Implementing Energy Conservation

A major energy conservation initiative has begun here on campus with two goals: to conserve energy and to minimize the impact of rising energy prices on Penn’s operating budget. We urge the entire University community to lend their support and cooperation in these efforts as we embark on this ambitious program. The emerging energy problem may be reminiscent of the energy crises of the seventies and eighties when Penn was seeking ways to cope with and solve the critical social and technological problems that developed in the nation’s energy consumption.

The recent increases in fuel prices, coupled with energy market volatility, have had an alarming impact on consumers; the operating budgets in Facilities Services have also been strained by these conditions. Increased costs related to utilities such as steam and electricity could adversely affect the resources available to facilities to operate and maintain the campus buildings and grounds.

In order to conserve energy throughout campus, we strongly recommend the following energy conservation measures to be adopted across campus.

Energy Conservation Recommendations

1. Set thermostats, to 65 degrees when offices, classrooms, labs and other areas are occupied and turn them down further at the end of the workday, to 59 degrees when an area is unoccupied.

While this may seem like a drastic measure, a significant reduction in energy consumption will result from this approach. By setting back the thermostat from 70 degrees to 65 degrees, energy consumption is significantly reduced.

We apologize for any inconvenience and suggest that those accustomed to warmer indoor temperatures may wish to dress warmly and leave a sweater or jacket at work.

2. Remove any items which block vents or radiators to allow for air to flow freely.

3. Besides lowering thermostats, we urge everyone to help conserve electricity by turning off lights—both fluorescent and incandescent—as well as computers, monitors, printers, scanners, copiers and other office and lab equipment when not in use for an extended period—especially overnight and on weekends or whenever possible. If in doubt about the advisability of shutting down a piece of equipment, check with a supervisor first.

4. Notify Facilities/Operations and Maintenance of any excessive drafts around windows or doors that could be alleviated. If there is a window air conditioner in a window, make sure it is properly sealed during the winter months.

5. Keep all exterior doors and windows closed to minimize infiltration of cold outdoor air into the buildings. In cold weather, open shades or blinds to allow direct sunlight to heat your room with solar heat. In many cases this also eliminates the need for electric lighting. At night, close the shades or blinds to keep in the heat.

6. Also notify Facilities when any building is unoccupied or out of service. Facilities/Operations and Maintenance can be reached at (215) 898-5833.

Facilities Services is also taking several additional steps to ensure that all heating and air conditioning systems are operating efficiently. These initiatives have been implemented in cooperation with representatives from the Schools, Centers and the Office of Environmental Health and Radiation Safety.

Given current economic conditions and the drastic energy shortages we are beginning to experience as a nation, we can no longer afford to take energy for granted. Hopefully, we can join together in implementing a wise, sensitive and forward-thinking energy conservation plan.

The concerted dedication and determination of the faculty, staff and students to actively participate in saving energy and resources will help enormously. The occupants of Penn’s many buildings each play a vital role in ensuring the best outcome for Penn as well as the environment. Controlling energy costs is something that we must do individually and collectively to maximize energy-related cost-avoidance.

Thank you.

—Omar Blaik, Vice President, Facilities Services
the National Institutes of Health. As Director of Penn’s Head Injury Center, Dr. McIntosh and his colleagues and collaborators in Neurosurgery, Bioengineering, Pharmacology and Pathology at Penn have made great progress in understanding and treating traumatic brain injury. Their accomplishments include the discovery of the first link between traumatic brain injury and the development of post-traumatic epileptic seizures. They were also the first laboratory to identify the contribution of programmed cell death, called apoptosis, in mediating the progressive cascade of cell death observed after TBI. Dr. McIntosh and his colleagues have also pioneered research into the mechanistic relationship between head injury and Alzheimer’s Disease and other neurodegenerative disorders and were the first to evaluate the efficacy of neural stem cell transplantation as a potential therapy for traumatic brain injury. Funding from the NFL Charities grant will support Dr. McIntosh’s efforts in furthering this progress.

To learn more about the Penn Head Injury Center, see their web site: bioeng.seas.upenn.edu/bilab/.

NFL Charities is a nonprofit organization that was formed in 1973 by the 31 member clubs of the National Football League to enable the teams to collectively contribute to charitable and worthwhile causes on a national level. Since its inception, the Board of Directors of NFL Charities has agreed to grant over $40 million to over 250 different organizations.

The current Board of Directors includes Michael Bidwill, Hon. Jack Kemp, Jeffrey Lurie, John Mackey, Commissioner Paul Tagliabue, Delores Barr Weaver, and Ralph C. Wilson, Jr.

Actions Taken by the Senate Executive Committee
Wednesday, January 17, 2001

1. Chair’s Report. Faculty Senate Chair Larry Gross reminded SEC that he is working with Paul Mosher to raise consciousness about the state of scholarly publishing. Appointment of the Joint Senate-Administration committee to assess methods of teaching evaluation is moving forward. Professor Gross noted that this is probably the last time SEC will meet at the Faculty Club and he thanked the Club for its help and for use of the space. SEC will begin meeting in a new conference room in College Hall.

2. Past Chair’s Report on Academic Planning and Budget and Capital Council. Professor Phoebe Leboy stated that the December 12 meeting of Academic Planning and Budget was cancelled, and the next meeting is scheduled for January 23. The only action taken by Capital Council in the past month was consideration of the financial implications surrounding leasing of facilities for the planned “Wharton-West” in the San Francisco area.

