

USU Newsletter

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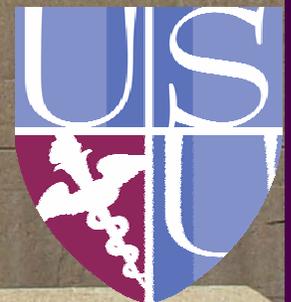
OCTOBER 1, 2007

USU — Our Nation's Best Kept Secret



In This Issue

Medical Historian.....	2
Navy Surgeon General.....	2
Courage to Care for Me.....	3
Deinococcus.....	3
Cancer Cells Mimic Stem Cells....	4
Ultimate Champions.....	5
USU-Tube.....	6
News Briefs.....	7
Calendar.....	8



Uniformed Services University of the Health Sciences



USU Newsletter
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Medical Historian Reaches 25th year of Government Service



Dr. Dale Smith

He came to the Uniformed Services University of the Health Sciences (USU) as an assistant professor of Medical History July 2, 1982 and now 25 years later Dr. Dale Smith not only remains in government service but also remains here at USU. "All twenty five years have been right here," he said. "I was promoted to associate professor in 1986 and became professor and chair in 1997 (Department of Medical History). For the last sixteen months I have also been the acting senior vice president."

Dr. Smith came to USU from the University of Minnesota where he taught for four years in the Department of the History of Medicine. Since coming here he's

served on almost every committee, taught for almost every department, and in all the affiliated hospitals. He's done undergraduate medical education, graduate medical education, continuing medical education, as well as nursing and graduate education.

Dr. Smith has published two books and 73 other publications (papers, chapters, etc.). He's been a talking head for PBS, Discovery, History Channel, A&E, BBC4, and FOX with a total of 11 TV documentaries. He has been on the National Institutes of Health study section for history of the life sciences twice, served as a specialty reviewer for the National Science Foundation and the National Endowment for Humanities, and been on the editorial boards of three history and six medical journals. He's served as an external examiner for the Ph.D. at seven universities for 11 students.

"I'm teaching my second generation of USU students as the children of my early students are returning to the school," Dr. Smith said. "I have promised to consider retirement when the third generation shows up."

Navy Surgeon General Shares His Vision

"On August 27, 2007, I succeeded Vice Admiral Don Arthur as Surgeon General of the Navy. Admiral Arthur's inspirational leadership and commitment to excellence have put Navy medicine in good stead. My vision for Navy medicine is simple: maintaining a fully ready force by recruiting and retaining outstanding healthcare personnel, and excellence in clinical care, graduate education, and research, which are the foundation stones of Navy medicine. As we move forward, we must never lose sight of the fact that Navy medicine is many vital components working together. It is focusing on the health of our service members and their families while providing responsive and compassionate care to all our beneficiaries; and it is humanitarian assistance and disaster relief. It is a true honor to serve with you, and I look forward to the challenges and successes that lie ahead."

Vice Admiral Adam M. Robinson, Jr, Medical Corps, became the 36th Surgeon General of the Navy and the Chief of the Navy's Bureau of

Medicine and Surgery in August 2007.

He succeeded VADM Donald C. Arthur, MC, who retired from the Navy after 33 years of service. Arthur assumed duties as Navy Surgeon General in August 2004.

Most recently, Robinson was the commander of the National Naval Medical Center at Bethesda, Md., and commander Navy Medicine National Capital Area and chief of the Medical Corps. He also has held a variety of clinical research, operational, staff, and leadership positions with the Navy. He is a native of Louisville, KY, and holds a Doctor of Medicine degree from the Indiana University School of Medicine. He entered the Naval Service in 1977 through the Armed Forces Health Professions Scholarship Program, and was promoted to flag rank in 2004.

The Chief of Naval Operations was the guest speaker at the change of command ceremony, which was held at the National Naval Medical Center in Bethesda, Md.

