

THE N I H R E C O R D

Still The Second Best Thing About Payday

New NICHD Zebrafish Facility Opens in 6B

By Robert Bock

"I'd like to thank the NICHD's Research Animal Management Branch, NIH's creative and committed Division of Engineering Services, and our own developmental biologists for their contributions to the design elegance and efficiency of this new facility," said NICHD scientific director Dr. Arthur S. Levine recently as he cut the ribbon barring the doorway of the institute's new zebrafish facility. "I'd also like to thank the many others—too numerous to mention individually—who also contributed."

Zebrafish, *Danio rerio*, are kept by home aquarists the world over. In recent years,



At the ribbon cutting ceremony for the new NICHD zebrafish room are (front row) Doreen Bartlett, animal administrator; Dr. Arthur Levine, NICHD scientific director; Dr. Igor Dawid, chief, Laboratory of Molecular Genetics; and (back row) Anthony Clifford, director, Division of Engineering Services; Rosemary Rigs, animal program administrator; and John Bartholomew, chief, Research Animal Management Branch.

these small silvery fish with horizontal blue stripes have also become a mainstay of developmental biologists. At the NICHD facility, racks of bookshelf-like trays provide storage space for a battery of clear plastic containers needed to house the

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Human Services
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A League of Their Own

NIH Hockey League Thriving at 25 (Give or Take)

By Rich McManus

What has all its teeth, loves speed and excitement, and hasn't even stayed in a Nagano hotel room, let alone trashed

one? Why the NIH Hockey Club, of course, a loose-knit co-ed gang of skating enthusiasts who have wangled ice time, by hook or by crook, at a variety of local rinks since "around 1973," says Dr.

Pierre Henkart, who used to run the floating contests until injuries put his

hockey career on ice. Nowadays, the R&W-sponsored club skates almost year round and has more people than it can accommodate,

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NIH Hockey Club veterans (from l) Drs. Gary Murray, Pierre Henkart and Ed Ginns reflect on past glories, future triumphs.

Pros, Cons, Ambiguities

Answers Sought on Hormone Replacement Therapy

By Jan Ehrman

Hormone replacement therapy (HRT)—Is it for every postmenopausal woman? Can it really help prevent heart disease, hip fractures and dementia? What if you've had breast cancer? Can you safely take estrogen supplements? Do the benefits of HRT outweigh the risks, and if so, for whom?

The jury is still out on many issues regarding HRT, long a controversial, albeit potentially viable health option for women following menopause. Yet it is questions like the aforementioned that the Women's Health Initiative (WHI) will ultimately help answer, according to experts speaking recently at a seminar held in Masur Auditorium.

"What we now need are clear, unambiguous data so women can

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NIH Coordinates Egyptian Biotechnology, Technology Transfer Workshop

The Fogarty International Center recently convened a workshop on "Investing in Biotechnology" in Cairo, Egypt, to discuss public-private partnerships and technology transfer, and to stimulate joint ventures. The workshop focused on drug development, diagnostics, bioremediation, agriculture and industrial synthesis.

American participants included representatives from 18 private biotechnology companies, FIC and a number of NIH institutes, as well as the HHS Office of International Health, the Agency for International Development, and the Department of State. A substantial number of the U.S. companies were recipients of NIH grants, contracts, or Small Business Innovation Research awards. Egyptian participants included nearly 200 investors, company representatives, and researchers from universities and government laboratories.

Hoechst Marion Roussel Pharmaceuticals, Promega Corp., Battelle, and Phyton Inc. all reported solid business prospects as a result of their discussions with Egyptian counterparts, while other American companies announced agreements during the workshop.

Dr. Claire Driscoll, NIAID senior technology transfer officer, and Wayne Swann, director of technology transfer at the University of Maryland, described how their

offices identify new laboratory inventions and then market them to the private sector—literally translating between these two very different cultures. Based on these presentations, and using the U.S. model for public-private partnerships, several Egyptian universities and government laboratories are now seeking to establish their own offices of technology transfer.

The workshop received high level political attention from both sides. Opening remarks were made by the U.S. Embassy's deputy chief of mission Dr. Vincent Battle, Egypt's minister for higher education and scientific research Dr. Moufid Shehab, and the president of the Investment Authority of Egypt Dr. Ibrahim Fawzy. The workshop closed with remarks from Minister of Agriculture Dr. Youssaf Wali, who reiterated his country's focus on biotechnology.

The enthusiasm of the participants suggests the workshop may have long-term payoffs in terms of development of new tools to address pressing health and agricultural needs, spurring economic growth, and strengthening political ties.—Charles Gardner ■

APAO Seeks Award Nominations

The NIH Asian/Pacific American Organization (APAO) seeks nominations from NIH employees for its 1998 Outstanding Achievements and Scholarship Awards. Recipients will be honored in the evening program of the NIH Annual Asian/Pacific Americans Heritage Program on May 22. The categories of awards are as follows:

I: For significant accomplishments in advancing NIH/IC's EEO goals;

II: For significant accomplishments in scientific research or administrative work;

III: A scholarship of \$1,000 to an outstanding college-bound student. Total family yearly income will be considered.

Nominations for categories I and II should be in the form of letters of recommendation citing the nominee's records and accomplishments. Nominations are open to all NIH employees; one nomination for each letter of recommendation. Nominations can be made by anyone in the NIH community.

Nominations for category III can be made by either the parent(s) of a student or by the student. The scholarship award is for a student of AP origin or for children of APAO members.

For instructions on how to apply, contact Dr. Rashmi Gopal-Srivastava, Executive Plaza North, Rm. 609, 496-2378. Nominations for the awards should be sent to her as well. The closing date for nominations is Apr. 10. Recipients will be notified in mid-May. ■



During break-out sessions, participants held one-on-one meetings to discuss possible joint ventures. Here, Andy Firstenberg (r), CEO of Firstenberg Machinery, a supplier of used biotechnology equipment, meets with a potential Egyptian distributor.

N I H R E C O R D

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Researchers Map Physical Basis of Dyslexia

A Yale research team funded by the National Institute of Child Health and Human Development has used sophisticated brain imaging technology to show that there is decreased functioning while performing reading tasks in certain brain regions of individuals with the most common form of dyslexia. The study appeared in the Mar. 3 issue of the *Proceedings of the National Academy of Sciences*.