3. Chair of the Senate Committee on Committees. Faculty Senate Chair-elect David B. Hackney was elected by acclamation.

4. Proposed Revision of the Almanac Guidelines. Martin Pring, Chair, Senate Committee on Publication Policy for Almanac, introduced the proposed minor and substantive revisions to the Guidelines. He drew attention to changes under the section “As Publication of Opinion” which provide that the Almanac editor can determine that part or all of a contribution is irrelevant or unsuitable for publication and can require appropriate changes. The other substantive revision limits letters to 400 words. These revisions call for the editor to consult with the Senate Committee on Publication Policy for Almanac. An appeal is provided for the contributor.

A motion was made to endorse the proposed revisions. The motion was adopted unanimously. The proposals will now go to the Almanac Advisory Board for discussion and action.

5. 1999-2000 Report and Recommendations and Policy Issues of the Senate Committee on the Economic Status of the Faculty. Committee Chair Ed Boe presented the documents (to be published in Almanac next month). Senate Chair Larry Gross emphasized that the administration is more forthcoming with more data than in the past and appreciates the committee’s efforts. Professor Gross was encouraged by inclusion of the Senate Chair and the Committee Chair in discussions with the deans for the first time.

A motion was made to approve and endorse the report and the recommendations and policy issues. The motion was adopted unanimously.

Professor Gross extended appreciation and thanks to Ed Boe for his enormous amount of work and creativity, noting that he has raised the bar for faculty salary analysis.

NFL Charities Grant to Head Injury Center
(continued from page 1)
Two AICP Fellows
President Emeritus and University Professor Emeritus Martin Meyerson, and Dr. Anthony R. Tomazinis, professor of city and regional planning, were recently elected Fellows of the American Institute of Certified Planners.

Ivy Leaders Summit
Laura Breyfogle, a freshman in the School of Nursing, has been selected to attend the Ivy Leaders Summit at Harvard University in February. Ms. Breyfogle, a Massachusetts native, is currently the treasurer of the student nurses group.

Hollywood Squares Bound
Joey Tini, a freshman in the School of Nursing and a native of South Philadelphia, will be appearing on the TV game show Hollywood Squares on February 20.

Big 5 Hall of Fame Inductee
Chuck Daly, former Penn basketball coach, was inducted last Saturday into the Big 5 Hall of Fame. Mr. Daly came to Penn in 1971 and guided Penn to a 125-38 record during his six seasons here. During that time, the Quakers also won four Ivy League Championships and made four trips to the NCAA Tournament. He went on to successfully coach in the NBA. Mr. Daly also coached the gold-medal winning “Dream Team” in the 1992 Olympics in Barcelona. He was inducted into the Naismith Memorial Basketball Hall of Fame in 1994, into the Penn Hall of Fame in 1998, and is listed as one of the Top 10 NBA Coaches of all-time. He is listed as the 15th winningest coach in NBA history.

MLK Awards
This year’s Martin Luther King Community Service Award winners were announced at a ceremony on January 18. Robert Alsbrooks, a senior programmer at the Center for Clinical Epidemiology and Biostatistics, received the Employee Award. Mr. Alsbrooks helped to develop and is the director of Miracle on 34th Street, an organization that helps people deal with social issues and has initiated a track team, and boys and girls groups. He takes an active part in Turn Around Mantra to board up illegal drug houses, clean the streets, work with local law enforcement with community policing and lectures to the community and various local and national agencies on entrepreneurial ventures and its positive impact on drug and crime reduction.

Dr. Esaul Sanchez, director of Neighborhood Initiatives, also received the Employee Award. He has helped the community surround- ing Penn to improve security in the neighborhood, revitalize the block captain program and created a network of landlords. He was part of a team who worked with neighbors to install more than 2,500 outdoor lights in the various neighborhoods in West Philadelphia. He founded and manages UC Green, which promotes, coordinates and supports with its partners, projects that realize a cohesive vision of Greening in University City’s diverse urban neighborhoods.

Yael Krigman, Col’02, received the Student Award. She is also the director of the Philadelphia office of National Student Partnerships (NSP), a partnership which helps and empowers the people of the community to find the jobs, resources, and services necessary to overcome the barriers which prevent them from reaching their goals.

Kevin E. Vaughan, Col’77, received the Community Award. Mr. Vaughan, former Region III Director at the U. S. Department of Health and Human Services, uses his community network to forge solutions while tackling complex issues such as outreach for the State Children’s Health Insurance Program (SCHIP) and access to quality childcare.

Kamau McRae, a case manager at the Breslin Learning Center, also received the Community Award. A life-long Philadelphia resident, Mr. McRae has always strived to better the world around him. His community service began during his undergraduate years at Penn State at the Women’s Resource Center as a domestic violence and sexual abuse counselor. Mr. McRae continued to be a role model for young men through his volunteer work with Blacks Educating Blacks About Sexual Health Issues (BBASH) and the Father’s Day Rallying Committee in Philadelphia.

Death
Mr. Davis, Founder of LDI

Leonard Davis, founder of the Colonial Penn Group, founder of the Leonard Davis Institute of Health Economics, a professor at Penn, and a former NBA coach, died on January 15 at the age of 76. Mr. Davis founded Colonial Penn Group in 1963, which became one of the country’s largest insurance underwriters for older Americans. Mr. Davis—along with his wife Sofie—was instrumental in the founding of the Leonard Davis Institute. The institute was established in 1991 in response to a growing national need for high quality research and education to inform policies critical to the financing and management of the nation’s increasingly costly and complex health care system. The Leonard Davis Institute remains one of the only research institutes in the country that integrates medicine, nursing and management expertise and applies it to solving the health care issues of the day.