He is the author of numerous presentations and publications. VADM Robinson holds fellowships in the American College of Surgeons and the American Society of Colon and Rectal Surgery. He is a member of the Le Societe Internationale de Chirurgie, the Society of Black Aca-



**VADM
Adam M. Robinson, Jr.
Medical Corps,
Navy Surgeon General,
Chief, Bureau of
Medicine and Surgery**

demical Surgeons, and the National Business School Scholastic Society, Beta Gamma Sigma. He holds certification as a Certified Physician Executive from the American College of Physician Executives.

VADM Robinson's personal decorations include the Distinguished Service Medal, Legion of Merit (two awards), Defense Meritorious Service Medal (two awards), Meritorious Service Medal (three awards), Navy Commendation Medal, Joint Service Achievement Medal, Navy Achievement Medal and various service and campaign awards.

'Courage to Care for Me' Receives 2007 American Graphic Design Award

"Courage to Care for Me", a project of the Uniformed Services University of the Health Sciences' (USU) Center for the Study of Traumatic Stress, is a recipient of the 2007 American Graphic Design Award. The prestigious award recognizes the center's project, one of over 10,000 entries, as representing "the best and brightest in graphic design."

Courage to Care for Me was piloted by the center during April's Month of the Military Child www.couragetocareforme.org. Center scientists, Drs. Stephen Cozza and Derrick Hamaoka, and public education specialist, Nancy Vineburgh developed the unique and colorful Courage to Care for Me logo in collaboration with Digital Design Group of Boston. The logo was emblazoned on white, pink and blue onesies (infant apparel). The award winning logo also appeared on a clothing tag attached to the onesie that described the purpose of the Courage to Care for Me project – to reinforce positive parenting during the stress of deployment, a time when courage is as important on the home front as on the battlefield.

The program received positive feedback from the military sites that distributed it. These sites included National Naval Medical Center Pediatrics Clinic, the Uniformed Services University Health Center, the USU Spouses' Club, the Ft. Carson's Family Advocacy

Program, and new mothers groups in the Washington D.C. area. Center Director, Dr. Robert Ursano, chairman and professor of the Department of Psychiatry, believes that "projects such as Courage to Care for Me are important tools that health educators and practitioners can use to foster resilience amongst service members and their families, especially during the stress of deployment."

The Center for the Study of Traumatic Stress, part of the Department of Psychiatry of USU, conducts research, education, consultation and training on preparing for and responding to the psychological effects and health consequences of traumatic events. These events include natural (hurricanes, floods and tsunami) and human made disasters (motor vehicle and plane crashes, war, terrorism and bioterrorism). The center's work spans studies of genetic vulnerability to stress, individual and community responses to terrorism, and policy recommendations to help our nation and its military and civilian populations. For information about CSTS visit www.usuhs.mil/csts.



Tough Enough for Mars, but Deinococcus is from Earth

Results of a recent study titled "Deinococcus geothermalis: The Pool of Extreme Radiation Resistance Genes Shrinks," was published in the Sept. 26 edition of PLoS ONE. The study headed by Michael J. Daly, Ph.D., associate professor at the Uniformed Services University of the Health Sciences' (USU), Department of Pathology, reports the whole-genome sequence of *Deinococcus geothermalis*, which is only the second for an extremely radiation- and desiccation-resistant bacterium. The first was for the Guinness World Records-holder *Deinococcus radiodurans*, which for 50 years has been the subject of extensive investigations aimed at solving the mystery of how this microbe and its close relatives survive immense doses of x-rays and gamma-rays.

Most surprisingly, many of the unique *D. radiodurans* genes that were strongly impli-

cated in resistance over the last decade have turned out to be unrelated to its survival, and are not present in *D. geothermalis*. Using computer-based systems to compare the *D. geothermalis* genome sequence with the sequence of *D. radiodurans*, a minimal set of genes which encode extreme resistance was defined. Far fewer genes than initially believed appear to be responsible for the extreme resistance trait, which bodes well for the long-term prospects of conferring radiation resistance to other organisms. The phenomenal resistance of *Deinococcus* bacteria has given rise to numerous descriptions of their origin, including that they evolved on Mars under harsh cosmic radiation. The present analysis firmly places the origin of *Deinococcus* bacteria on Earth, where the evolutionary steps that led to their survival mechanisms clearly occurred in their terrestrial ancestors - most likely in a desert near you.

