselves into a face-centered cubic array.

But as the fuzz grows in length, to the point that the molecules were almost all fluff with a very small core, they would form different arrays of lattices that could be mapped with precise phase diagrams. At stages where the fuzz was of an intermediate length, Dr. Kamien's theoretical work predicts a mixture of face-centered cubic and other lattices corresponding to the length of the fuzz, a prediction consistent with experimental findings by Penn chemist Dr. Virgil Percec and others.

Dr. Kamien's co-author on the *Journal of Physical Chemistry B* paper is Dr. Primoz Zihel, Institut Jozef Stefan in Ljubljana, Slovenia. Dr. Kamien and Dr. Zihel's work was supported by the NSF, the American Chemical Society's Petroleum Research Fund, the Alfred P. Sloan Foundation and Penn alumnus Larry Bernstein.

Mild Head Injury Increases Brain's Vulnerability

They may want to "shake it off" and get back into the game. But a single head injury—even a mild one—can put athletes at risk for further traumatic brain injuries. According to researchers at the School of Medicine the brain has an increased vulnerability to severe, perhaps permanent, injury for at least 24 hours following a concussion.

Their results, published in the latest issue of the *Journal of Neurosurgery*, have serious implications for victims of accidents and abuse, as well as amateur and professional athletes. The researchers believe their work provides a new model for looking at repetitive head injuries (RHI). The prospect that athletes may be returning to the field too soon after a head injury is alarming, say the researchers. The research was funded by NFL Charities.

"If you look at the guidelines for mild head injuries in athletes—from high school to the pros—you'll see that they are written with little hard scientific date," said Dr. Tracy K. McIntosh, the Robert A. Groff Professor in the Department of Neurosurgery and director of the Penn Head Injury Center. "Our findings represent the first real attempt to look at the science behind head injuries—and we were startled to see how permanent the damage can be."

There is already a growing body of data that suggests that those that suffer RHIs in sports may be at greater risk for neurodegenerative diseases later in life. In fact, the damage to the brain found in victims of Dementia Pugilistica, or "Punch Drunk Syndrome," closely resembles that of Alzheimer's patients.

Although they do not know the exact mechanism that leads to damage after repetitive head injuries, Dr. McIntosh and his colleagues are interested in one brain cell protein that has also been implicated in contributing to Alzheimer's accumulations of the beta-amyloid precursor protein (B-APP) was found in great quantities in the neurons of mice that received RHIs, accompanied by an increase in the amount of dead or dying neurons. They hypothesize that the damage from injury causes B-APPs to gradually accumulate in the cytoskeleton of neurons, which serves as the support structure for the cell as well as the roadway by which nutrients travel throughout the cell. This roadblock slowly chokes off the cell and eventually leads to its death.

According to Dr. McIntosh, traumatic brain injury (TBI) is a "silent epidemic" in our society. Each year, an estimated two million cases of TBI occur in the U.S., with approximately 500,000 cases serious enough to require hospitalization.