

Armed Forces Institute of Pathology
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New Orleans and Orlando set to host AFIP courses



New Orleans – The French Quarter. Photo by Bryce Lankard



EPCOT® Center at WALT DISNEY WORLD®.

The 31st Annual Neuropathology Review moves from Washington, DC to the New Orleans Hyatt Regency for the first time from January 17-22, 1993, while the Contemporary Resort at WALT DISNEY WORLD® in Orlando will once again host "Controversies and Recent Advances in Surgical Pathology" from February 8-12, 1993. These two courses highlight AFIP's commitment to bringing the finest in pathology education to different parts of the United States, according to Deputy Director COL J. Thomas Stocker, MC, USA. "We've selected a variety of locations to hold AFIP courses in 1993, including San Diego, San Antonio, Tucson, New York City, and San Juan, Puerto Rico," he says.

The Neuropathology Review is

directed by James S. Nelson, COL, MC, USA, chairman of AFIP's Department of Neuropathology. Each year the course is attended by about 200 people, 75% of whom are neurology or neurosurgery residents. COL Nelson also holds a faculty appointment at Louisiana State University, located in New Orleans. "The location, the time of year, and the affiliation with LSU Medical Center's Department of Pathology were factors that really influenced our decision to hold the course in New Orleans," COL Nelson says.

This seminar will provide a comprehensive review of neuropathology, with recent developments in the pathophysiology of neurological disorders discussed. Course lectures will be illustrated by gross and microscopic photographs and will be

supplemented by a course syllabus. According to COL Nelson, faculty members have national and international reputations in neuropathology, and many are directors of neuropathology at major teaching or university hospitals.

"This year's 'Controversies and Recent Advances in Surgical Pathology' has an entirely different faculty and different topics, again designed to appeal to the practicing pathologist as well as the academic pathologist," says COL Stocker. The course calls on the depth of the AFIP faculty and is designed to provide participants with nearly 30 hours of continuing medical education credits. The practical part of this course will deal with controversial areas of surgical pathology,

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DIRECTOR'S MESSAGE

Board of Governors looks to future; Approves a variety of initiatives

Three significant initiatives received approval at our September 10 Board of Governors' meeting: a feasibility study



for a proposed new AFIP building; the telepathology pilot study; and the establishment of the Kuwait Registry.

Our aging building has long been a source of concern, and the board has been very supportive of our plans to either renovate this site or to move elsewhere. A contract to conduct a feasibility study has been awarded to an area architectural firm, and over the next several weeks they will study a site on the grounds of the National Naval Medical Center in Bethesda. The firm will also assess our present site for upgrading and expansion.

The board also received a demonstration of one of our new telepathology work stations. They were very impressed with the potential role of telepathology and approved the initiation of a pilot study. This will begin shortly at selected military satellite laboratories, including Moncrief Army Community Hospital, Ft. Jackson, S.C., and Malcolm Grow Hospital, Andrews Air Force Base, MD. The Navy is expected to select a site shortly.

The board also approved the establishment of a Kuwait Registry to study possible adverse effects from burning oil well smoke. The study is a combined morphologic/toxicologic project on humans and animals and is especially timely in light of recent concerns aired by Desert Storm veterans



Florabel G. Mullick, MD, Associate Director, Center for Advanced Pathology, amplified the international program of the Armed Forces Institute of Pathology by initiating contact with the National Institute of Health in Mexico City. This meeting established the groundwork for beginning collaborative educational and research activities, which will culminate in the permanent establishment of a registry for cases of tuberculosis and HIV. Elaine M. Daniels, MD, PhD, chief of the

Epidemiology Branch, National Institute of Allergy and Infectious Diseases in Bethesda, Maryland, also participated in these initial contacts. Seen in this photograph with Dr. Mullick are members of the AIDS Pathology Division who accompanied her to Mexico City on this momentous occasion. From left to right: Ann Marie Nelson, MD; Florabel G. Mullick, MD; Peter Angritt, COL, MC, USA, (chief); and Adolfo Firpo, MD.

about possible smoke-related illnesses. The registry will look at acute tissue changes and toxicologic screening results from selected Desert Storm personnel. Chronic changes in this population will also be looked at in the future, as the Institute has contacted over 200 VA and other federal hospitals in order to implement the study.

Vernon W. Armbrustmacher
Vernon W. Armbrustmacher
Col, USAF, MC
The Director

International Academy of Telemedicine organized

Ronald S. Weinstein, MD, chairman of the Department of Pathology at the University of Arizona, has announced the organization of the International Academy of Telemedicine (IAT). The IAT will organize meetings, publish newsletters and a journal, and develop hardware, software, and communications standards for telemedicine. Applications for charter membership in the IAT can be obtained from: Al Elsayed, MD, Secretary of IAT, c/o AFIP-CPZ, Washington, DC 20306-6000.

Preliminary Survey results show positive trends

Institute emphasizes continuous quality improvement

Preliminary AFIP Survey results reflect generally positive attitudes about the Institute, according to Deputy Director Glenn N. Wagner, CAPT, MC, USN. The AFIP earned high marks for its turnaround time, communication efforts on diagnostic cases, and its expanded educational programs.

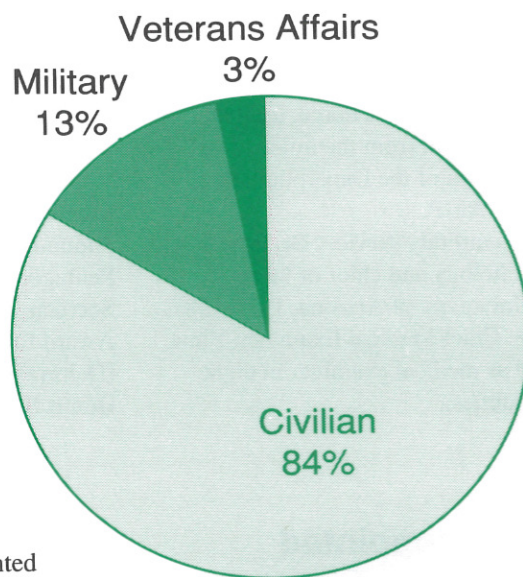
The survey, which was sent to over 12,000 U.S. pathologists last summer, asked a number of questions about AFIP's consultation, education, and research services. Remarkable uniformity was found in 1,009 of the over 1,500 responses received. Statistically, 84% of the respondents were civilians, 13% were military, and 3% were from the Department of Veterans Affairs.

The majority of respondents (89.5%) indicated their practice within a hospital (50.1%), group practice (21.3%), or private practice (18.1%). University affiliates accounted for 10.5%. Frequency studies of training/practice level indicated that the majority (86.9%) of respondents were either staff or chairpersons; 6.6% indicated primary consultant jobs. Very few students (residents, fellows 1.3%) responded to the questionnaire.

The survey assessed two key areas: 1) contributor utilization of the AFIP and 2) contributors' expectations. Results show that 93% of the cases were sent in need of a second opinion, with the following departments identified as the most utilized: Soft Tissue Pathology, Dermatopathology, Hematopathology, Gynecologic/Breast Pathology, and Genitourinary Pathology. "These findings are consistent with our own observations of over 9,000 difficult diagnostic cases from 1987 to 1992, most of which were assigned to the same departments. This persistent trend shows that pathology second opinions

remain critical to patient care decisions and validates the need for specialized reference centers in diagnostic pathology."