The complete manuscript can be read in PLoS ONE at: <http://www.plosone.org/doi/pone.0000955>. PLoS ONE is an open-access, peer-reviewed journal which reports primary research from all disciplines within science and medicine. By not excluding papers on the basis of subject area, PLoS ONE facili-

tates the discovery of the connections between papers whether within or between disciplines.

Deinococcus geothermalis was chosen for whole-genome sequencing by the U. S. Department of Energy (DOE), Office of Science, Office of Biological and Environmental Research with Dr. Daly as the Principal Investigator. The genome sequence was acquired at the DOE-Joint Genome Institute (JGI), Walnut Creek, CA, and subjected to comparative analysis at the National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health (NIH), Bethesda, Md. *D. geothermalis* was previously engineered by Daly's group for cleanup of radioactive waste sites. The three-year project was a collaboration between USU, DOE-JGI, NIH, DOE's Advanced Photon Source and Pacific Northwest National Laboratory, and the Russian Academy of Sciences.



USU's Graduate School of Nursing Faculty Members Elected as Distinguished Practitioners

Three faculty members from the Uniformed Services University of the Health Sciences' (USU) Graduate School of Nursing (GSN) have been elected as Distinguished Practitioners in the National Academies of Practice (NAP).

COL Bruce Schoneboom, Dr. Diane Seibert, and Dr. Gloria Ramsey, will be inducted into the NAP Nov. 3. The three GSN associate professors were among only 18 nominees from the Nursing Academy se-

Some Cancer Cells Mimic Stem Cells

Anti-cancer treatments often effectively shrink the size of tumors, but some might have an opposite effect, actually expanding the small population of cancer stem cells believed to drive the disease, according to findings presented Sept. 19 by Vasyi Vasko, M.D., Ph.D., a scientist at the Uniformed Services University of the Health Sciences' Department of Pediatrics (USU), at the American Association for Cancer Research's second International Conference on Molecular Diagnostics in Cancer Therapeutic Development.

"Our experiments suggest that some treatments could be producing more cancer stem cells that then are capable of metastasizing, because these cells are trying to find a way to survive the therapy," said Dr. Vasko.

"This may help explain why the expression of stem cell markers has been associated with resistance to chemotherapy and radiation treatments and poor outcome for patients with cancers including prostate, breast and lung cancers," Dr. Vasko said. "That tells us that understanding how to target these markers and these cells could prove useful in treat-

ing these cancers."

The cancer stem cell markers include Nanog and BMI1, both of which contribute to stem cells' defining ability to renew themselves and differentiate into different cell types, Dr. Vasko said. These same molecules are found in embryonic stem cells.

Researchers have recently debated the notion that some therapies are not capable of eradicating cancer because they do not target the cancer stem cells responsible for tumor development. To test this hypothesis, Dr. Vasko, along with scientists from the CRTRC Institute for Drug Development in San Antonio and from the Johns Hopkins University, set out to measure both stem cells markers and tumor volume before and after treatment in a mouse model.

They selected a rare form of cancer, mesenchymal chondrosarcoma (MCS), which has not been well described and for which there is no effective treatment. The researchers first determined that Nanog and BMI1 stem cell markers were more highly expressed in metastatic tumors compared to primary tumors. "This suggests that expression of the marker plays some role in development of metastasis," Dr. Vasko said.

They then applied various therapies - from VEGF inhibitors such as Avastin to the proteasome inhibitor Velcade - in mice implanted

with human MSC, and analyzed the effects on tumors. Some of the treatments seemed to work, because they led to a dramatic decrease in the size of the tumors, Dr. Vasko said. But analysis of stem cell expression before and after treatment revealed that even as some anti-cancer treatments shrank tumors, they increased expression of Nanog and BMI1.

"These treatments were not enough to completely inhibit tumor growth, and the cancer stem cell markers were still present," Dr. Vasko said.