He received an honorary Doctor of Laws degree from Penn in 1972. The citation read:

With the bold, forthright spirit of a man with a cause, Leonard Davis, a law and management group health insurance for the aged against formu-
lable odds. As an initiator of a new field and the founder of a needed range of ser-
dices for retired persons, he assisted a large, neglected group, showing that the practical visionary is our best Samaritan.

Of strong and imaginative social conscience, he early ascertained that problems in health care could be helped through coordination with the resources of management sciences. The resulting Wharton M.B.A. program in Health Care Administration and the Leonard Davis Institute of Health Economics have made our coalescence of medicine and management a prototype for similar multidisciplinary efforts in other fields and at other universities.

His own healthy outlook and his vigorous energy have illustrated to the less fortunate and the skeptical that taking chances is the most useful of new beginnings. The Trust-
ees of the University, believing themselves fortunate to have his counsel, ask that he be recognized with the honorary degree, Doc-
tor of Laws.

Mr. Davis is survived by sons Alan and Michael, and four grandchildren.

Honors & Other Things

Computer Recycling and Disposal
Recycling and disposal of older computer equipment is an issue of increasing importance to departments at Penn. Beyond the basic need to clear space in closets or make room for new equipment there are specific concerns regarding environmentally safe disposal and, in many cases, a desire to see systems still in service put to good use in the community. As a starting point for local support providers who need to get rid of old equipment, below are a few recommendations for preparing equipment for recycling or disposal and services that accept equipment donations from departments at Penn.

Preparing Equipment for Recycling
The following recommendations are from Dave Millar, Information Security Officer:

Check Software Licenses
Before transferring computers containing any software, make sure that Penn is properly licensed to transfer it, that it was not obtained illegally or in violation of license terms, and that the software was never copied illegally or in violation of license terms. Make sure that the transfer conforms with terms of the software license.

Computer Donations

The following accept equipment from departments, recycling or disposing of it as appropriate:

Penn’s Center for Community Partnerships Contact: Isabel Sampson-Mapp or Cory Bowman at (215) 898-2020.

Goodwill Contact: Bob Mattson at (610) 777-7875 x262.

Dell Financial Services offers Asset Recover Services.

Environmental Regulations
There are specific EPA guidelines for disposal of some equipment components. In addition, there may be other regulations imposed at the state or local level. The Pennsylvania Department of Environmental Protection web site discusses Electronic Discards within their Household Hazardous Waste web site, but it’s not clear the same rules would govern disposal at Penn.

Local organizations such as Nonprofit Technology Resources (which is utilized by Penn’s Center for Community Partnerships) appear to take care of the potential hazards indentified by the EPA in disposing of computers. Penn’s Center for Community Partnerships is also working with Elemental Inc., a local electronics salvager.
From Maps to Medicine: The Impact of the Genome Project
by Dr. Beverly S. Emanuel, Director of Human Genetics Center; Charles E. H. Upham Chair in Pediatrics

I would like to speak to you on behalf of the numerous scientists involved in the human genome initiative as well as my fellow geneticists, the individuals who will apply the fruits of the Genome Project to medical practice. This wonderful occasion gives me the opportunity to provide you with some background about the program and to speculate a bit about what changes the Genome Project will make to the practice of medicine in the future.

It is particularly fitting that I speak to you on the occasion of the celebration the 295th birthday of Benjamin Franklin, a scientist, inventor and revolutionary thinker! It was Franklin who so aptly stated that “the doors of wisdom are never shut”, a concept which exemplifies both the current approach to scientific discovery as practiced within the medical institutions of our extraordinary city and the particular excellence of the scientific minds which have brought us to the 250th anniversary of the founding of the Pennsylvania Hospital by Benjamin Franklin and Dr. Thomas Bond, honors another exemplary Philadelphia institution, another facet of the University of Pennsylvania Health System, where I am a faculty member.

I personally feel very much a part of the Benjamin Franklin story, although for fewer years than the 250 or 255, because I was born and raised in Philadelphia which means that the Franklin Institute (one of my favorite sites as a child), the Benjamin Franklin Parkway, the Benjamin Franklin Bridge and Franklin Field were all a part of my daily life. Further, my father, husband, children and I are all graduates of Franklin’s University, the University of Pennsylvania, which was founded in 1740. Finally, when my 25thPenn class reunion donated a bronze statue to the university, it happened to be a likeness of the Lundenberg bronze statue fondly called “Ben on the Bench”. Many of us have sat with Ben and pondered the remarkable changes that have taken place since he walked the streets of Philadelphia. Thus, my Franklin ties go much deeper than the use of bifocals and odometers in my own daily life.

Many of you might be wondering—what is the Human Genome Project? The Genome Project is an exciting international, collaborative scientific effort designed to identify, analyze, and determine how all the genes in the human body are organized. The enormous amount of knowledge it will produce will make it possible to understand and modulate the genetic causes of disease and help keep people “disease free.” The result of this monumental undertaking will be to provide us with a complete blueprint for each of the 100 trillion cells which make up the human body. So in the past 25+ years, the once-obscure discipline of molecular genetics has become the central science of medicine.

At the heart of genetics is DNA or deoxyriribonucleic acid—an extraordinarily long chemical molecule shaped like a twisted ladder. This double helix, deciphered by Watson and Crick in 1953, provides the instructions for everything a cell does—including causing disease. If we’re trying to understand something at its most basic level, it makes sense to go and read the instructions, don’t you think? One of the goals of the Genome Project is to complete the sequence of the Human Genome.