In their study, the researchers used a technology known as functional magnetic resonance imaging (fMRI), which produces computer-generated images of the brain while it is performing intellectual tasks. With fMRI, the team produced images of an impairment in the brains of dyslexic readers that became apparent when they tried to perform tasks that would require a firm command of the ability to decipher words phonetically.

"If you have a broken arm, we can see that on an X-ray," said the study's first author, Dr. Sally E. Shaywitz of Yale University School of Medicine. "These brain activation patterns now provide us with hard evidence of a disruption in the brain regions responsible for reading—evidence for what

has previously been a hidden disability."

Shaywitz explained that the words we speak are made up of individual sounds called phonemes. In spoken language, the brain automatically combines these sounds to form words. To make normal conversation possible, such sound pieces are strung together rapidly—about 8 to 10 per second—and blended so thoroughly that it's often impossible to separate them.

For people with dyslexia, the problem arises in converting this natural process to print. Written English is a kind of code: The 26 letters of the alphabet, either singly or in combination with other letters, stand for the 44 letter phonemes in spoken English. Dyslexic readers have extreme difficulty with phonological awareness (breaking spoken words into their component sounds) and with phonetics (the ability to match these letter sounds to the letters that represent them).

Dyslexic readers showed reduced activity in a large brain region that links the visual cortex and visual association areas (angular gyrus) to the language regions in the superior temporal gyrus (Wernicke's area). ■

New Drug Treatment for Iron Overload?

Researchers may have found a better drug treatment to remove iron from patients who have too much. Too much iron damages vital organs, especially the liver, heart, and pancreas. That's a problem for as many as 50,000 people in the United States who need regular blood transfusions for anemias such as Cooley's anemia and some patients with sickle cell disease.

The small intestine usually regulates how much iron is absorbed into the blood, but transfusions bypass this safety mechanism, sending iron-rich blood straight to the bloodstream. To rid the body of extra iron, patients use a chelator, a drug that attaches to iron so it can escape body cells and be excreted in stool and urine. Unfortunately, the standard chelator, deferoxamine (DFO), is expensive and has effects patients don't like.

Strategy for Preventing Periodontal Disease

Preventing two key cytokines from attaching to their natural receptors on cells may stop the progression of periodontal disease, say scientists supported by the National Institute of Dental Research. The findings confirm that IL-1 and TNF—two proteins made by immune cells—are major players in periodontal destruction. Blocking their activity may inhibit periodontal bone loss by as much as 60 percent.

Working in a primate model, the researchers were able to prevent IL-1 and TNF from attaching to cell receptors by injecting soluble receptors to the proteins into the gum area. Instead of locking onto

The drug HBED, or hydroxybenzylethylenediamine diacetic acid, removed up to 3 times more iron than DFO when tested in normal rats and in primates overloaded with iron. The study appeared in the Feb. 15 issue of *Blood* and was funded in part by the National Institute of Diabetes and Digestive and Kidney Diseases.

"We've been desperate to offer something better to patients," said Dr. Raymond J. Bergeron, lead author of the study and a medicinal chemist at the University of Florida College of Pharmacy in Gainesville. "We don't want to raise false hopes before we've done more studies, but primates are a magnificent predictor of what will happen in people, and this looks great in the primate. It's hard not to get excited." ■

their natural receptors on cells, IL-1 and TNF clung to the soluble receptors, which prevented them from making contact with cells and signaling the start of the destructive inflammatory process. The scientists note that 6 weeks after the injections there was a drastic decrease in the number of inflammatory cells in the gum and alveolar bone area, demonstrating that the soluble receptors effectively interfered with the disease process.

The study appeared in the January 1998 issue of the *Journal of Immunology*. ■

Kaiser Plan Service Day

Kaiser Permanente Health Plan will be on the NIH campus Thursday, Mar. 26 to assist plan enrollees who have claims or enrollment problems or questions. A plan representative will be available from 9 a.m. to noon in Bldg. 31, Conf. Rm. 8. No appointment is necessary. Assistance will be provided on a first-come, first-served basis.

ZEBRAFISH, CONTINUED FROM PAGE 1

inch-and-a-half-long fish. A high-tech filtration system drips a continuous supply of purified water into the containers; electronic sensors carefully control the temperature, pH and salt content of the fish's environment.

Native to the Ganges River and its tributaries in India, zebrafish offer several advantages over other animals that researchers use to study the process by which a fertilized egg develops into an adult individual. Like another staple of developmental biology, the fruitfly (*Drosophila melanogaster*),

zebrafish are easy and comparatively inexpensive to maintain, rapidly produce large numbers of offspring, and have easily studied genetics. But like human beings, zebrafish are vertebrates, and follow the typical vertebrate path of embryonic development. Unlike laboratory mice, another

ever, we don't know the genetic basis."

Insights gained from studying gridlock, Weinstein hopes, will provide likely candidates to identify the genetic basis of the condition in humans.

Laboratory of Molecular Genetics researcher Dr. Ajay Chitnis heads a group investigating the so-called "notch" receptor, a molecule that sits on the surface of

plate, the structure in the zebrafish embryo that eventually gives rise to the brain and spinal cord. Ordinarily, the appearance of the notch receptor on the cell's surface allows it to receive chemical signals that tell it to stop dividing and differentiate into a nervous system cell. In a mutation Chitnis is studying, however, the receptor fails to appear on the cell's surface, and the cell fails to develop any further but continues to divide repeatedly. Studies of this and similar mutations, Chitnis said, may provide insight not only into abnormal brain development, but also into the development of some human cancers that have been linked to abnormalities in the notch receptor.