Use of the agents Velcade and Docetaxel led to the most significant increase in stem cell markers within the treated tumor, while ifosfamide and Avastin inhibited expression of the markers in this cancer subtype.

"We hypothesize that the tumor escapes from chemotherapy by induction of stem cell marker expression," he said. "The small number of cells that survive the treatment could then generate another tumor that metastasizes."

If scientists understood the pathways cancer stem cells use to survive treatment or increase their ranks, then therapeutic targets could be developed, Dr. Vasko said. Some novel therapies are already being tested against cancer stem cells, he added.

Information obtained from the American Association for Cancer Research.

New software to aid treatment decisions during radiation exposure incidents

Emergency health care providers will soon have access to the latest version of software that can provide diagnostic information to help physicians make casualty treatment decisions during radiation exposure incidents. Army Colonel Patricia K. Lillis-Hearne, director of the Armed Forces Radiobiology Research Institute (AFRRI), released version 1.0 of the Biodosimetry Assessment Tool (BAT) to members at the institute's Board of Governors meeting Sept. 21.

"This is part of the institute's continuing effort to provide medical professionals with automated information tools and guidance that can be used to assess the level of radiation exposure and determine the appropriate treatment options," said COL Lillis-Hearne.

Members of the AFRRI Board of Governors, chaired by Assistant Secretary of Defense for Health Affairs S. Ward Casscells III, were the

first to receive the latest BAT software as one component of AFRRI CD 07-1, Radiation Training and Assessment Tools, Fourth Edition. In early October, others will be able to request to download BAT version 1.0 via the AFRRI website at:

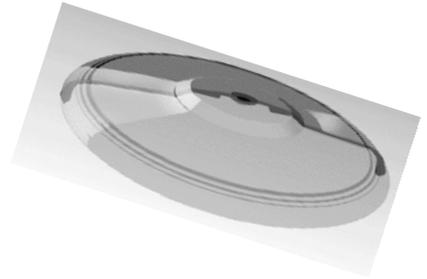
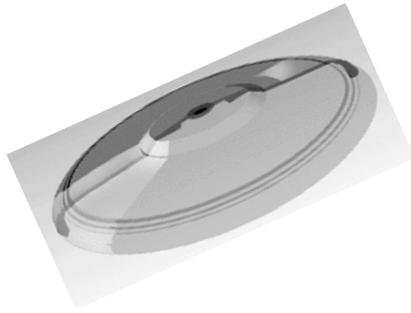
<http://www.afri.usuhs.mil/www/outreach/biodostools.htm#software>

The BAT software application and other radiation biological dosimetry tools for emergency responders were developed in a research program led by Dr. William F. Blakely, AFRRI, Scientific Research Department.

BAT, which fits on a single mini CD-ROM, requires a standard 32-bit Windows XP operating system and can be installed on a laptop PC. Using checkboxes and text entries, the user enters information about the exposure situation and a victim's symptoms, blood counts, and dose level. The program compares that data with established radiation dose responses and provides a dose assessment in a concise format.

"The AFRRI CD serves as a ready reference for health care professionals who may have to respond to radiation casualty events," said Army Colonel John Mercier, chief of AFRRI Medical Operations.

Ultimate Champions in our Midst



*By MC3 Jeff Hopkins
Assistant Editor, Office of External Affairs*

Look, up in the sky! It's a bird! It's a plane! It's a... Frisbee? This picnic must-have has had several popular sports based around it; the most well-known and often-played is "Ultimate," a game which combines the rules of football, soccer, and basketball.

Dr. Mike Schell, assistant professor of Pharmacology at the Uniformal Services University of the Health Sciences (USU,) is an avid Ultimate enthusiast, and has played with various teams and clubs since finishing his undergraduate studies at Indiana University in Bloomington.

The Lansing, Mich., native explained that Ultimate is a combination of the rules of several sports, played with a Frisbee.

"Ultimate is played with a flying disc on a field about the size of a football field," Schell said. "It's a non contact sport, but there's incidental contact, especially on the leaps and catches. Players score a goal by throwing the disc to another teammate in the opposing end zone."