Genes determine many of our features, such as eye and hair color, but genes can also be responsible for causing many diseases or predisposing us to develop disease. It is estimated that each of us has approximately 50-100,000 genes in our genomes. Each of these genes has the potential for being a disease gene if it contains an error in its DNA sequence. The successes of the Human Genome Project (HGP) have even enabled researchers to pinpoint errors in genes—the smallest units of heredity—that cause or contribute to disease.

The ultimate goal is to use this information to develop new ways to treat, cure, or even prevent the thousands of diseases that afflict humankind. But the road from gene identification to effective treatments is long and fraught with extraordinary challenges. In the meantime, biotechnology companies are designing diagnostic tests to detect aberrant genes in people either suspected of having a particular disease or those individuals at risk for developing them. Genetic testing has become an increasingly important tool in medical practice.

DNA-based tests are amongst the newest and most sophisticated of the techniques used to identify genetic disorders. They involve direct examination of the DNA molecule itself. Genetic tests are used for several reasons, including: carrier screening, prenatal diagnosis, and newborn screening. They are also used for presymptomatic testing for predicting adult-onset disorders such as Huntington’s disease. Alternatively they are used for presymptomatic testing for estimating the risk of developing such diseases as a variety of adult-onset cancers and Alzheimer’s disease. The recently commercialized gene tests for such adult-onset disorders (such as Alzheimer’s disease and cancers predisposition) are the subject of much of the debate over gene testing. One of the most serious limitations of these susceptibility tests is the difficulty in interpreting a positive result because some people who carry a disease-associated mutation never actually develop the disease.

This is a complex issue because, in a broad sense virtually all disease has a genetic component. The vast majority of people never develop skin cancer, yet we all have at least a slight genetic predisposition for it. Given enough exposure to sunlight, nearly all of us would develop it. Thus, even though the sun’s ultraviolet radiation is primarily responsible, our genetic makeup is a small but real contributor to the disease. However, there are some people who would get skin cancer even if they never went out in the sun. Their genetic structure is 100% responsible for the disease in the absence of sun exposure.

Even infectious illnesses may have an inherited component. Most people exposed to the human immunodeficiency virus develop AIDS. But some people exposed to the virus do not develop the disease because they have inherited a gene which confers immunity to the virus. Deciphering this underlying genetic component to many diseases is one of the aspects that makes the Human Genome Project so exciting.

The easiest genetic diseases to understand are those caused by a single gene that has gone awry. Single gene diseases include relatively rare disorders such as cystic fibrosis, phenylketonuria, hemophilia, sickle cell anemia and Huntington’s disease. In a sense, the genes for these diseases act like a single time bomb ticking away inside the DNA double helix.

Much more common, and far more complicated, are the diseases caused by malformations in several or many genes that influence each other in complex ways that are poorly understood. Hypertension, diabetes, rheumatoid arthritis, multiple sclerosis, coronary artery disease and numerous other diseases that afflict our species are caused by the interactions of multiple different genes. Each individual gene has a relatively modest effect, but together they determine whether someone is going to develop a disease or not. Multiple gene diseases or what we call polygenic diseases are far harder to understand than those which are caused by single genes.

Complicating matters even further, most genetic diseases result from an imbalance between an inherited predisposition and factors in a person’s external environment and lifestyle. It’s not just the individual cards that you have been dealt, but it also depends upon how you play the hand. It’s important to keep this in mind to avoid the dangers that can potentially arise from biological determinism—thinking that everything about an individual is predetermined by the DNA code written in his or her genes.

The DNA is located inside the cell nucleus. As I mentioned, the DNA is in the shape of a double helix which is wound over and over again. Unwinding it reveals the two strands that make up the sides of what is essentially a ladder-shaped molecule. The ladder’s rungs are called base pairs and there are 3 billion base pairs of DNA in the human genome. The DNA is organized into individual units, called chromosomes. In humans there are a total of 46 chromosomes in 22 pairs. There are two pairs of chromosomes which are designated as autosomes—chromosomes 1 through 22 and a pair of sex chromosomes, XX for females and XY for males.

For many years, in fact since the mid-fifties scientists have been able to look at the chromosomes at the microscope, count them and analyze them. In fact, in a clinical setting, many chromosome tests are performed to determine the genetic or chromosomal composition of an individual.

At present, despite the fact that we can see all of the chromosomes and analyze their composition in a gross sense, we have only identified the complete workings of a fraction of the genes which reside on them. One of the goals of the human genome initiative is to identify the tens of thousands of remaining genes, to isolate them and characterize what they do after assigning them to their precise positions on chromosomes.

Such efforts have been focused on the search for the cystic fibrosis gene and in the search for the genes responsible for neurofibromatosis, muscular dystrophy, fragile-X linked mental retardation and myotonic dystrophy, some of the earliest disease genes to be identified. The list of identified disease related genes now grows on a daily basis. However, many additional diseases with their respective disease-causing genes remain to be successfully identified and characterized.

In order to accomplish this task, it was necessary to make maps of the human genome. Making maps of the human genome is not very different from making the maps that we are all familiar with. For example, if all that existed was an outline map of the United States and I asked someone who didn’t know the geography of the United States where the location of a particular city was, it would be difficult without some roads or markers to help find the way. The same would be true of asking someone about the location of a particular new disease locus. It requires the assistance of a map.