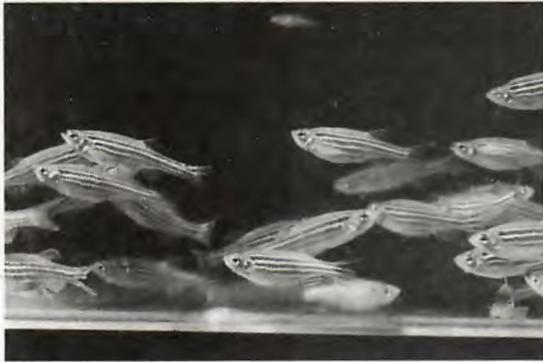
Dr. Igor Dawid, chief of the Laboratory of Molecular Genetics, leads a research team studying zebrafish embryos to learn how the early nervous system develops. One of the projects in Dawid's group is the study of a transcription factor named *lim1*, which plays a key role in the early development of the nervous system by controlling generation of a chemical signal that sets the process in motion. By studying transcription factor expression, he and his colleagues have been able to observe exactly when the factor appears during each particular stage of embryonic nervous system development.

useful developmental biology model, zebrafish eggs and embryos are transparent, develop outside the mother, and so provide a clear, unobstructed view of early embryonic development.

Mutations in zebrafish genes can be created with relative ease. First, the males are exposed to a chemical that causes mutations in the DNA of their sperm. Most of the mutations are recessive and will only cause visible defects if both copies of the gene in each cell are mutated. To achieve this, these males are then mated with genetically normal females, producing offspring with one copy of the resulting genetic defects. Fish from this second generation are then crossed with each other, to produce a third generation with the two copies of a mutated gene needed for the gene's effects to be visible.

Dr. Brant Weinstein, a researcher at NICHD's Laboratory of Molecular Genetics, heads a group of researchers studying a zebrafish mutation known as "gridlock." Fish with this mutation suffer from an obstruction in the circulatory system, in which the aorta (the main vessel leading out of the heart) is foreshortened, depriving the tail region of its blood supply. In fact, fish with the gridlock mutation lack tail fins. Weinstein said that the gridlock mutation resembles a human birth defect, coarctation of the aorta. In coarctation of the aorta, a narrowing of the descending aorta often causes high blood pressure above the narrowing, in the head and neck, and poor circulation below the chest.

"It's a common birth defect, occurring in 1 in 2,000 births," Weinstein said. "In humans, how-



Adult zebrafish



NICHD aquatics technician Alyssa Gundersen inspects the device used to hatch the tiny shrimp that form a mainstay of the zebrafish's diet.



A visitor at the NICHD zebrafish facility open house inspects the rows of containers used to house the fish.

PBS Series Examines Drug Addiction, Treatment

Commentator Bill Moyers explores drug addiction and recovery in a new 5-part series premiering Mar. 29 on PBS television stations nationwide. *Moyers on Addiction: Close to Home* is a comprehensive look at the science enhancing our understanding of drug addiction, prevention and treatment. The series features research, staff and grantees of the National Institute on Drug Abuse. Moyers is well known for his probing documentaries on sensitive issues such as *Healing and the Mind* and *The Great Health Care Debate*.

"We are extremely glad to be part of this project," said NIDA director Dr. Alan Leshner of the *Close to Home* series. "NIDA's mission is to conduct research on the effects of drugs on the brain, and then to disseminate findings and educate the public about the risks of drug abuse and addiction. Our participation in this series will have a tremendous impact on furthering that goal."

Leshner was interviewed by Moyers for the series and was filmed as he spoke to a diverse group of students at Eastern Middle School in Silver Spring, Md. Leshner discusses the science that has led researchers to an understanding of drug addiction as a chronic, relapsing illness. During the Eastern Middle School segment, students candidly share their experiences and concerns about drug abuse and addiction as Leshner presents key NIDA research

findings. Dr. Steve Hyman, director of the National Institute of Mental Health, is also featured in the series, talking about his addiction research.

NIDA also is part of a national outreach campaign accompanying the Moyers series. The campaign includes a variety of activities for communities, PBS stations nationwide, and national organizations to challenge outdated perceptions of addiction. NIDA's research is used in a printed viewers' guide and student guide distributed with the campaign materials.

As part of this outreach, WNET in New York has already featured Leshner in a nationwide satellite town meeting, held Feb. 26. The meeting, directed by Public Affairs Television, was an open forum with community leaders and health care professionals presenting scientific facts about drug abuse and addiction.

The local broadcast schedule on WETA/MPT for *Moyers on Addiction: Close to Home* is as follows: Portrait of Addiction—Sunday, Mar. 29, 9-10 p.m.; The Hijacked Brain—Sunday, Mar. 29, 10-11 p.m.; Changing Lives—Monday, Mar. 30, 9-10:30 p.m.; The Next Generation—Tuesday, Mar. 31, 9-10 p.m.; The Politics of Addiction—Tuesday, Mar. 31, 10-11 p.m.

The series will be repeated; check local PBS listings for replays in the Washington-Baltimore area. ■

NIH Hosts National Sleep Awareness Day

Sleep! Did you know that not getting enough restful sleep can result in a variety of physical and mental health problems? Or that sleepiness can be a sign of a sleep disorder? Or how about that teenagers need more sleep than younger children and adults? Or that your biological clock changes as you age? Or that insomnia is the perception that you can't fall asleep or stay asleep?

To answer questions like these and educate the public about the benefits of adequate sleep and the consequences of insufficient sleep and sleep disorders, the National Heart, Lung, and Blood Institute, home of the National Center on Sleep Disorders Research (NCSDR), will join with the National Sleep Foundation and more than 75 other organizations across the country in National Sleep Awareness Week activities, Mar. 30-Apr. 5.

Representatives of NCSDR will be available on Apr. 2, National Sleep Awareness Day, from 11 a.m. to 1 p.m. in the Clinical Center lobby to answer your questions and provide you with information on a host of sleep issues.

For more information, call 435-0199. ■

1998-1999 Women's Health Series Begins

"Women's Health Research for the 21st Century" is the theme for the 1998-1999 ORWH Women's Health Seminar Series. The series kicks off at 1 p.m. on Thursday, Mar. 26 in Masur Auditorium. The 2-hour seminar will focus on "Chronic Pain Conditions in Women."

The seminar will open with an overview by Dr. Cheryl Kitt, NINDS. Dr. Linda LeResche, University of Washington, Seattle, will then discuss the prevalence and incidence of chronic pain conditions in women.