In general, the AFIP compares



Demographic Data for 1,009 responses

favorably to other pathology reference centers. Frequency studies show that 58% of the respondents sent less than six consultations per year to the AFIP, while 16% sent at least six cases per year. These relatively low numbers per contributor suggest that the AFIP is used as needed and fills a genuine diagnostic reference need.

From an educational standpoint, course attendees felt that we were very successful in achieving our goals. Based on the survey, more respondents apparently utilize AFIP home study programs than are able to attend AFIP courses or seminars. The majority of

respondents (67%) noted that they did not attend any AFIP courses in a year, while 30% attended one or two courses annually.

The current topics and duration of courses did meet with general approval; however, respondents told us that our courses could be improved by holding them in different cities and offering more of them on weekends. Major steps have already been taken towards meeting these recommendations by offering a variety of new locations and dates for 1993. The AFIP's expanded educational program currently involves approximately 50 courses per year, with several being added and others deleted annually based on indicated need or interest (see cover story).

Most respondents were also very enthusiastic about our expanding AFIP study education programs beyond that of the currently available tumor fascicles, monographs, and study slide sets. The Institute in response is actively involved in researching laser discs, specialized pathology textbooks, and telepathology. These media provide more opportunity for the AFIP to meet its missions of consultation, education, and research.

Canadian pathologists to receive questionnaire

Over 500 Canadian pathologists will receive the AFIP Performance Questionnaire in November. Please take a few minutes to respond and forward your comments back to us in the postage-paid envelope!

Richard C. Froede, MD, the Armed Forces Medical Examiner, Retires



Richard C. Froede, MD, appointed as the first Armed Forces Medical Examiner on 2 May 1988, retired from his position on 30 September. A native of Milwaukee, Wisconsin, Dr. Froede is a 1955 graduate of Marquette University School of Medicine. He served in the U.S. Air Force Medical Corps from 1955 to 1976, during which time he received his anatomic, clinical, and forensic pathology training. He had assignments as a military pathologist to Orlando AFB, Florida; as consultant pathologist to Project Gemini, USAF Hospital, Wiesbaden, Germany; and at the Armed Forces Institute of Pathology as an exchange pathologist with the Royal Air Force, England. At the time of his retirement from the military in 1976, he was chairman of the Department of Forensic Sciences, AFIP.

Following his military service, Dr. Froede was a professor of pathology and chief of forensic sciences at the University of Arizona, 1976-1987. He also served as Chief Medical Examiner, Pima County, AZ, and as medical examiner in eight other Arizona counties.

Dr. Froede is the past president of the American Academy of Forensic Sciences. He is also an associate editor of the *Journal of Forensic Sciences*. Currently, Dr. Froede is chairman, Forensic Pathology Resource Committee of the College of Forensic Pathologists. His research interests have pertained to interpretive and epidemiologic studies in substance abuse and the patterns of death and injury in traumatic cases. He has been actively involved in the teaching and training of medical, dental, legal, and law enforcement personnel for the American Society of Clinical Pathologists (ASCP), College of American Pathologists (CAP), and at universities and government agencies for the past 20 years.

Dr. Froede returned to the AFIP as the Distinguished Scientist in Forensic Sciences in 1987, prior to his appointment as the Armed Forces Medical Examiner.

Ripon College, Ripon, Wisconsin, chose Dr. Froede to be the recipient of its Distinguished Alumni Award in June 1991. In a December 1991 Pentagon ceremony, Dr. Froede received the Secretary of Defense Meritorious Civilian Service Award for his leadership at the Dover AFB (Delaware) Port Mortuary during Operations Desert Shield and Storm.

Doug Zaren, LT, MSC, USN, appointed administrative assistant, Deputy Directors



Doug Zaren, LT, MSC, USN, has been appointed administrative assistant to the offices of the Army and Navy Deputy Directors. He joins the AFIP following an assignment at the U.S. Naval Hospital, Yokosuka, Japan, where he served as the Quality Assurance Officer and as the hospital's Total Quality Management Coordinator.

In his new role, LT Zaren will oversee personnel and budget management within the Center for Scientific Publications, Research, Illustration, Museum, and Education (PRIME). He will also provide oversight and strategic planning to the AFIP's Quality Assurance program and implementation of its Total Quality Management program.

LT Zaren is a native of Tacoma, WA, where he entered the Navy in 1976, as a dental technician. LT Zaren received his commission in the Medical Service Corps (Health Care Administration) in May 1986. During his 15-½ year career, LT Zaren has enjoyed a variety of duties and

assignments, including Naval Hospital, Puerto Rico (operating room technician); Naval Dental Clinic, Bremerton, WA (head, materials management); Naval School of Dental Assisting and Technology, San Diego, CA (instructor); and the U.S. Naval Mobile Construction Battalion Five (Seabees), homeported in Port Hueneme, CA.

LT Zaren made extended deployments to Guam, Okinawa, and Puerto Rico and was also assigned to Naval Hospital, Pensacola, FL, as the executive assistant to the Commanding Officer and the Public Affairs Officer.

LT Zaren and his wife, Mary Janette, are the parents of two daughters, Jana and Amanda.

First Armed Forces Medical Examiner reviews tenure, future of the office

Q. How did the concept of an Armed Forces Medical Examiner come about?

A. The AFIP originally had a division and then a department of forensic sciences, with a wonderful aircraft accident investigation team, but that was all. Since the military is really a mirror image of its civilian counterparts, with homicides, suicides, unexpected deaths, etc., we felt back in the 1970's that a centralized military medical examiner system should be in place. So we put together a proposal, but higher DoD management saw no need for it at that time.