Also known as "Ultimate Frisbee," the sport is popular with people of all ages, from elementary school on up.

"It's actually played a lot in the service academies. I know that the Boy Scouts can earn a merit badge in Ultimate," Schell said.

The sport was played as recently as 2006 among soldiers at USU as a popular form of physical training.

"It's a popular sport for a variety of reasons, practical and athletic," Schell said. "It's the only sport I know of that, even at the highest level, is played without a referee; the calls are all made by players on the teams. It's the so called 'spirit of the game,' where you're supposed to honor the calls of fouls from the other team."

Schell said he began playing Ultimate when he took a job as a laboratory technician at a medical school in Indianapolis.

"I had just graduated from Bloomington in 1985, and had started a job in a lab at Indiana University Medical School in Indianapolis as a lab technician. I wasn't getting as much exercise as I was in college," Schell said. "There was an ad in the paper about the Ultimate team in Indianapolis, the 'Ultimate Eagles.' They were practicing relatively close to where I lived, and I just showed up. For the first half of the season, I refused to wear cleats, so they called me the 'Barefoot Mountain Man.' I was completely inexperienced, but I ran fast. I had raw ability, but I didn't have any skills."

Last year, Schell and his team competed for and won the title of American Grand Masters Ultimate Frisbee (AGMUF) champions. The team, mostly consisting of players Schell knew from his graduate education days at Johns Hopkins University, called themselves

"Rigor More Disc," and competed against four other teams in the tournament.

Schell said the peak age for Ultimate players is mid-twenties, because the sport requires a lot of speed and stamina.

"The 'Grand Masters' league is for people over 40," Schell said. "Because the sport tends to be straining on your knees and stamina, lots of people drop out before they reach that age, and tend to migrate to other Frisbee sports like Frisbee golf, which is a little bit easier on the body," he said.

Schell said he values Ultimate as an entertaining way to work up a good sweat, as well as a great way to meet friendly people.

"I like the fact that I can get a good workout and enjoy myself at the same time," Schell said. "I like all the running, because I'm a pretty strong runner, and the camaraderie is excellent; the people who play are always very open and friendly."

Schell added that the almost universal popularity of the sport makes pick up games easy to participate in, wherever one travels.

"I really like the fact that one can travel anywhere in the United States and throughout much of the world and check on the internet to meet up with people playing Ultimate anywhere," he said.

This year's AGMUF Championship will be held this week in Montreal; Schell will not be participating this year due to a knee injury, but said he hopes to play next year.



Courtesy Photo

Mike Schell, Ph.D., assistant professor of Pharmacology, USU (top far left,) with "Rigor More Disc," the 2006 American Grand Masters Ultimate Frisbee Champions.

USU-TUBE

Become a STAR

The Uniformed Services University of the Health Sciences (USU) is launching a "USU-Tube" Video Contest to find the most meaningful, creative, descriptive, humorous, and/or innovative entries to showcase and increase knowledge about USU to the general public, and especially potential USU applicants, as well as other audiences and constituents.

Who can Submit?

All USU students, staff, faculty, alumni, residents and fellows may submit entries.

How long can the video be?

Video submissions must be no longer than 3 minutes, and may be based on one of the following themes:

A. Welcome to USU

B. Why I chose to come to USU

C. USU's unique aspects

What Kind of Entries?

Entries may be serious or humorous and should speak to the entire university.

The video must be on the level of a G or PG rating (no profanity, nudity, etc.) Although we encourage you to showcase the physical campus, you will not be able to film in sensitive areas (i.e. LAM, ATL, etc.). Make sure to consult with/seek permission from instructors or supervisors in advance if you plan on filming during class or in your departments.

Important: If you are planning to enter, you must send an email to the USU-Tube Video Contest Coordinators, SGT Jamie-Lea Divan or SGT Frezzell Brewer, Multimedia Design Division, at **avcmail@usuhs.mil** BEFORE you begin videotaping.

If you are featuring individuals in your video, please ensure you have a signed release form for each person highlighted. These forms are available in the Multimedia Design Division in Room G070, or on the web at

<http://www.usuhs.mil/usuhs/videospecials.html>

(click on "signed release form" in blue).