Dr. Christian Stohler, University of Michigan, Ann Arbor, will continue with a look at chronic disabling pain. The final speaker, Dr. Jon Levine of the University of California, San Francisco, will explain the genetics of pain. The question-and-answer session will be moderated by Dr. Jeanne Sinkford, American Association of Dental Schools.

The next seminar, "Weight: What's Fat? What's Not? What Can We Do?," will be held at 1 p.m. on Thursday, June 4 in Lipsett Amphitheater. For more information, call 402-1770.

FAES Concert Set, Apr. 5

The FAES Chamber Music Series will present the Trio SoLaRe at 4 p.m. on Sunday, Apr. 5 in Masur Auditorium, Bldg. 10. Tickets are \$20 at the door; \$10 for students and fellows. For more information call 496-7975.

HOCKEY LEAGUE, CONTINUED FROM PAGE 1

according to league codirector Guy Wassertzug, who, like most players in the league, isn't even an NIH'er.

Henkart, who came to NIH in 1971 and is now a section chief in NCI's Experimental Immunology Branch, said in the old days almost none of the few public rinks around town permitted hockey. The local parks authority "never allowed ice hockey at Cabin John or Wheaton (regional parks)," he said. "They were reserved mostly for figure skating. This is not an area that traditionally has had hockey as part of its history. There's always been the concern that people would get hurt.

"But that attitude has changed," he continued. "There are a lot more leagues now. The arrival of the Washington Capitals hockey team stimulated a lot of interest in the game locally."

In the early seventies, there were a handful of private rinks that allowed hockey, recall Henkart and his successor, Dr. Gary Murray, a Toronto native

who still plays when his aching shoulders permit. "There was a half-size rink at Howard Johnson's, near the corner of Georgia Ave. and University Blvd.," reminisced Henkart. "And there was one at Tyson's Corner—but now it's an auto dealership," said Murray. "Back then it was even hard to buy hockey equipment in the local sports stores," Henkart claimed.

The NIH club began, initially, as a county-run game, once a week.

"A bunch of us from NIH got

involved and kind of took rink time—this was at Wheaton Regional Park," said Henkart. "We played Thursday nights from 10:30 to midnight. We held that slot until this year," when the games migrated to Cabin John Regional on alternate Tuesday and Wednesday evenings, sometimes beginning as early as 9:45 p.m.

The old league adhered roughly to the National Hockey League season, running from October through March. Then the NIH'ers found some rink time at Cabin John from April to August; thus year-round hockey was born.

"We're still juggling for better ice time at Cabin John," said league codirector Dr. Ed Ginns, chief of NIMH's Clinical Neuroscience Branch, who, like Henkart, grew up on Long Island and played intramural hockey at Rensselaer Polytechnic Institute in Troy, N.Y. Starting in May, the club can take over the ice at 9:15 p.m. "We're still relative newcomers there," Ginns conceded.

About 30 people play in the league, at a fee of \$240 for a session spanning 5 months. "It works out to \$11-\$12 a night," said Ginns. "Usually

about 20 or 25 show up, and we split up to balance ability and keep sides evenly matched. One team wears light-colored jerseys and the other wears dark shirts." The teams scrimmage in one long game lasting the 1 1/2-hour duration, adding and subtracting players in six-on-six shifts lasting 2-4 minutes. "Trades ensue if the sides aren't even," joked Murray. A typical night's end score might be 6-5, or 10-4, though

sometimes no one has the energy to keep score, said Wassertzug. Only the goalies don't leave the ice on a regular basis.

There was a time when about half the league was NIH'ers, said Murray, but then interest on campus dropped off. "The better players gravitated to the better leagues that had sprung up," he said. Ginns says only five or so current players are NIH'ers, and the rest are friends harvested over the years.

Though the games lack referees, order is maintained by the codirectors, and by mutual understanding of the rules: no checking (bashing into one another to free the puck or stop a rush on goal) and minimal contact. Fighting is taboo. "The idea of fighting is a total misrepresentation of the game of hockey," insists Henkart. "This is a real game."

"We've had to boot a few folks," admitted Murray, recalling the one-night stand of an FBI agent who crashed into a player so hard the skater's helmet and glasses broke. "He was a cop and he was out there committing assault," he recalled indignantly.

Murray grew up playing hockey in Canada, but never played on a varsity team. It was always just for the fun of it. Same with Henkart, who was reared in Port Washington, N.Y., on Long Island, and played "whenever it got cold enough for pickup games. There's an excitement to hockey that you can't replace with anything else," he said.

"Being at NIH brought out the hockey in all of us," laughs Ginns. "It's an essential outlet," seconds Murray, a special expert in NINDS' Developmental and Metabolic Neurology Branch, which for years was the seed lab for the NIH Hockey Club; many early members either worked in or near it.

"In the olden days, wherever it hurt, that's where you bought equipment," recalls Ginns. Today, all players are still required to outfit themselves; helmets are mandatory and protective face cages are "strongly suggested," noted Wassertzug.

Though Murray, Ginns and Henkart happen to



The NIH Hockey Club recently migrated to Cabin John Regional Park's rink, on alternate Tuesday and Wednesday nights.



Codirectors of the NIH Hockey Club are Guy Wassertzug (l) and NIMH's Dr. Ed Ginns.

carry advanced degrees as well as hockey sticks, players hail from all sorts of professions and exhibit a wide range of skills, they said. There are a couple of NIH policemen, Brett Reese and James Kowal, who is well respected and also runs his own Sunday night scrimmage at Wheaton. There are administrators, physicians, technicians, postdocs, and folks from the Uniformed Services University across the Pike. There are, increasingly the men say, computer experts, salespeople and banking types, with cosmopolitan interests in sports. Women have always been welcome, though not many have played.

"The basic requirement is that you be able to skate safely," said Ginns. "We have players who are just about at varsity level," said Murray. "Some actual varsity," corrected Henkart. But most tend to be decent athletes who saw the game on television, liked it and wanted to try it out.

"It is dangerous if you don't have basic skating skills," warned Henkart, who has seen several players carried off the ice in his time. "Though it's a nonchecking league, people still wind up on the boards and on the ice," Ginns said.

Because the games rile up players' adrenaline so close to bedtime, it's hard to wind down afterward, Henkart said. "It's difficult to get to sleep before 2 a.m. on a game night."