Q. What led to DoD recognizing the need for this "system" you'd been working on?

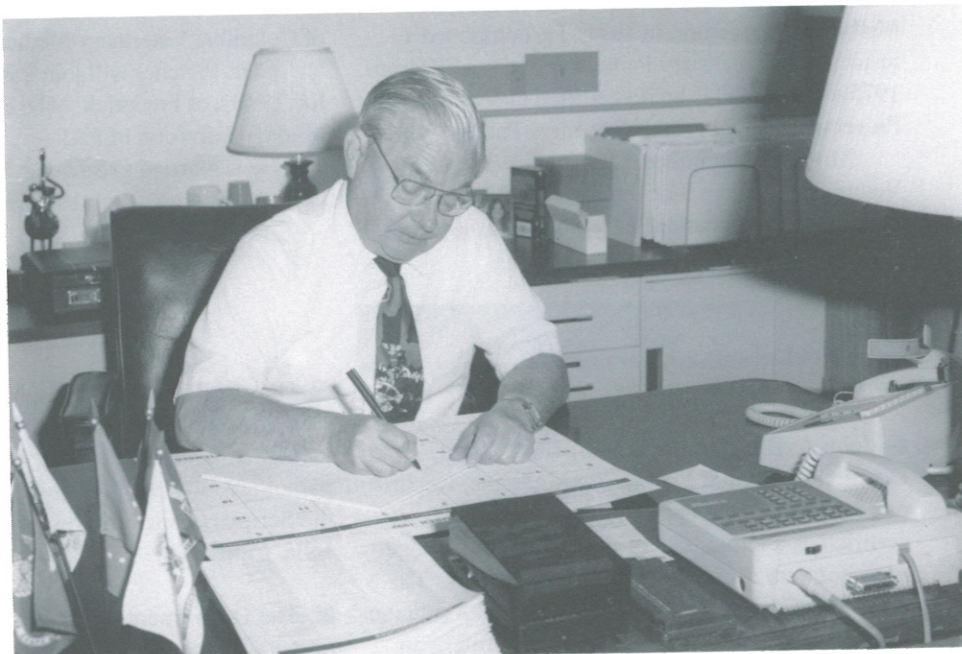
A. In the late 1970's, we had incidents like Jonestown in which 900 people died and then the 1985 Gander, Newfoundland crash that took the lives of over 256 soldiers. These and others really pointed out the need for a well-trained group to be in place to respond. Still, it took a number of years for everything to fall into place, and when the directive was signed in 1988, I was asked to serve as the military's medical examiner, putting this all to work.

Q. Can you elaborate on some of the more highly publicized incidents that we've helped investigate since 1988?

A. Many of the cases certainly have

generated a lot of publicity. We investigated the USS Iowa tragedy and were able to use information from the postmortem examination to eliminate the thought that the victims drowned during the flooding of the compartment. They all died from smoke inhalation or blast injuries.

We went to Ethiopia to investigate



Richard C. Froede, MD, retired on 30 September 1992.

the plane crash that took the lives of Congressman Mickey Leland and his staff. We also investigated others in France and El Salvador.

We looked at terrorist deaths in '87, an aircraft accident in '88, "Just Cause" in '89, the USS Saratoga incident in '90, and the remains of hostages Buckley and Higgins in '91. Of course, our biggest operation was Desert Storm, which we staffed at the Dover Port Mortuary for over 4 months.

Q. How do you see the office developing in the future?

A. We've expanded into a very proactive investigation group, including the development of the DNA Identification Laboratory, the expansion of forensic toxicology, and we've seen how we can function as a modern disaster response group at Dover. We now have a forensic anthropologist on staff and will soon have an expert in criminalistics reporting for duty. We're capable of handling every aspect of DoD medicolegal investigations and are used as a primary resource by other government agencies.

I want to see the office remain comparable with the civilian community

and have DoD give us authority more commensurate with the responsibility we now have. Even in a drawdown situation, missions must be flown and caseloads will still remain high. With violent deaths on the increase, the need for this organization has become increasingly evident. I feel so good about this working group as a whole that if

I were asked to set up a system in a state, I'd take them all with me!

Dr. Froede and his wife Suzanne, a forensic anthropologist who has frequently assisted the medical examiner staff with investigations, will retire to Tucson, Arizona. He will continue his role as a consultant and lecturer in forensic medicine.

John Pletcher, COL, VC, USA, retires as Chairman, Department of Veterinary Pathology



John M. Pletcher, COL, VC, USA, chairman of the Department of Veterinary Pathology and registrar for the Registry of Veterinary Pathology and the Registry of Comparative Pathology since 1986, will retire on 1 January 1993. His many professional activities have included organizing research aimed at evaluating the effects of smoke from crude oil fires on animals in Kuwait and providing pathology support for the U.S. Fish and Wildlife Service's efforts to evaluate the impact of the EXXON Valdez oil spill on marine mammals and birds in Alaska.

COL Pletcher received his BS and DVM degrees from the University of California, Davis, and a Master of Public Health from the University of Michigan, Ann Arbor, in 1971. He completed a residency in Veterinary Pathology at the AFIP from 1975 to 1978, and is board certified in Veterinary Preventive Medicine and Veterinary Pathology.

Military assignments have included chief, Base Veterinary Services, Lackland Air Force Base, Texas; base veterinarian, RAF South Ruislip/High

Wycombe/Upper Heyford, United Kingdom; chief, Training Branch, Department of Veterinary Pathology, AFIP; and staff pathologist, Onderstepoort Veterinary Research Institute, Onderstepoort, Republic of South Africa.

He served as assistant to the chairman, Department of Veterinary Pathology, AFIP, and as chief, Division of Veterinary Pathology, AFIP, prior to his appointment as chairman of the department.

COL Pletcher is a prolific publisher and a member of numerous professional organizations. In 1992, he was elected to the Council of the American College of Veterinary Pathologists and has also served in a variety of elected positions for the District of Columbia Veterinary Medical Association.

COL Pletcher will join Pathology Associates, Inc. (PAI), of Frederick, MD, as director for the Maryland division of PAI.

He is married to Suzanne Siemon Pletcher and has two children, Brad, 19, and Clare, 17.

AFIP STAFF "IN THE NEWS"

■ John A. Bley, Jr., MAJ, VC, USA, Chief, Division of Animal Laboratory Medicine, Department of Veterinary Pathology, was recently certified as a Diplomate of the American College of Laboratory Animal Medicine (ACLAM). The American College of Laboratory Animal Medicine is a specialty board recognized by the American Veterinary Medical Association. Certification as a Diplomate is achieved by demonstrated competence in laboratory animal medicine and successful completion of experience requirements and a comprehensive examination.

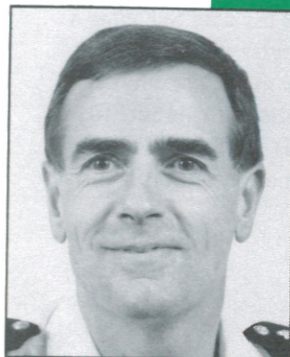
■ Paul L. Auclair, CAPT, DC, USN, Chairman, Department of Oral Pathology, was recently elected director, American Board of Oral Pathology.

■ Gary L. Ellis, DDS, VA, and Paul L. Auclair, CAPT, DC, USN, Department of Oral Pathology, presented a seminar on salivary gland diseases at the VIth Biennial Congress of the International Association of Oral Pathology, held in Hamburg, Germany, 27-30 July 1992.

■ George P. Lupton, COL, MC, USA, Chairman, Department of Dermatopathology, served as guest faculty at the Third Annual Workshop in Dermatopathology, 30 July-1 August 1992, sponsored by the Scripps Clinic and Research Foundation, La Jolla, California.

■ The Department of Oral Pathology, in collaboration with the Department of Otolaryngic and Endocrine Pathology, produced a videodisc entitled "Pathology of the Head and Neck." The videodisc has an accompanying syllabus and approximately 23,000 images, including clinical photographs, radiographs, and photomicrographs that are instantly accessible by barcode.

■ Donald E. Sweet, MD, Chairman, Department of Orthopedic Pathology, served as a visiting professor for the University of Hawaii Integrated Pathology Residency program, 20-24 July 1992. Among his other topics, Dr. Sweet spoke on "Growth and Development and Trauma and Repair of the Skeletal System," and "Arthropathies." On 25 July he spoke on "Radiologic and Pathologic Correlation of Solitary Bone Lesions" to the Hawaii Society of Pathologists' Summer Seminar in Waikoloa, HI.