Now if you looked at the same map with one road, for example Route 80, (continued past insert)
of these children. These markers permit geneticist to determine where a particular disease gene is located, even if we do not know what the normal gene does. We do this by studying families that manifest the disease and seeing how the markers are inherited in association with the disease in affected families. These are what we refer to as genetic maps.

Physical maps permit us to look at a different view of the genome and these maps are much more detailed than genetic maps. These maps are made by analysis of the chromosomal DNA directly by isolating it and then sequencing it. For this type of map making we start with a particular chromosome, take the chromosome apart by isolating the DNA or genetic material from that chromosome and then put it back together in an ordered array. In the interim, we are able to study each individual fragment in greater detail. That is like making very detailed maps with precise addresses, street names and the like. Why do we want to map the human genome? Because, this concerted effort will simplify the process and has already hastened efforts directed toward understanding the role that genes play in normal individuals and how genes cause specific diseases when their role is altered. Understanding what genes normally do will permit us to design more appropriate therapies, to correct the impact of defective genes on health.

At Children’s Hospital and Penn we made the decision to map chromosome 22. We chose chromosome 22 for historical and practical reasons. It is the second smallest of the human chromosomes, being comprised of somewhere less than 50 million base pairs, or megabases of DNA. We wanted to know the answers to some very simple questions: What genes are on chromosome 22 and how are they arranged? Knowledge of the fundamental anatomy of the human genome, and for us of chromosome 22, was important to our ultimate goal of understanding how our body works when it is healthy, as well as when it is not healthy.

In addition chromosome 22 has a wealth of pathology associated with non-random chromosomal abnormalities providing us excellent source materials from patients with chromosome 22 related diseases with which to build our maps and a rationale for making the maps. These are the practical reasons. For many of us, it represented a logical extension of many years of scientific work which has focused on diseases caused by these abnormalities of human chromosome 22.

Foremost, an abnormal chromosome 22 is associated with several forms of pediatric and adult leukemia. In 1960, chromosome 22 was named the Philadelphia Chromosome by Drs. Peter Nowell and David Hungerford when they discovered its involvement in chronic myelogenous leukemia at Penn and the Fox Chase Cancer Center. In addition, a number of other birth defect syndromes are associated with abnormalities of chromosome 22. A missing piece of 22 or a deletion and an extra part of 22 or a duplication. These syndromes were described by pediatric physicians and colleagues in Philadelphia. Hence, we thought it would be appropriate that the Philadelphia chromosome be isolated, analyzed and understood in Philadelphia.

Eventually several of these disorders were studied in my laboratory. Little by little we have made remarkable progress toward understanding why this small chromosome is so prone to disease related rearrangements. As an example, we have discovered that the Phiadelphia chromosome results from a translocation involving chromosome 22. This translocation is a result of the Philadelphia chromosome and is associated with an abnormality named DiGeorge syndrome or velocardiofacial syndrome. This is a defect which can afflict newborns with heart disease, immunologic defect, seizures cleft palate and learning differences. We found that this complicated disease is the result of these children having a portion of one chromosome 22 missing. We know how large the segment is, and that 30 genes are actually deleted. Understanding the organization of chromosome 22 has helped us to more accurately diagnose this disorder because we have been able to design a DNA based genetic test which can now be utilized very early so that the diagnosis can be made when the child is an infant. This has some very important ramifications for early therapeutic interventions to help the families of these children.

However, you can imagine that there might be some questions about this and other disorders. Not all children with the deletion are equally severely affected. Thus, there are questions regarding what is normal and what is a disability or disorder, and who decides? We know that the children with the deletion can have learning differences or speech difficulties. Are such disabilities diseases? Should they be prevented? Should they be ‘cured’? Does this mean that some children with the deletion are not presently affected by disabilities? Genetic information is a powerful tool for improving our health, but it also can potentially be used in ways that are harmful. Protections against the misuse of genetic information are in place for certain aspects of genetic testing, but much work remains to be done.

An increasing number of gene tests (such as this one) are becoming available commercially. Nonetheless scientists continue to debate the best way to deliver them to the public and medical communities, often to individuals that are unaware of their scientific and social implications. While some of these tests have greatly improved and even saved lives, scientists remain unsure of how to interpret many of them. Also, patients taking the tests face significant risks of jeopardizing their employment or insurance status. Further, because genetic information is shared, these risks can extend beyond the individual who has been tested to other family members as well.

Within the next decade, researchers will find most human genes. Explorations into the function of each one—a major challenge extending far into the 21st century—will shed light on how faulty genes play a role in disease causation. With this knowledge, commercial efforts will shift away from diagnostics and toward developing a new generation of therapeutics based on genes. Drug design will be revolutionized as researchers create new classes of medicines based on an approach using gene sequence as well as protein structure function information rather than the traditional trial-and-error method. This new generation of drugs, targeted to specific sites in the body, promise to have fewer side effects than many of today’s medications.

Human Genome Project scientists plan to finish the human sequence by 2003 and establish database of the most common sequence variations that distinguish one individual from another. This knowledge base will revolutionize biology and medicine. What will be different 20 years from now because the human genome was sequenced? How might my medical care differ as a result of “genetic medicine?”

It is likely that virtually complete list of human genes will give us a vast repertoire of potential new drugs. From the current repertoire of 500 or so drugs in 2000, at least six times this number will have been identified, tested, and commercialized in the next 20 years. All will be manufactured by recombinant DNA technology so they will be significantly purer just as human insulin and growth hormone are today.