While the league draws a puck-sized audience—mostly wives and girlfriends, and that only since the games moved indoors—its long-time adherents, though gray at the temple, are rink rats for life. Ginns still puts up flyers at the start of every new season, even though "it's a losing battle—they get

pulled down and the bulletin boards get swept clean." He says the league will soon have a Web page at the R&W site.

"It would be nice to get to the point where we have enough people to have two scrimmage teams," said Ginns. "What we need are volunteers to organize the league—even



A slap shot on an open net is only possible during warmups at Cabin John Ice Rink. About 20 players show up per session.

nonplayers who want to do some administrative work."

"We're thinking about hiring some refs for a couple of games, to lend a little authenticity and structure," said Wassertzug, who says he began playing at 18 or 19, when his parents couldn't forbid him to play any more. "But it takes a lot of

energy to run a league—that's why Ed and I decided to split the load."

Wassertzug, who has been playing in the NIH league for the past 4 years and runs his own computer company in Rockville, says the league is slowly becoming more competitive, with faster skaters, cleverer passing and more enjoyable evenings for all. "It doesn't lend itself to rank beginners anymore," he said. Though most players are in their mid-thirties, ages range from 22 to 55.

For more information on the league, send an email to hockey@infostructures.com or call Ed Ginns, 496-0373. ■

DCRT Courses and Programs

All courses are on the NIH campus and are given without charge. For more information call 594-3278 or consult DCRT's home page at <http://livewire.nih.gov/>

HTML Tips	3/30
NIH Data Warehouse: Workshop	3/30
Windows 95 Registry	3/30
Getting Started with C	3/30-4/2
SILK Web Technologies	3/31
Drawing 3-Dimensional Objects with Mathematica	3/31
Using FileMaker Pro 4.0 on the Web	3/31
Using Email Effectively	4/1
Electronic Forms Users Group	4/1
Using Tango to Integrate Databases into the Web	4/1
Relational Database Design	4/2
Designing Effective Scientific Slides	4/3
NT Workstation Troubleshooting	4/3
Solutions for the Year 2000 Challenge	4/6
NIH Data Warehouse: Property Management	4/6
WIG - World Wide Web Interest Group	4/7
Using SAS/STAT Procedures to Perform ANOVA and Regression	4/7-9

March Is Women's History Month

NIH will present "Women: Remembering the Past, Discovering the Future" in observance of Women's History Month. Dr. Ellen S. Baker, an astronaut at NASA, will deliver the keynote address on Thursday, Mar. 26 at 11:30 a.m. in Lister Hill Auditorium, Bldg. 38A.

A medical officer and physician at Johnson Space Center's flight medicine clinic before becoming an astronaut in 1985, Baker has logged more than 680 hours in space and served as a mission specialist on three space flights since 1989.

Also during the program, attendees may win a special prize in the BirthDay Match, by matching birthdays with a woman in history. For more information or for reasonable accommodation needs, contact Sharrell S. Butler, 496-3046, sb28k@nih.gov or Patricia Fong, 496-7192, pf9a@nih.gov. ■

Treatment Study for Oral Lesions

The National Institute of Dental Research needs patients for a new clinical treatment study for oral lesions associated with HIV and AIDS. The study takes place at the Clinical Center. Study medication is provided at no cost. Patients can stay on their regular course of medical treatment for HIV or AIDS while taking part in this study. For more information about this and other NIH clinical studies, call the Patient Recruitment and Referral Center, 496-4891, or send an email to: PRRC@nih.gov. All calls are confidential.

HRT THERAPY, CONTINUED FROM PAGE 1

make rational decisions," said Dr. Sally A. Shumaker, director of the Women's Health Center of Excellence at Wake Forest University and a lecturer at the Feb. 17 program, "Women's Health Initiative: Finding the Answers on Hormone Replacement Therapy."

The WHI, which began in 1993, is a group of clinical trials and observational studies involving more than 164,000 postmenopausal women across the country. Ongoing protocols test treatments that may prevent heart disease, cancers of the breast and large bowel, fractures due to osteoporosis, and memory loss.

"Our job is to find the answers to the questions that are out there," said Dr. Jacques Rossouw, WHI lead project officer, who reviewed coronary heart disease and breast cancer in relation to HRT.

A large body of observational data points to a connection between estrogen and a decreased incidence of heart disease, the leading killer of American women. It is thought that coronary heart disease (CHD) occurs 10-15 years later in females than males primarily because women possess considerably more estrogen than men—this accounts for higher levels of high density lipoproteins, the beneficial, cardioprotective type of cholesterol. Estrogen, either natural or supplemental, also lowers low density lipoprotein (LDL) cholesterol, which is atherogenic, while the male hormone androgen increases LDL.

The Nurses Health Study, another massive NIH-funded project, has suggested that HRT imparts an immediate cardiovascular benefit for postmenopausal women—

current users showed a 40 percent reduction in CHD. "Yet what cannot be explained," pointed out Rossouw, is "why there is no corresponding decrease in the incidence of coronary grafting or angioplasty in postmenopausal women receiving this treatment." The paradox is but one of many unanswered questions.

While the cardiovascular benefits of HRT still need to be established, there may also be a down side. Data from the Nurses Health Study reveal that as HRT dosage increases, the incidence of stroke rises proportionately. Further, deep vein thrombosis (blood clot) risk is 2-4 times greater in current users, and mainly occurs in the first or second year of use.

Some increased risk of breast cancer among HRT users has also been documented from the same study. In particular, "we saw an overall increased risk for breast cancer, most prominently in women age 60-65 who had been taking hormones 5 years or more," said Rossouw, also noting a 35 percent increased risk among users in a recently published analysis of the world literature. He added, however,

that the effects on mortality from breast cancer are not known.

The next speaker, Dr. Jane Cauley, discussed hormones and their role in osteoporosis, or severe bone loss, a condition that markedly raises the risk of hip and vertebral fractures in postmenopausal women. Serving as associate professor of epidemiology and director of the Epidemiology of Aging Training Program at the University of Pittsburgh, Cauley is also principal investigator for the Study of

Osteoporosis Fractures and the Fracture Intervention Trial at the same institution.