Veterinary Pathology Overview

John M. Pletcher, COL, VC, USA, will retire at the end of this year after six years as chairman of the Department of Veterinary Pathology. Here he reviews the accomplishments of his department.

The Institute's missions of education, consultation, and research are fundamental to the success of this department.

In education, our three-year residency program, the only such in the DoD, has produced a nearly 80% pass rate for the difficult American College of Veterinary Pathologists (ACVP) certification examination. The majority of our residents pass after only 3 years of training; most ACVP candidates train for 4 or 5 years before even attempting the examination.

This year we initiated a fifth annual short course, "Descriptive Veterinary Pathology," bringing the total annual CME credit hours offered by the department to over 90. An excellent reciprocal relationship with both the Walter Reed Army Institute of Research and the National Zoo has evolved, providing expanded training opportunities as well as professional collaboration.

The Veterinary Wednesday Slide Conference series, now approaching its 40th anniversary, is a unique educational program. We've expanded participation, particularly overseas, so that there are now approximately 130 participating institutions from virtually every corner of the world.

Veterinary pathology consultation work has remained constant in quantity,

averaging about 100 cases a month, but the quality of cases submitted and of the workup for each has improved substantially. About half our consults come from civilian sources and half involve military-owned animals, mostly military working dogs. Because this population is well monitored, it makes an extremely valuable collection. Since these dogs share much of their environment with



COL Pletcher and a 5 day-old sea otter pup.

human counterparts and have a comparatively brief life span, their service can be expanded to include duty as environmental sentinels, providing early warning of environmental hazards.

Our research contributions have been significant and mainly focused on environmental problems. We assisted the Fish and Wildlife Service in evaluating the effects of crude oil on mammals and sea birds following the EXXON Valdez

oil spill. We have networked with the National Marine Fisheries Service, the Environmental Protection Agency, the Marine Mammal Commission, and numerous stranding groups in the U.S. to investigate unusual marine mammal die-offs such as that of the East Coast bottlenose dolphins in 1987/88.

From a military perspective, we have used feral cats as models to assess the effects of oil fire smoke on the lungs of U.S. servicemembers, and we're currently studying the endangered desert tortoises of the southwestern United States. Their

dwindling numbers have stalled Army plans to expand training in the area.

Our dedicated staff in the Division of Laboratory Animal Medicine has maintained AAALAC accreditation for our animal research program and provided technical support for animal research throughout the Institute, as well as providing the care and respect each and every laboratory animal deserves.

Last, but certainly not least to consider, is the nearly 50-year-old Registry of Veterinary Pathology, which contains roughly 75,000 cases available for study. Generous financial support from the AVMA, ACVP, and C.L. Davis Foundation has enabled the Registry to improve its services over the last six years.

The lion's share of honors for these accomplishments goes to the staff and residents, present and past, who have had the ideas, done the work, made the trips, taken the exams, gone without sleep, and seen that it all came together. To them, I say thank you for a job well done. I was fortunate to have worked with such fine people.

Making a difference in people's lives: NMHM & the case of Sharon Rangel

Sharon Rangel remembers 1987 as a time of terror and tears. The 20-year-old Texan anticipated an ideal life after marrying her fiancé and moving to California, but a routine visit with her doctor changed everything. "Well, we've discovered that you have Marfan's syndrome," he said. The doctor told her that she had a potentially fatal genetic condition, that she could not be cured, and that she would die if she failed to take proper care of herself. Her husband's jaw dropped, and Sharon, who had never heard of Marfan, felt as if she was being "bombarded" with bad news. As if worrying about her own health were not enough, it now appeared that Sharon would have to give up her dream of becoming a parent. It was a bitter blow for a newlywed to absorb.

In 1990, Sharon moved back to Texas

and sought advice from physicians in her home town. To her surprise, several doctors told her that they knew almost nothing about Marfan and that she would have to go to Boston or New York to get help. For Sharon following this advice was impossible because her husband was unemployed and the couple had no health insurance. Eventually, Sharon was seen by two local doctors who agreed to give second opinions on the initial diagnosis of Marfan that Sharon received in 1987. The doctors in question could not agree on an appropriate diagnosis. Again, Sharon found herself mired in doubt and confusion.

The National Museum of Health and Medicine of the AFIP received a tearful call from Sharon in February 1991. She had seen an article in *The San Antonio Light* describing the Museum's Lincoln program. Prior to reading the article, Sharon thought that the global population of those with Marfan was limited to 50 and that it would be impossible for her to make contact with any of them. The Museum immediately put Sharon in touch

with Ms. Cheryl Williams, president of the National Marfan Foundation. Ms. Williams answered many of Sharon's questions and sent her an information kit on Marfan's syndrome.

In the summer of 1992, a follow-up call by the Museum indicated that because of financial problems Sharon Rangel had never been able to finally resolve the question of her medical status. At this juncture, the Museum sought the help of Victor McKusick, MD, chairman of the Museum's Lincoln panel and university professor of medical genetics at the Johns Hopkins University School of Medicine. At Dr. McKusick's request, Ron Jorgenson, MD, of the Southwest Research Center in San Antonio, Texas, agreed to handle Sharon Rangel's evaluation and treatment for no fee.

Recently, a relaxed and hopeful Sharon Rangel told Museum officials that she hoped that her experiences at Southwest would restore her peace of mind — and perhaps allow her to start a family at last.

JOIN "The Friends of the Human Developmental Anatomy Center"

- To support the Endowment of a Chair of Developmental Anatomy for a senior researcher
- To support the identification, acquisition, and storage of developmental anatomy collections
- To sponsor conferences on human and comparative developmental anatomy
- To fund research fellowships in the area of developmental anatomy
- To provide short courses in embryology and new research techniques
- To provide for the conservation of rare and unique collections

Individuals joining "The Friends of the Human Developmental Anatomy Center" in 1992 will become charter members

Type of Membership requested:

Life Membership\$5,000
 Benefactor 1,000
 Patron 500
 Sponsor 100
 General Membership 35

Please make payment to:

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 Armed Forces Institute of Pathology
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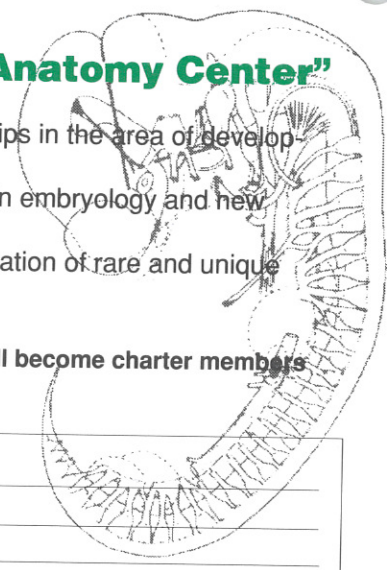
Gifts are tax deductible. For additional information or other contribution opportunities, please call Adrienne Noe at 202-576-0401.