Deadline for entries is Oct. 15. Entries must be submitted on disk to SGT Divan or SGT Brewer in Room G070. A panel of judges from the university will review all submissions and select the winners. Winning entries will be used for USU recruitment purposes, on the USU Website, and in a variety of informational and public relations materials.

If you have any questions, please contact SGT Divan or SGT Brewer at avcmail@usuhs.mil or 295-9395/295-3386.



USU News Briefs

Navy Uniform Shift:

All Naval personnel within the Naval District Washington area shifted to winter uniforms Oct. 1. For E-7 and above, the uniform is service dress blues or khakis; for E-6 and below, the uniform is service dress blues or winter blues. BDUs will be worn with sleeves down.

PFT/PFA/APFT Notice:

The Army APFT, Navy PRT, and Air Force APFT will be conducted at 7a.m. and noon on the following dates of Oct. 3, 5, 10, 12, 15, and for all faculty, staff, and students (excluding SOM). Naval personnel must complete the Health Risk Assessment questionnaire and Physical Health Assessment annually; Navy weigh-ins must be conducted between 10 days and 24 hours prior to the Navy PRT. For more info, contact SFC Abram, USA (MEM) at (301) 319-8207.

USU Ballroom Dance Club:

Have you ever wanted to learn how to dance but just don't know how to get started? A new dance group started at USU, and the next meeting is planned for Oct. 5 at 5 p.m. No experience is necessary and no partner is required. This is open for all USU students, faculty, friends, and family. The first lesson was on Salsa. If you are interested in joining, go to <http://groups.yahoo.com/group/USUHSballroom/> and click join group.

CFC:

October 16 will mark the CFC Kickoff for our organization. There will be a barbecue, several charities, a guest speaker and door prizes. The event will begin at 11 a.m. and conclude at 1 p.m.. If you have any questions, or would like to assist with the CFC effort, please contact CPT Nicholas Horton: nhorton@usuhs.mil or 295 9433.

Armed Services Blood Drive:

The Student Spouses Club and the USUHS Medical School Class of 2010 are proud to be hosting the Armed Services Blood Drive. Your donation will support soldiers wounded in combat operations, your local military hospital, and active duty and retired military and family members. It will take place in the USU Cafeteria Lobby Oct. 9, from 9 a.m. to 3 p.m.

Reserve a time that works for you by making an appointment. Appointments can be made in the cafeteria from 11 a.m. to 1 p.m. thru Oct. 5. Walk-ins are also welcome on the day of the Blood Drive. T-shirts, mugs, and other goodies for those who donate. An ice cream social will be held for the department with the highest participation!

GSN Awards Ceremony

The Graduate School of Nursing will be conducting an awards ceremony for its students Oct. 5 in Lecture Room C. all are invited and encouraged to show their support.

Dr. D.C. in "TRI to Understand"

By MC3 Jeff Hopkins & MCSN Raul Zamora





USU Calendar of Events



30	1 October	2	3 Administrative Officers Departmental Representatives Meeting For more information contact Dawn Dubois Patti at 301-295-3104 dpatti@usuhs.mil 10:30 a.m. Lecture Room C Neuroscience Seminar: Genetic Analysis of Neurological Disorders 3 p.m. Lecture Room A	4	5 Army—APFT Navy—PRT Air Force—AFPT	6
7	8 Columbus Day Federal Holiday	9	10 Army—APFT Navy—PRT Air Force—AFPT	11 LRC Training Classes: Introduction to PowerPoint. Register online at: http://training.lrc.usuhs.mil/lib/training_reg.php 319-4039 295-3357 for questions 4 p.m. - 5 p.m. LRC	12 Army—APFT Navy—PRT Air Force—AFPT	13
14	15 LRC Training Classes: PubMed Basics Noon -1p.m. Register online at: http://training.lrc.usuhs.mil/lib/training_reg.php . Please call 319-4039 or 295-3357 if you have questions.	16	17	18	19	20
21	22	23	24	25	26	27