I predict that an individual’s medical record will likely include a catalogue of single base-pair variations that can be used to accurately predict responses to certain drugs and environmental substances. This will permit a patient to be treated as a biochemical and genetic individual. This will make medical interventions much more specific, precise, and hopefully more successful. In addition, the increased power of geneticists to predict susceptibility to specific diseases will allow an individual to alter his or her lifestyle to avoid the likelihood of developing particular diseases or to be treated with preventive or diagnostic delaying medication.

Some of the mysteries of early embryonic development will be solved. We should know the timing of expression of most, perhaps all, of the human gene set. We may have learned how to direct differentiation so that a desired cell type or even relatively “simple” organs and parts of more complex organs can be grown for transplantation. In 20 years, we will have made substantial progress towards true “cloning” of certain organs, but many difficult technical steps will probably remain before the successful cloning of a complex organ like a heart or liver.

So the Human Genome Project will have vast and largely positive impacts on people living in 20 years from today. Of the various predictions I have discussed, the knowledge about early embryonic development and gene function is likely to be the most profound because often the most powerful and dangerous procedures will come from fundamental knowledge, usually in unforeseen ways. As this astonishing treasure trove is introduced into society, we need to be alert to the challenges of the possible misuses of this knowledge about ourselves. Society as a whole, not just genome scientists or geneticists, must address these considerations. It has to be all of us.

The information generated as a result of the Human Genome Project is expected to be the encyclopedia or source book for biomedical science in the 21st century. It will assist us in understanding and eventually treating many of the more than 4,000 genetic diseases that afflict man, as well as the numerous diseases in which genetically-based predisposition plays an important role, heart disease and cancer to name just a few. This research will lead to improved strategies for preventing, diagnosing, and treating disease, and will bring genetic medicine to the forefront of health care in the 21st century. Over the years, we predict that as a result of this international effort, the genome initiative will produce great health benefits and will result in better health care for millions of individuals who suffer from genetically based diseases and for future generations of children and their parents.
2001 HERS Program Information Session: February 6

To Penn Women:

Have you heard about HERS and the Bryn Mawr Summer Institute for Women in Higher Education? Ever think about applying? Wonder what the process is? Or want to know what the program is like? Come join us for an Information Session about the 2001 HERS program. Talk with colleagues who have attended HERS in years past and find out about this year’s program and application process. The session will be held Tuesday, February 6, 4:30-6 p.m. in room 104, Logan Hall. An informal discussion will also take place on Wednesday, February 7, 5-6 p.m. in the Living Room of the Inn at Penn.

The University will sponsor the nomination of two women to the Summer Institute for Women in Higher Education Administration, sponsored by Bryn Mawr College and Higher Education Resources (HERS) Mid-Atlantic and will fully fund their participation.

Over the years, Penn has supported the enrollment of over 50 women faculty and administrators from schools and departments across the campus. As in the past, a review committee of several HERS alumnae and Penn faculty will select the two nominees for recommendation to HERS. (HERS makes the final selections.)

Applications for those selected by the internal committee will be forwarded to HERS for final review and acceptance in March. For an application or more information, contact Linda Wiedmann by e-mail at niedmann@pobox.upenn.edu or visit www.upenn.edu/pennntrex/institute/home.html

EHRS Training Programs: February

The following training programs are required by the Occupational Safety & Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), and The Commonwealth of Pennsylvania’s Office of Environmental Health and Radiation Safety (OSHA). Additional programs will be offered on a more convenient basis for employees who have not previously attended the training program described below. Training can be completed on-line at www.ehrs.upenn.edu under Radiation Safety Programs, Training for Credit. Additional programs will be offered on a more convenient basis for employees who have not previously attended the training program described below. Training can be completed on-line at www.ehrs.upenn.edu under Radiation Safety Programs, Training for Credit. Additional programs will be offered on a more convenient basis for employees who have not previously attended the training program described below. Training can be completed on-line at www.ehrs.upenn.edu under Radiation Safety Programs, Training for Credit.

Q. What is the purpose of the Summer Institute?
A. The Institute offers women faculty and administrators intensive training in education administration pertinent to the management and governance of colleges and universities. It is designed to improve the status of women in middle and executive levels of higher education administration, areas in which women traditionally have been under-represented.

Q. What are the main curricular areas?
A. The curriculum focuses on four areas: academic environment, external environment, institutional environment and professional development. Specific work areas include strategic planning, budgeting and accounting, financing higher education, and leadership skills.

Q. Who makes up the faculty?
A. The faculty is comprised of women and men from government, foundations, professional associations, and the diverse sectors of North American higher education.

Q. Who is eligible to apply?
A. Application for admission is open to women faculty and administrators whose background, experience and present responsibilities indicate a potential for professional advancement in higher education administration.

Q. When and where will the program be held?
A. The Institute, a residential experience in its 26th year, will be held from June 24 to July 20, 2001 on the campus of Bryn Mawr College. Although most women live on campus, it is possible to commute. Classes are held from approximately 8 a.m. to 4 p.m. Monday-Friday and from 8 a.m.-noon on Saturday. There are programs and group discussions scheduled for a number of the evenings.

Q. What is the application process?
A. Applicants must complete an application form and submit a letter of recommendation. For administrators, this letter should be from the department head or supervisor; for faculty, it should be from a faculty member who is knowledgeable of the candidate’s administrative abilities. Submit materials to Linda Wiedmann, AWFA President, CURF, 2nd floor, ARCH, 3601 Locust Walk, no later than Thursday, February 22.