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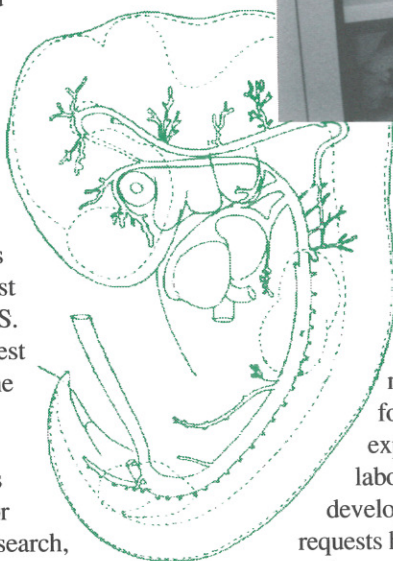
Human Developmental Anatomy Center expands

Plans call for additional acquisitions

The Human Developmental Anatomy Center (HDAC) at AFIP's National Museum of Health and Medicine has continued to expand since its 1991 inception, according to the Center's curator, Adrienne Noe, PhD. "The Carnegie Human Embryology Collection, which is the oldest and largest of its kind in the U.S. and among the largest in the world, was the first to arrive at the Center," she notes. Noe, the Museum's assistant director for Collections and Research, has an extensive background in large-scale collections acquisition and development.

The Carnegie Collection consists of hundreds of thousands of sections from embryos collected as early as 1884, along with photographs, monographs, models, and bromides. Several other collections, including the Arey-Dapena Pediatric Pathology Collection, the Patanelli Upper Limb Bud Development Collection, the California Primate Research Center at UC-Davis, and the Hooker-Humphrey Embryological Collection are recent arrivals. Others due to arrive in the near future include human and comparative collections from Yale, Harvard, Cornell, and from private sources.

Bringing together these collections for the first time on a large scale prompted the Center's establishment. "COL Stocker (AFIP Deputy Director), a pediatric pathologist by training, initiated



Laurie Carroll, MS, Special Project Manager (left), and Adrienne Noe, PhD, Curator, in the Human Developmental Anatomy Center.

the idea. He felt that the AFIP would be the perfect place to handle large slide-based collections," says Noe. "We really acted on a need because embryologists for over a century have expressed a desire for a central laboratory to do research on developmental studies." Research requests have already come from all over the world, seeking to use the images for three-dimensional reconstructions, traditional descriptive anatomy, or to assess immunohistochemical assays to get genetic information from long-preserved specimens.

Noe would like to see the Center become a national research resource, bringing together collections, maintaining them, and imaging them in order to distribute images or information to researchers. She points out that this could be accomplished by photographs, electronic transmission, or CD-ROM so that researchers won't necessarily have to come to the AFIP. Also established are two adjunct curators as well as a five-member advisory board from outside of the AFIP and around the nation. "All of them have backgrounds in embryology," she says. "We have a very senior embryologist who has had a long-term association with the Carnegie Collection; we

have the director of the Biomedical Visualization Laboratory at the University of Illinois, Chicago, two anatomists, a radiologist, and two pediatric pathologists."

A new Developmental Anatomy Registry was recently established, and the Center recently received a National Institutes of Health contract for \$100,000 to experiment with imaging retrieval and manipulation techniques for reconstructions. Noe is particularly excited about the establishment of the "Friends of the Human Developmental Anatomy Center" for financial support. "Among our most important agendas is to start an endowment to allow the Center to bring in a Distinguished Scientist in the field of developmental anatomy or embryology to provide in-house scientific guidance," she notes. "Friends of the HDAC will go a long way towards helping us meet this goal." The Second Annual Human Developmental Anatomy Conference will be held at the Museum in December, bringing together anatomy researchers and developmental anatomists from across the nation to discuss potentials for the Center and support for its daily operations.

For more information or to become a member of the Friends, to make a contribution, or to volunteer your time, please contact Dr. Noe at (202) 576-0401.

including a mini-seminar on the current topic of cytopathology with Dr. Yener Erozan from Johns Hopkins University, a member of the Board of the American Registry of Pathology. Dr. Erozan will discuss "Cytopathology of Superficial Fine-Needle Aspirations" and "Cytopathology of the Body Cavity Fluids," among other topics.

Among AFIP staff members set to participate will be MAJ Edwina Popek, Chair, Department of Pediatric Pathology. She will lecture on "Placental Examination" and "Gestational Trophoblastic Disease," a continuing legal issue which is presented frequently to the practicing pathologist. AFIP Director Col Vernon W. Ambrustmacher, USAF, MC, will lecture on "Pathology of Alzheimers Disease and Current Concepts of Pathogenesis." Donald Sweet, MD, Chair, Department of Orthopedic Pathology, will present "Radiologic-Pathologic Correlation of Solitary Bone Lesions," a three and one-half hour seminar. "There will also be mini-seminars on the surgical pathology of salivary gland lesions, on the controversial issues of prostate pathology, and on precancerous lesions of the gastrointestinal tract, among others," COL Stocker says.

Every topic being discussed at the 1993 course is new this year, according to COL Stocker. "An overwhelming number of last year's participants felt that this course was extremely helpful in dealing with classical pathology and new entities and problem areas that arise in biopsies and other surgical material."

New Orleans and Orlando offer many travel opportunities. "The

pre-Mardi Gras atmosphere of New Orleans is a terrific opportunity for participants to enjoy the revitalized French Quarter and the New Orleans Center, a spectacular enclosed shopping complex nearby," notes COL Stocker. Ample time has been allotted for participants and their family members to take advantage of tourist opportunities and other delights of New Orleans, with 1/2-day sessions scheduled for Wednesday and Friday. The Hyatt Regency is located right next to the Superdome and within walking distance of the French Quarter. The scenic "old Southern" architecture of the Garden District is also within a short ride on the famous St. Charles Ave. streetcar.

Families will also have ample time to take advantage of WALT DISNEY WORLD^(R) Resort, including EPCOT^(R) Center, MAGIC KINGDOM^(R) Park, Disney-MGM Studios Theme park, Pleasure Island, and Typhoon Lagoon. "We had beautiful weather in Orlando last February, and we're trying to make special arrangements with the Disney organization for reduced rates on entertainment and parks for this year," he says.

"One of the best I've taken! Course was comprehensive, with well-organized excellent speakers, and was conducted in a most hospitable location."

(Comment from a 1992 Orlando participant)

Repository & Research Services

PADSTARS, or the Pathology Document Storage and Retrieval System, has been in operation for several months now. During this time, we have been able to upload over 10,000 of our pathologic case files onto this optical image based system. Several additional features have been identified to add to the current design configuration, including improving the ease of viewing rotated images and tagging specific images for printing within the retrieval subsystem. Our contract with the vendor is currently being modified to accommodate these features.

If you request paraffin blocks be returned at the time you submit a case to the Institute, please allow at least 45 days for the blocks to be processed and returned. If you do not receive the blocks after 45 days, contact our medical information release clerk in the Records Repository. We would prefer that you FAX all inquiries regarding the return of blocks to (202) 576-2831. Of course, emergency requests will be processed immediately. By utilizing your FAX or forwarding a written request, our information release clerk is able to spend more time processing material for return or loan and less time on the telephone taking calls. We would appreciate your assistance in this matter.