Low bone density, or osteopenia, is exceedingly common, affecting 53 percent of white women (National Health and Nutrition Examination Survey data), although rates are lower for African-American and Hispanic females. As a result of deterioration of skeletal tissue charac-



Dr. Sally Shumaker

teristic of the condition, fractures of the hip, spine and wrist, but especially the hip, take a heavy toll on non-treated, aging women. Some 250,000 (primarily postmenopausal) women fracture a hip annually, while one in six white women will sustain this injury during her lifetime. Of those, many never walk again, and 12-20 percent die during the first year following fracture, according to Cauley. Further, the devastating injury costs almost \$14 billion annually to treat.

Can HRT prevent this life-threatening event? Evidence suggests it may. Results from the Postmenopausal Estrogen/ Progestin Interventions Trial, a carefully controlled, randomized 3-year study of postmenopausal women, showed that subjects taking placebo (an inert or "dummy" pill) lost bone-mineral density, while those receiving HRT experienced an increase in bone adjacent to the hip. "Additionally, in the study of osteoporotic fractures, a lower rate of bone loss even in elderly women on estrogen—for those age 80 and older—was apparent," noted Cauley. This finding is particularly meaningful, since hip fracture occurs on average around age 70.

The evidence indicates, however, that to accumulate and preserve bone, women may need to begin HRT following menopause and continue the regimen.

Can HRT thwart cognitive decline in postmenopausal women, and in particular, lessen the risk of Alzheimer's disease and other dementias? According



Dr. Jacques Roussouw

to Shumaker, "most studies show that estrogen does have a positive effect on cognitive function—although not all trials have been blinded; some of the studies have other problems, and there are always external variables to take into consideration." Still, in 19 "reasonably well-conducted" investigations, she pointed out, most have shown a positive relation between estrogen and cognition. Also, in self-reports, postmenopausal women have reported that estrogen has helped improve memory, she added.



Dr. Jane Cauley

The bottom line, according to the experts, is that HRT has some potential benefits, but also some risks. The decision of whether a postmenopausal woman should or should not take HRT remains very individualized, and in many cases, is still not crystal clear.

"Estrogens have many biological effects," said Dr. Suzanne Hurd of the National Heart, Lung, and Blood Institute, and acting director of WHI. "What's most important to bear in mind for each woman is the balance of benefits and risks."

In time, results from WHI will enable postmenopausal women to more easily decide on which side of the fence they should be sitting.

The next ORWH-sponsored seminar, "Chronic Pain Conditions in Women," will be held Mar. 26, at 1 p.m. in Lipsett Amphitheater, Bldg. 10. For more information, call 402-1770. ■



GSI cafeterias at NIH celebrated Black History Month by serving heart-healthy dishes from NHLBI's Stay Young at Heart Program. Instrumental in organizing the celebration were Robinson Fulwood, senior manager for public health program development and coordinator of NHLBI's Coronary Heart Disease in Blacks Initiative, and Nancy Sebring, clinical research dietitian at the Clinical Center and chair of the nutrition subcommittee of NIH's worksite health promotion committee.

Forbidden Fruit: Chain Letters

If you read the Internet Diet article, you probably remember that sending or forwarding chain letters via email is not an authorized activity. Some people don't understand why they shouldn't be able to send email chain letters; everyone should understand after reading this article. On the surface, it may appear that there is very little, if any, cost associated with sending a chain letter to several people using your office email system, especially if all the recipients are NIH employees. Don't we pay a fixed rate for the phone lines that carry the messages? So how can a few more messages hurt anything?



The real issue is that NIH email and Internet services are for government use in support of the NIH mission. Use of NIH network systems to send and forward chain letters and other inappropriate messages is prohibited. They are also illegal if they ask for money or anything else of value. There are also very practical reasons for prohibiting email chain letters; consider the following: if a letter is sent to 1,000 people, each person who receives it may spend 5 minutes reading it and deleting or forwarding it. If any of the people report it to their information systems security officer (ISSO), that is an additional message transmission and probably half an hour of ISSO time to advise the person who reported it. Often the ISSO will brief that person's supervisor, which will take up his/her time and maybe another email message. Most email systems store the incoming and outgoing messages on a server hard drive. Storing a thousand messages takes up a lot of hard drive space. Transmission of the messages reduces the availability of the system for other messages that are official business, and could require additional capacity to provide adequate facilities to handle all of the traffic. More information on chain letters can be obtained at the following Web sites: <http://www.woirm.nih.gov/policy/chainletter.html> and <http://ciac.llnl.gov/ciac/CIACChainLetters.html>.—Robert Lagas ■

Garden Club Discusses Herbs

The NIH Garden Club will feature a presentation by Susan McCall of the Potomac unit of the Herb Society of America at its next meeting, Thursday, Apr. 2 at noon in Bldg. 31, Conf. Rm 9. This society maintains local, public herb gardens, including one on the NIH campus. The society also has an annual spring plant sale on May 2. Also on the agenda are plans for a spring plant swap as members get into digging and dividing perennials. For more information about the garden club, gardening information and resources, check out its new Web site: <http://www.recgov.org/R&W/garden>. ■

Sjögren's Patients Needed

The National Institute of Dental Research and the Clinical Center are conducting a study of a promising new treatment for Sjögren's syndrome. The study will examine the effects of treatment with the hormone DHEA. Earlier studies for other conditions indicate that DHEA will be effective in SS patients. Women age 18 or older, with a diagnosis of primary Sjögren's syndrome, may be eligible to take part. Those who participate receive care by some of the nation's leading experts in the field. Evaluation, diagnosis, and study medication are provided to patients at no cost. Contact NIH's Patient Recruitment and Referral Center for more information: 1-800-411-1222.

NIAAA Scientific Director Linnoila Dies

The National Institute on Alcohol Abuse and Alcoholism and the international scientific community lost one of its foremost researchers Feb. 25 when Dr. Veli Markku Ilari Linnoila lost a long and courageous battle with cancer.

Linnoila was named NIAAA's first clinical director in 1983, when Congress authorized the clinical program. He also served as chief, NIAAA Laboratory of Clinical Studies, from 1983 until 1991, when he was appointed scientific director. At the time of his death, he served in addition as acting chief, NIAAA Laboratory of Clinical Studies, and chief, section on neurochemistry and neuroendocrinology within that laboratory.