—Linda A. Wiedmann, Associate Director, Benjamin Franklin Scholars/General Honors, Center for Undergraduate Research and Fellowships

Infertility Discussion at Radnor

The Penn Center for Reproductive Medicine and Surgery will hold an open house on February 6 from 7-8 p.m. in the Annenberg Conference Room, 2nd floor, at 250 King of Prussia Road. Sponsored by the Department of Obstetrics and Gynecology at Penn Medicine at Radnor, this open house will feature a discussion by infertility experts Samantha Pheifer and Kurt Bambah. Both Dr. Pheifer and Dr. Bambah are board certified in reproductive endocrinology and infertility as well as obstetrics and gynecology. The event is free but registration is suggested. Call 1-800-789-PENN.
Mummenschanz: Mixing Form with Function

Dance Celebration, presented by Dance Affiliates and Penn Presents, unveils the latest work by Mummenschanz, a Swiss mime troupe that displays figures that can be broken down and built up again. Next, the latest evolution of the wordless theatrical form that was invented by the original Mummenschanz trio in 1972 comes to the Zellerbach Theatre at the Annenberg Center—for six shows beginning February 2 and running through February 4.

(See February AT PENN.)

Update

JANUARY AT PENN

TALKS

30 Have you eaten? Have you jumped into the sea? Have you divorced?—Marriage, Divorce and Competing Conceptions of Freedom in the Peoples Republic of China; William Allford, Harvard University; 4:30 p.m.; 543 Williams Hall (Center for East Asian Studies). 31 T Cell Production in HIV-1 Disease; Joseph M. McCune, The Gladstone Institute of Virology, San Francisco; 4 p.m.; The Wistar Institute Auditorium (Cancer Training Program).

Deadline: The deadline for the weekly update is each Monday for the following week’s issue. For the March AT PENN calendar it is February 13. See www.upenn.edu/almanac/calendar/caldead.html for details on event submission.

All Aboard Express Almanac

Want to be apprised of late-breaking news and time-sensitive information that is published only on Almanac’s website? We will inform you as soon as we post such items if you are on board Express Almanac. A free electronic service, Express Almanac is sent whenever we add something significant to our website: Between Issues news, the latest issue or the AT PENN calendar.

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.

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 January 15 through January 21, 2001. Also reported were 16 Crimes Against Property: (including 10 thefts and 6 retail thefts). Full reports on the Web (www.upenn.edu/almanac/v47/n20/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 January 15 and January 21, 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 we add something significant to our website: Between Issues news, the latest issue or the AT PENN calendar.

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.

18th District Report

8 incidents and 0 arrests (4 robberies, and 4 aggravated assaults) were reported between January 15 and January 21, 2001. Full reports on the Web (www.upenn.edu/almanac/v47/n20/crimes.html). For more information call (215) 898-3900 or visit www.PENNPresents.org.

Mummenschanz: transcends the barriers of language, nationality and age attracting audiences from 7-97 to achieve an art form that remains universal in its appeal. It combines both organic and geometric elements. They blend three genres: dance, theater and puppetry. Discount Rush tickets are available at the Annenberg Center Box Office for Penn faculty/staff ($15) and students ($10). A PENNCard is required for these discounts. For more information call (215) 898-3900 or visit www.PENNPresents.org.

The University of Pennsylvania Health System

RESEARCH

Shoulder Study: Do you have shoulder pain or tendinitis? You may qualify for free therapy. We are studying the effectiveness of a new, scientifically based shoulder exercise program. Testing and treatment are free and will be performed by a physical therapist experienced with managing shoulder problems. Call Jason Blaiker, MPT, at Penn Therapy and Fitness to arrange an appointment for initial testing to see if you qualify (215) 614-0680.

The University of Pennsylvania Health System seeks volunteers for an osteoporosis medical research study. If you meet the following description, you may be eligible to participate: A postmenopausal woman 60 years or older of normal weight who is not taking estrogen replacement. Volunteers will receive a magnetic resonance imaging (MRI) exam—which produces images of the heel and spine, as well as a dual energy X-ray absorptiometry (DEXA) scan, which uses a small amount of radiation to determine bone density. Both exams—performed on the same day—take approximately 2 hours in total. Participants receive $60. Please contact Louise Loh (215) 898-3954.

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

Almanac is not responsible for contents of classified ad material.

CLASSIFIEDS—PERSONAL

HOUSE FOR SALE

Open Sunday February 4, 1-3 p.m. Grad Hospital rehab—1938 Pemberton. Gorgeous 2 BR, 1 1/2 BA on best block! All brand new! Decked yard. $175,000. (215) 848-7127.

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

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The University has recently mailed over 28,000 Calendar Year (CY) 2000 W-2 Forms to our employees’ home addresses as they appear on the Payroll File (Employee Database).

An explanation of the contents of the various boxes on the W-2 form is as follows:

A. Wages, tips, other compensation: this represents the total amount of Federal Taxable compensation paid or imputed to you during Calendar Year 2000 through the University Payroll System. This amount includes:

- The value of your taxable graduate and/or professional tuition benefits, if you, your spouse and/or your dependent children have received such benefits;
- The value of Group Life Insurance coverage for amounts greater than $50,000. The premium payments for this excess coverage, if any, have been included as imputed income (see Excess Insurance Premium - below);
- Amounts which are excluded from this amount are:
  - Tax deferred annuity contributions (i.e., TIAA/CREF);
  - Health, Dental and Vision Care insurance premiums that have been sheltered;
  - Amounts voluntarily contributed to a dependent care or medical reimbursement account contributions which you have “sheltered”.