For those of you who may have received the latest edition of our Contributors' Manual, we would be interested in any comments or suggestions you may have in making our next revision even better. Please forward any comments to the Administrator, Repository and Research Services, AFIP, Washington, DC 20306-6000.

Histotechnology Notes

The Kluver-Barrera staining method for myelin and nerve tissue is a commonly used stain in the Neuropathology Laboratory at the AFIP. Some problems had been noted with sections falling off of slides because of the required incubation in the Luxol fast

blue solution overnight at 60° C. This problem was solved by leaving the slides in the solution overnight, but on a 45°-47° C warming table. In the morning, slides should be placed (still in solution) in a 60° C oven for 1 hour.

National Pathology Repository celebrates second anniversary in new home

Two years after the dedication of AFIP's National Pathology Repository in suburban Forest Glen, MD, all remaining microscopic slide collections have been transferred into robotic horizontal carousel bins at the facility. According to Annette Anderson, Maj, USAF, MSC, administrator for the Department of Repository and Research Services, this was in addition to over 10,000 boxes of formalin-fixed tissue and 25,000 boxes of paraffin blocks previously moved into the building.

"This was a monumental task and could not have been accomplished

without the assistance of students from our 'Adopt-A-School,' Rock Terrace High School," she says. Unlike the formalin-fixed specimens and the paraffin blocks, which were transferred in their existing storage containers, the microscopic glass slides all had to be packed for transfer, loaded onto pallets, unloaded, unpacked, and then physically removed from the old slide drawers and uploaded into the new bins used in the robotic horizontal carousels.

Approximately six student volunteers and two counselors worked on the transfer of over 55,000 slide trays (holding the slides for over 2.1 million cases) during much of the 1991 school year. Four students were hired over the summer to continue this work, and two students were continued on a pay status during the 1992 school year to finish the project. The transfer and upload was completed in December 1991, and the students and regular employees began the job of interfiling all the slides that had previously been in a "hold" status. This interfiling of the last remaining slides will

Left: Ms. Thelma Holland retrieves a formalin-fixed specimen from the Tissue Repository.

Below: Rock Terrace High School student, LaBaron Brown, files microscopic glass slides in one of the four robotic horizontal carousels.

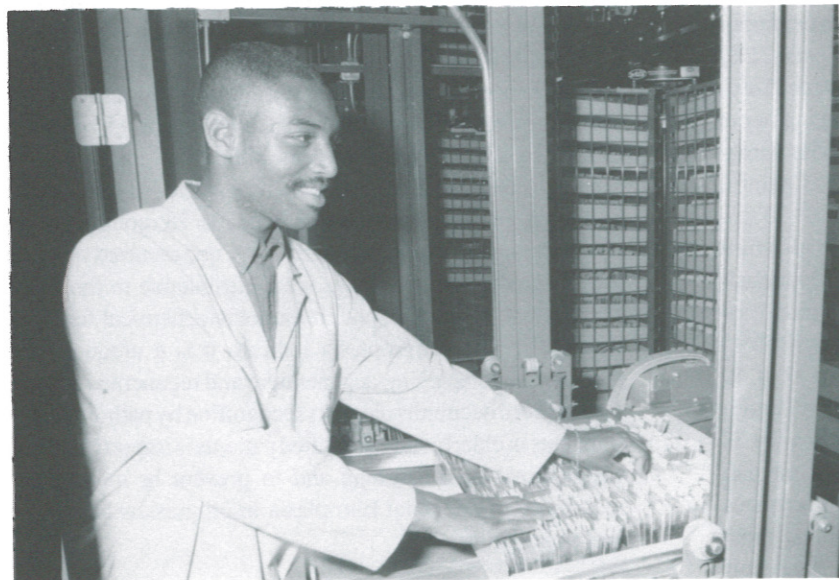
be completed by the end of this year.

"The last material remaining to be moved to our new building in November and December includes all our microfiche masters for pathologic case files from accession numbers 1 to 1.6 million," she notes. A room in the Repository has been designated for this purpose and outfitted with a halon fire suppression system. New shelving for this room is in the process of being purchased, and the microfiche master storage boxes are being labeled to facilitate the transfer. Additionally, all pathologic case files that have been scanned into our Pathology Document Storage and Retrieval System (PADSTARS) are being boxed and temporarily stored on shelving in the Repository until appropriate disposition is agreed upon or an alternate storage facility is identified.

The planning, construction, movement into, and full utilization of this new repository building is the culmination of over ten years of effort from AFIP employees and students and counselors at Rock Terrace High School. Without an adequate and easily accessible storage facility, the accomplishment of the Institute's research and education missions would have suffered.

Today, the Materials Repository staff averages between 400 and 500 case retrieval requests a month and receives the material for file and storage of over 4,000 cases a month. This repository currently supports over 200 active research protocols and many of the Institute's educational course offerings, as well as providing background material for the fascicles. The continued preservation and storage of this valuable collection is one of the Institute's top priorities.

"At our current accessioning rate, we estimate only five years of growth potential in this building," notes Major Anderson. "A study is already underway to erect a second facility of the same basic design next to the existing building to accommodate further growth and to make available additional warehouse space."



Typical, atypical, and misleading features in meningioma

Michael P. Buetow, MD, Peter C. Buetow, CPT, MC, USA, and James G. Smirniotopoulos, MD

Meningiomas are the most common nonglial primary tumors of the central nervous system and the most common extraaxial neoplasms, accounting for approximately 15% of all intracranial tumors. They are usually benign neoplasms, with characteristic pathologic and imaging features. However, there are several important histologic variants of meningioma, and even a histologically typical meningioma can have unusual or misleading radiologic features that may not be suggestive of meningioma. The typical meningioma is a homogeneous, hemispheric, markedly enhancing extraaxial mass located over the cerebral convexity, in the parasagittal region, or arising from the sphenoid wing. Meningiomas may originate in unexpected locations such as the orbit, paranasal sinus, or ventricles or be entirely intraosseous (within the calvaria). Unusual imaging features such as large meningeal cysts, ring enhancement, and various metaplastic changes (including fatty transformation) can be particularly misleading. Because meningiomas are so common, the radiologist must be aware of their less frequent and uncharacteristic imaging features in order to suggest the correct diagnosis in cases that are atypical.

Radiographics 1991;11:1087-1106.

Malignant peripheral nerve sheath tumors (malignant schwannomas) in children

Jeanne M. Meis, M.D., Franz M. Enzinger, M.D., Karen L. Martz, M.S., and Joseph A. Neal, M.D.