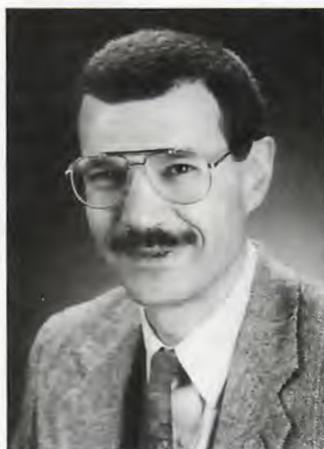
As scientific director, he established laboratories on the neurobiology of alcohol's effects on the brain and central nervous system, the neurogenetics of alcoholism, and the membrane biophysical and biochemical effects of alcohol. He strengthened the clinical program in the areas of cognitive neuroscience and brain electrophysiology and imaging, and implemented programs to investigate new treatments for alcohol withdrawal syndrome and the maintenance of abstinence, comorbidity of alcohol abuse and panic disorder, and spouse and child abuse.

A leader in the relatively new discipline of biological psychiatry, Linnoila developed a groundbreaking research program on serotonin and behavior and was internationally renowned for studies on the biological bases of impulsivity and aggression. With NIH colleagues and collaborators at the University of Helsinki, he showed in both humans and nonhuman primates that low cerebrospinal fluid concentrations of the serotonin metabolite 5-HIAA correlate with increased impulsive behavior. On the basis of psychiatric tests, he categorized impulsive offenders with either antisocial personality disorder or intermittent explosive disorder and showed that most persons with either of those disorders also are alcoholic.

During a period of unprecedented violence in American society, Linnoila's findings attracted enormous public and media interest as potentially useful for understanding and possibly reducing violent crime. Mindful always of the role of science in society, he diligently guarded his research program against overinterpretation. Of the relationship between biological psychiatry and social change he said, "Understanding the biology of aggression requires time and understanding

environmental factors requires still more time. Social change requires the most time of all."

Despite public and administrative demands, Linnoila was an unusually productive scientist, having authored more than 400 refereed journal articles and more than 100 book chapters including the chapter on alcoholism for the American College of Neuropsychopharmacology book on psychopharmacology, a major reference. He gave more than 50 invited lectures and received both national and international scientific awards including the DHHS Presidential Executive Rank Award for Meritorious Achievement.



Dr. Markku Linnoila

A board-certified psychiatrist and board-eligible clinical pharmacologist, Linnoila earned an M.D. and a Ph.D. in pharmacology from the University of Helsinki in 1972 and 1974, respectively. In 1974, he received a fellowship to study pharmacology and aging at the Center for Aging and Human Development, Duke University. Between 1975 and 1979, he performed work in clinical pharmacology and completed residency training in psychiatry at Duke and, in 1979, he was tenured as associate professor, psychiatry and pharmacology at Duke.

In 1980, he joined the Clinical Psychology Branch of the National Institute of Mental Health through an intergovernmental personnel appointment. In 1982, he received tenure in the NIMH intramural research program. While at NIMH, Linnoila developed liquid chromatographic methods to quantify neurotransmitters and their metabolites in biological samples and used those methods to elucidate mechanisms of action of antidepressant and antipsychotic medications in humans.

Earlier research was on the effects of alcohol and other drugs on human performance. Linnoila's studies were among the first to relate drug concentrations to pharmacodynamics in clinical psychopharmacology. He developed the first gas chromatographic method to quantify tricyclic antidepressants and their metabolites in human body fluids and performed the first studies on the interactions of menstrual cycle phase with alcohol on mood, performance and electrophysiology.

Linnoila is survived by his wife, Dr. Ilona Linnoila of Bethesda; four children, Juuso, Jenny, William, and Robert; and his mother, Hilikka-Liisa Linnoila of Helsinki.

NIAAA plans a memorial service to be held locally this spring.



NCCR Mourns Loss of Caroline Holloway

Dr. Caroline T. Holloway, who last year accepted a new position as director of the Center for Accelerator Mass Spectrometry at Lawrence Livermore National Laboratory after serving on NCCR's staff for 12 years, died on Feb. 16 following a heart attack.



Dr. Caroline Holloway

Before coming to NIH in 1984, Holloway had conducted biomedical research at E.I. Du Pont de Nemours and later served as a teacher and researcher at the University of Virginia Medical School from 1975 to 1983. Beginning in 1985, she helped to oversee development of innovative technologies for NCCR's predecessor organization, the NIH Division of Research Resources (DRR). In 1990, Holloway was named director of DRR's Office of Science Policy and became acting director of NCCR's biomedical technology area in 1994.

Holloway is remembered as "one of the most energetic, bright individuals at NIH. She always had exciting ideas to discuss," says Dr. Louise Ramm, NCCR deputy director. "Caroline was highly committed to NCCR's mission and the advancement of biomedical research. She worked at the center in several capacities, excelling in all of them. It's sad to know that such a vibrant, warm light has left this world."

Holloway graduated Phi Beta Kappa from City College of New York, received a Ph.D. in biochemistry from Duke University, and then moved on to complete her postdoctoral research at Shell Agricultural Chemicals in England.

She is survived by her husband, J. Thomas Lynn of Livermore, Calif., two children, and five siblings.

A scholarship fund has been established in her memory to help young graduate women in science. If you would like to make a donation, make checks payable to the Caroline Tobia Holloway Memorial Fund and send to Pippa Holloway, 1697 King Ave., Columbus, Ohio 43212.—Vicki Contie

Paid Volunteers Sought

Normal adults, ages 18-54, are needed in NIMH's Laboratory of Clinical Science to participate in an MRI study. Participants will be asked to complete a screening evaluation over the phone. Compensation is offered. Call Ann Harmon, 496-3421, for more information. ■

DWD Training Tips

The Division of Workforce Development, OHRM, offers the courses below. Personal computer training is also available through User Resource Center hands-on, self-study courses, at no cost to NIH employees. Additional courses are available by completing the "Training by Request" form in the back of the DWD catalog. For more information call DWD on 496-6211 or consult DWD's home page at <http://www-urc.od.nih.gov/dwd/dwdhome.html>.