B. Federal income tax withheld: this represents the amount of Federal Income Tax which was withheld from your earnings during the year and paid to the Internal Revenue Service, on your behalf, by the University.

C. Dependent care benefits: this represents the total amount which you have voluntarily “sheltered” for dependent care expenses, regardless of whether you have been reimbursed by the University for the expenses associated with this “shelter” as of December 31, 2000.

D. Social security wages: this represents the total amount of compensation paid to you during Calendar Year 2000 which was subject to Social Security (FICA/OASDI) tax, including all of your tax deferred annuity contributions and excess life insurance premiums, if applicable, but excluding health and dental insurance premiums and any voluntary dependent care or medical reimbursement account contributions which you have “sheltered”.

E. Social security tax withheld: this represents the total amount of Social Security (FICA/OASDI) tax which was withheld from your earnings during the year and paid to the Social Security Administration, on your behalf, by the University.

F. Benefits included in box 1: if you have received certain fringe benefits, the value of such benefits is shown here, and is also included in Box 1, Wages, tips, other compensation. These benefits include the value of taxable graduate and/or professional tuition benefits and other benefits relating to imputed income. If you have received any of these benefits the University has recently advised you, individually and personally, concerning their taxability; please refer to those communications specifically.

G. Medicare wages and tips: this represents the total amount of compensation paid to you during Calendar Year 2000 which was subject to Medicare tax, including all of your tax deferred annuity contributions and excess life insurance premiums, if applicable, but excluding health and dental insurance premiums and any voluntary dependent care or medical reimbursement account contributions which you have “sheltered”.

H. Medicare tax withheld: this represents the total amount of Medicare tax which was withheld from your earnings during the year and paid to the Social Security Administration, on your behalf, by the University.

I. Excess insurance premium: the Internal Revenue Service requires that the premiums paid by an employer for group life insurance coverage in excess of $50,000 be imputed as income to the employee. The amount which appears in Box 13 and labeled (C) is the value of the premiums paid for this excess insurance coverage. This amount is based on an Internal Revenue Service (IRS) table which identifies premiums for different age groups.

J. Tax deferred annuity contributions: this represents the total amount of contributions made by an employee to a retirement plan on a taxdeferred basis. The amount is shown in Box 13 and labeled (E).

K. Excludable moving expense reimbursements: this represents the nontaxable moving expenditures that were paid to you as a reimbursement. The amount is shown in Box 13 and labeled (P). If any reimbursements or third party payments were deemed to be taxable income you were notified of these amounts under separate cover.

L. Employee’s social security number: this is the number that the Federal and State Governments use to identify you with the tax returns that you file, so please review it for accuracy. If the number is incorrect, then the University Payroll system is also inaccurate and you should contact the Payroll Office, immediately, before you file your returns.

M. State wages, tips, etc.: this represents the total amount of compensation paid to you during Calendar Year 2000 which was subject to Pennsylvania State Income Tax, including all of your deferred annuity contributions, if applicable, but excluding health and dental insurance premiums and any voluntary medical reimbursement account contributions which you have “sheltered”.

N. State income tax: this represents the total amount of Pennsylvania State Income Tax withheld during Calendar Year 2000 and paid to the Commonwealth of Pennsylvania, on your behalf, by the University. If you do not live in Pennsylvania no amount will be reflected in this box.

If you lived a portion of the year in the Commonwealth of Pennsylvania or New Jersey or Delaware, you will receive two W-2 forms, one showing the state taxes paid to the Commonwealth of Pennsylvania, the other showing no taxes paid to the other jurisdiction.

O. Local wages, tips, etc.: this represents the total amount of compensation paid to you during Calendar Year 2000 which was subject to Philadelphia City Wage Tax, including all of your deferred annuity contributions.

P. Local income tax: this represents the total amount of Pennsylvania City Wage Tax withheld from your earnings during Calendar Year 2000 and paid to the City of Philadelphia, on your behalf, by the University.

When you receive your W-2 form, please review it immediately to ensure that your name is spelled correctly and that your Social Security number is correct. If you feel that any information on your W-2 is incorrect, review your calculations carefully and compare the information on the form with your final 2000 pay stub.

If you have availed yourself of certain taxable benefits please review any additional information which was provided to you, under separate cover, concerning these benefits and their impact on your tax status. If you still believe that your W-2 is in error, please contact the W-2 Office at (215) 573-3277 or write to W-2 Office, Room 310, Franklin Building /6284.

You should have received, via the U.S. Postal Service, your Federal and State Income Tax Forms and related instructions for filing. Federal Tax forms are available at the Internal Revenue Service, 600 Arch Street, Philadelphia, or by calling toll-free at (800) TAX-FORM. Pennsylvania Income Tax forms are available at the State Office Building, 1400 Spring Garden Street, Philadelphia, or by calling toll-free (888) PA-TAXES. Federal and State forms are also available at many libraries and U.S. Post offices.

—Theresa V. Lafferty, Manager, Payroll Department
February in A PENN
Academic Events:

31. Intramural and Club Recreation
30. Intramural and Club Sports
29. Intramural and Club Activities
28. Intramural and Club Events
27. Intramural and Club Competitions
26. Intramural and Club Meetings
25. Intramural and Club Workshops
24. Intramural and Club Trainings
23. Intramural and Club Workshops
22. Intramural and Club Trainings
21. Intramural and Club Meetings
20. Intramural and Club Competitions
19. Intramural and Club Events
18. Intramural and Club Activities
17. Intramural and Club Sports
16. Intramural and Club Recreation
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