We studied the clinical and pathologic features of 78 malignant peripheral nerve sheath tumors in children ≤ 15 years of age. There were 42 boys and 36 girls, with a median age of 10 years. The majority of the tumors (42, or 54%) were central or axial in location; the rest were peripheral. Sixteen patients (21%) had a history of von Recklinghausen's disease. Fourteen (18%) had a malignant peripheral nerve sheath tumor arising in a nerve trunk or a neurofibroma and were unassociated with von Recklinghausen's disease. Patients typically presented with a painful mass of variable duration. Tumors ranged from 2 to 33 cm (median, 7.5 cm) and demonstrated a wide histologic spectrum that included spindled, epithelioid, and primitive neuroepithelial-like cells as well as heterologous elements (11). Immunohistochemical staining revealed S-100 protein in 28 of 50 cases (56%) as well as vimentin (13 of 21 cases, or 62%), Leu 7 (22 of 49 cases, or 45%), actin (eight of 20 cases, or 40%), and keratin (seven of 27 cases, or 26%). Survival status was known for 57 patients (73%). Kaplan-Meier estimates revealed a median survival of 45 months. Half of the patients had local recurrences at 12 months, and half had metastases at 24 months, most commonly to lungs, followed by lymph nodes, liver, bone, soft

tissue, and brain. Age ≥ 7 years, male sex, presence of von Recklinghausen's disease, central location, larger tumor size, and tumors with $\geq 25\%$ necrosis were found to be potentially significant adverse prognostic indicators by univariate analysis. Multivariate analysis revealed that larger tumor size, age ≥ 7 years, tumor necrosis $\geq 25\%$, and von Recklinghausen's disease to be independent adverse prognostic factors.

Am J Surg Pathol 16(7): 694-707, 1992.

Atypical decubital fibroplasia: a distinctive fibroblastic pseudotumor occurring in debilitated patients

Elizabeth A. Montgomery, MAJ, MC, USA, Jeanne M. Meis, M.D., Madeline S. Mitchell, LTC, MC, USA, and Franz M. Enzinger, M.D.

We report 28 cases of atypical decubital fibroplasia, a distinctive pseudosarcomatous fibroblastic proliferation occurring primarily but not exclusively in physically debilitated or immobilized patients. The subjects included 16 women and 12 men ranging in age from 15 to 95 years. Peak incidence was in the 8th and 9th decades of life. Anatomic locations included the soft tissues overlying the shoulder (eight cases), posterior chest wall (five cases), sacrum (five cases), greater trochanter (four cases), buttock (two cases), thigh (two cases), and arm (two cases). Symptoms were due to a painless mass of 3 weeks' to 6 months' duration. Most lesions were ill-defined, focally myxoid masses that ranged from 1 to 8 cm. Histologically, they were situated in the deep subcutis and secondarily involved adjacent skeletal muscle (11 cases) and tendon (three cases). Extensive epidermal ulceration was typically absent. Microscopically, the lesions had a lobular configuration. They were characterized by zones of fibrinoid necrosis and a prominent myxoid stroma rimmed by ingrowing, ectatic, thin-walled vascular channels. All cases contained atypical, enlarged, degenerated fibroblasts with abundant basophilic cytoplasm, large hyperchromatic, smudged nuclei, and prominent nucleoli; these features resulted in a superficial resemblance to proliferative fasciitis. The enlarged, atypical fibroblasts stained diffusely and strongly for vimentin (15 of 15 cases) and focally for muscle-specific actin (10 of 15 cases), keratin (one of 15 cases), CD68 (10 of 15 cases), and CD34 (five of nine cases) antigens; none of the cases stained for desmin. A malignant diagnosis was considered in 43% of cases. Follow-up in 21 patients ranged from 2 to 78 months (median, 12 months). Two lesions recurred once, one recurred twice, and none metastasized; no deaths were attributable to the lesions. The clinical, histologic, and immunohistochemical features of atypical decubital fibroplasia indicate it is a unique type of pressure sore displaying degenerative and regenerative features distinct from decubitus ulcer. Its recognition by pathologists and clinicians in elderly and debilitated patients is important to avoid misdiagnosis as a sarcoma and to prevent or minimize the occurrence of decubital fibroplasia in progressively aging patient populations.

Am J Surg Pathol. 16(7): 708-715, 1992.

Postgraduate Short Courses in Continuing Education

Academic Year 1992–1993

Course Title	Scheduled Dates	Location
Radiologic Pathologic Correlation	12–16 October 92	Disney Contemporary, Buena Vista, FL
Placental Pathology	22–24 October 92	Holiday Inn, Bethesda, MD
Future Technologies for DNA Typing	26–27 October 92	Hyatt Regency, Bethesda, MD
Oral Pathology	26–30 October 92	Hyatt Regency, Bethesda, MD
Interpretation of Prostatic Biopsy	7–8 November 92	Washington Marriott, Washington, DC
Perspectives in Scuba Diving Safety	14–15 November 92	AFIP, Washington, DC
Update of Identification Methods	16–19 November 92	Old Town Holiday Inn, Alexandria, VA
Hematopathology	16–18 December 92	Marriott RiverCenter, San Antonio, TX
Neuropathology Review	17–22 January 93	Hyatt Regency New Orleans, LA
Orthopedic Pathology	31 Jan–5 February 93	Holiday Inn, Bethesda, MD
Controversies in Surgical Pathology	8–12 February 93	Disney Contemporary, Buena Vista, FL
Genitourinary Pathology	17–23 February 93	Holiday Inn, Bethesda, MD
Neuroradiology Review	27–28 February 93	Hyatt Regency, Bethesda, MD
Forensic Dentistry	15–19 March 93	Sheraton Premiere, Tysons Corner, Vienna, VA
Uroradiology Weekend	3–4 April 93	Hyatt Regency, Washington, DC
Practicum in Forensic Pathology & Forensic Science	5–9 April 93	FBI Center, Quantico, VA
Hepatic Pathology	15–17 April 93	U.S. Grant Hotel, San Diego, CA
Comparative Pathobiology of Environmental Disasters	19–20 April 93	Holiday Inn Crowne Plaza, Rockville, MD
Perinatal & Pediatric Pathology	19–23 April 93	Holiday Inn, Bethesda, MD
Problems in Anatomic Pathology	25 April–7 May 93	AFIP, Washington, DC
Gastrointestinal Radiology Review	1–2 May 93	Menger Hotel, San Antonio, TX
DNA Databanks & Repositories	14–15 May 93	Holiday Inn Crowne Plaza, Rockville, MD
Telemedicine Seminar	15–16 May 93	Holiday Inn Crowne Plaza, Rockville, MD
Descriptive Veterinary Pathology	1–4 June 93	Washington Marriott, Washington, DC
Gastrointestinal Pathology Review	4–5 June 93	Cornell Medical Center, Westbury Hotel New York, NY
Exfoliative & Fine Needle Aspiration Cytology	7–11 June 93	Washington Marriott, Washington, DC
Forensic Anthropology	22–25 June 93	Albuquerque, NM
Histopathology Techniques	3–7 August 93	AFIP, Washington, DC
Pathology of Laboratory Animals	9–13 August 93	Hyatt Regency, Bethesda, MD
Ancient Human DNA	11–12 October 93	Old Town Holiday Inn, Alexandria, VA
Radiologic Pathologic Correlation	10–15 October 93	Colonial Williamsburg, Williamsburg, VA
Pulmonary Diagnosis	5–7 November 93	Tucson National Conference Resort, Tucson, AZ

• For additional information contact the AFIP Education Division at 301-427-5231 •

COURSE DESCRIPTIONS

Interpretation of Prostatic Biopsies

This course will cover the criterion for the diagnosis of prostatic carcinoma, lesions that simulate prostatic carcinoma, grading and pathological staging, types of prostatic carcinoma, immunopathology of prostatic carcinoma, pleomorphism of the growth pattern, degree of anaplasia and the cell types, premalignant lesions, effects of therapy, proper handling of biopsies and total prostatectomy specimens, and the problem of positive biopsy and negative total prostatectomy specimens.