<i>Courses and Programs</i>	<i>Starting Dates</i>
<i>Management, Supervisory & Professional Development</i>	
Interacting with Difficult Employees	5/5
Creating Distinctive Customer Service	4/21
Winning Negotiations	5/5
Dynamic Mentoring: How to Be an Effective Mentor	4/28
The Merits of Having a Mentor	4/30
<i>Communication Skills</i>	
Conversational American Sign Language - Level II	4/7
Increase Your Word Power	5/5
Speaking Across the Gender Gap	5/7
<i>Administrative Skills</i>	
Manage Stress to Maximize Effectiveness	4/21
Taking Minutes at Meetings	4/30
Managing Difficulties in the Workplace	5/7
Time Management Techniques for Administrative Support Staff	5/6
Success Strategies for Administrative Support Staff	4/28
<i>Administrative Systems</i>	
Domestic Travel - Overflow	4/20
Travel for Administrative Officers	4/22
Basic Time and Attendance Using TAIMS	4/27
<i>Human Resource Management</i>	
Preventing Sexual Harassment at NIH	4/23
Performance Appraisal Session: How to Make It Work	4/24
Goal Setting: Managing & Measuring Performance	4/23
<i>Career Transition</i>	
NIH Retirement Seminar: CSRS	4/20
NIH Retirement Seminar: FERS	5/6
Hire Me! Successful Interviewing Techniques	4/30
<i>Computer Applications and Concepts</i>	
Introduction to Personal Computing for New Users	5/7
Advanced Macintosh Techniques	4/23
Introduction to Internet	5/5
Advanced Internet	5/5
Microsoft Office Suite 97, Documentation Integration	5/4
MS Word 97 Fundamentals	5/6
Microsoft Word 97 Advanced	4/29
MS Word 7.0 for Windows 95 Fundamentals	5/6
Visual Basic 5.0 Advanced Windows 95	4/21
Upgrading to MS Windows 95	5/7
Advanced PowerPoint 4.0	4/29

Injured on the Job?

Do you have a work-related upper extremity problem or injury, i.e., carpal tunnel syndrome, tendonitis, or repetitive strain injury of the fingers, wrist, elbow or shoulder? USUHS is conducting a study that includes a \$40 payment. Volunteers must be ages 20-60, seen by a physician within the past month and currently working. Call (301) 295-9659.

Wednesday Afternoon Lectures

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Philippa Marrack on Apr. 1, speaking on “T Cells and How to Keep a Good Thing Going.” She is HHMI investigator and professor, department of medicine, National Jewish Hospital and Research Center, University of Colorado Health Sciences Center, Denver.

On Apr. 8, Dr. Susumu Tonegawa, HHMI investigator, professor of biology and neuroscience, and director, Center for Learning and Memory, MIT, will discuss “Memory Mechanisms.”

For more information or for reasonable accommodation, call Hilda Madine, 594-5595.



NIH director Dr. Harold Varmus (r) describes plans for the Hatfield Clinical Research Center to U.S. Representatives Peter DeFazio of Oregon (l) and Bob Filner of California. The congressmen visited the campus Feb. 24 and received an overview of research into alternative therapies and other projects conducted or funded by various components of NIH including the Office of Disease Prevention, the Office of Alternative Medicine, the Office of Behavioral and Social Sciences Research, NIAID, NIAMS and NIMH.

Chamber Music Concert, Mar. 29

The Rock Creek Chamber Players will perform at 3 p.m. on Sunday, Mar. 29 in the 14th floor assembly hall at the Clinical Center. Reservations will be required for this free public concert, sponsored by the recreation therapy section. The program will include Rossini's string sonata in G major, Reinecke's sonata for flute and piano, Mahler's piano quartet and Martinu's nonet. For reservations and information call (202) 337-8710. ■



A backhoe completes work on one of two large sedimentation ponds that will flank West Drive during construction of the new Clinical Research Center. This pond is on the east side of the road, and a second pond—for containing storm runoff—is being dug on the west side, near the Children's Inn. The clearing at right was once the heavily wooded Wilson Estate; a view of the Clinical Center was impossible from this vantage just a few weeks ago.

Info Technology Security Conference, Apr. 2

Your data, Web searches, and email messages may be less secure than you think, but if you're like most people, computing security doesn't rank high on your list of priorities. Think again.

In early March, NIH was among many government and university sites that experienced Internet-based attacks on Windows 95 and NT systems. No data were lost, and security staff worked quickly to protect NIHnet from further “denial-of-service” attacks, so called because users found their desktop systems had inexplicably locked or crashed. NIH suffered far fewer problems than many other agencies, but the incident served as a sharp reminder of the constant need for vigilance.

“The threat to government information is more real than ever, and it's increasing almost daily,” says Dr. Mark Boster, deputy assistant attorney general for information resources management at the Department of Justice. “In times of budget cutting, information security hasn't always gotten the attention it deserves. We've got to reverse the trend and escalate the importance of information security in government,” added Boster, who will be delivering the afternoon keynote address at the NIH Information Technology Security Conference on Thursday, Apr. 2 in the Natcher Conference Center, 8:45 a.m. to 4 p.m.

The conference, sponsored by the NIH Office of Information Resources Management, offers something for everyone who manages or uses computer technology. Secure email, cyber law, Internet risks, and trends in Internet security are some of the topics of breakout sessions. Morning keynote speaker Bob Aiken, Next Generation Internet program director at the Department of Energy, will address “Security Challenges of the Next Generation Internet.”

The conference is open and free of charge to NIH and HHS employees. For registration and more information, see the OIRM Web site at <http://www.oirm.nih.gov>. Sign language interpretation and NIHnet Mbone broadcast will be provided for keynote addresses. Still have questions? Call 402-4459. ■

Softball Players Needed

The NIH Men's Softball League is looking for additional players for the 1998 season. Teams consist of about 15 players each. The season runs from April until August and includes both the regular season and a double-elimination tournament.

Games are played once a week on weekday evenings at a field close to NIH. Registration fee for players is around \$15, or a dollar a game. Players interested in joining the league should contact Frank Nice, 496-1561, or email fn1n@nih.gov. ■