Perspectives in Scuba Diving Safety

Enjoy a weekend learning more about SCUBA diving safety and dive accident management. Comprehensive lectures provide up-to-date information designed to increase divers' knowledge and thus assure that recreational SCUBA diving continues to be a fun and safe endeavor. Observe a hyperbaric chamber dive. Topics will include: medical considerations in sport diving; women and diving; dive accident management and oxygen administration; search and rescue; hyperbaric chamber treatments; divers alert network.

Update of Identification Methods

The course will cover all aspects of identification processes and methods: pathology, anthropology, odontology, fingerprinting, geology, entomology, and computerization techniques. There will be special emphasis on DNA identification technology with discussion of methods, ancient DNA problems, and casework studies. The course will further cover legal aspects of exposure to biohazards with protective mechanisms. Course participants can expect to acquire a deeper understanding of the legal, evidentiary, and biohazard problems associated with the human identification process.

Hematopathology

This 2-½ day seminar will discuss new and controversial disorders as well as advances in known diseases of both the lymphoid and hematopoietic systems, including the contributions of immunophenotypic analysis and molecular biology. The course is intended to update practicing pathologists on recent developments and the latest diagnostic techniques in current problem areas.

Instructions for Filling Out Application Form for AFIP Courses

1. **Course Fee:** Checks for all courses are to be made payable to the American Registry of Pathology (ARP). To safeguard your course space, we strongly encourage advance fee payment when application form is submitted, but not later than the Application Priority Deadline (does not apply to non-U.S. citizens).
2. **Application Priority Deadline:** Fifty percent of the course spaces are reserved for federal applicants and 50% for non-federal applicants until the Application Priority Deadline Date. After that date, applications will be considered on a first-received, first-accepted basis.
3. **Federal Personnel Please Note:** To insure a space will be held for you, submit an application for each course you desire to attend directly to the Education Division, AFIP. Do this regardless of any funding action.
4. **Accreditation:** The Armed Forces Institute of Pathology is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.
5. **Registration Procedures for International Applicants:**

Civilians:

Mail letter of application to:
 Chief, Program Resources Branch
 E/VCP, Rm 266
 United States Information Agency
 301 4th Street, S. W.
 Washington, D.C. 20547
 FAX: (202) 619-4655

Letter of application should include:

1. Title of course
2. Inclusive dates of course
3. Your present position
4. Your home and office mailing address
5. Your date and place of birth
6. Your country of citizenship
7. Your financial arrangements for stay at this course (U.S. Government cannot be responsible for any expenses incurred while you are in the U.S.)

With letter of application, attach a copy of course application form, a check drawn on a U.S. bank or International Money Order, payable to the American Registry of Pathology, in U.S. dollars in the amount required.

Military:

Request the desired training through your military training channels to the Security Assistance Office of the U.S. Mission in your country.

**International Applicants Employed by an Agency of
the U.S. Government**

Attach to letter of application (see above) a letter certifying employment from your servicing personnel office and mail to:
 International Training Program Manager,
 U.S. Army Health Professional Support Agency
 Attn: SGPS-EDI; International Training Officer
 5109 Leesburg Pike
 Falls Church, VA 22041-3258
 FAX: (703) 756-7535

APPLICATION FORM - AFIP COURSES

Course Title & Dates _____

Name (Last, First, MI) _____

Mailing Address _____

City, State, Zip _____

Phone _____ Specialty _____ Board Status: Certified Eligible

Citizenship _____ Resident/Fellow Friend of AFIP Membership # _____

Military/Federal Civilian Employees (Only): Rank/Civilian Grade _____

Service Agency: _____

Corps: MC, DC, NC, VC, Biomedical/Allied Science

Payment Enclosed: (Payable in U.S. dollars only) Tuition \$ _____ DoD, VA, and PHS Fee \$ _____

Method of Payment: Check/Money Order MasterCard Visa

Card Number _____ Expiration Date _____

Name as it appears on card _____

Signature _____

Make All Payments to: AMERICAN REGISTRY OF PATHOLOGY

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Recent Publications by AFIP Staff

1. Albores-Saavedra J, Henson DE, Sobin LH. The WHO Histological Classification of Tumors of the Gallbladder and Extrahepatic Bile Ducts: a commentary on the second edition. *Cancer*. 1992;70:410-414.
2. Buetow NP, Buetow PC, Smirniotopoulos JG. Typical, atypical, and misleading features in meningioma. *Radiographics*. 1991;11:1087-1106.
3. Hermanek P, Sobin LH, eds. *TNM Classification of Malignant Tumours*. 4th ed., 2nd rev. New York, NY: Springer-Verlag; 1992.
4. Kalasinsky KS, Levine B. Fourier transform infrared (FT-IR) analysis in forensic chemistry and toxicology. *AACC TDM/Tox*. [American Association for Clinical Chemistry, Therapeutic Drug Monitoring/Toxicology] 1992;13:9-14.
5. Kransdorf MJ, Sweet DE, Buetow PC, Giudici MA, Moser RP Jr. Giant cell tumor in skeletally immature patients. *Radiology*. 1992;184:233-237.
6. Meis JM, Enzinger FM, Martz KL, Neal JA. Malignant peripheral nerve sheath tumors (malignant schwannomas) in children. *Am J Surg Pathol*. 1992;16:694-707.
7. Montgomery EA, Meis JM, Mitchell MS, Enzinger FM. Atypical decubital fibroplasia: a distinctive fibroblastic pseudotumor occurring in debilitated patients. *Am J Surg Pathol*. 1992;16:708-715.
8. Seifert G, Sobin LH. The World Health Organization's Histological Classification of Salivary Gland Tumors: a commentary on the second edition. *Cancer*. 1992;70:379-385.
9. Selby DM, Stocker JT, Ishak KG. Angiosarcoma of the liver in childhood: a clinicopathologic and follow-up study of 10 cases. *Pediatr Pathol*. 1992;12:485-498.
10. Smirniotopoulos JG, Murphy FM. The phakomatoses. *AJNR. Am J Neuroradiol*. 1992;13:725-746.
11. Smirniotopoulos JG, Rushing EJ, Mena H. Pineal region masses: differential diagnosis. *Radiographics*. 1992;12:577-596.
12. Spiessl B, Beahrs OH, Hermanek P, Hutter RVP, Scheibe O, Sobin LH, Wagner G, eds. *TNM Atlas: Illustrated Guide to the TNM/ptNM Classification of Malignant Tumors*. 3rd ed., 2nd rev. New York, NY: Springer-Verlag; 1992.
13. Stull MA, Kransdorf MJ, Devaney KO. Langerhans cell histiocytosis of bone. *Radiographics*. 1992;12:801-823.