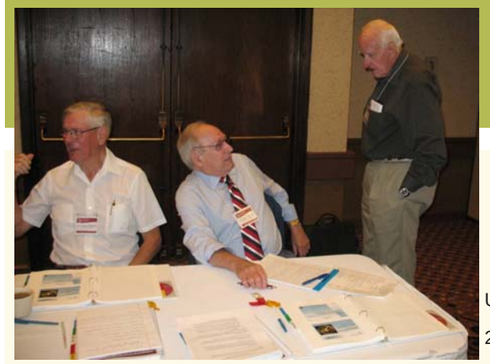
40 Years of Human Experience

LEARNING FROM PLUTONIUM AND URANIUM WORKERS

- LIFE-TIME FOLLOW-UP
- PLUTONIUM AND HEALTH
- BIOASSAY AND DOSIMETRY
- UNIQUE HUMAN DATA
- PROTECTING WORKERS



2008 Scientific Advisory Committee Meeting

Annual Program Review

USTUR's Annual Scientific Advisory Committee (SAC) Meeting was held May 9th/10th 2008, in Pasco, WA. The meeting included presentations from USTUR faculty and staff, Idaho State University (ISU) graduate research students, and several research scientists from other organizations working with USTUR. The SAC recommendations were very favorable to our program—and we received a letter of commendation from Mr. Glenn S. Podonsky, the Chief Health, Safety and Security Officer, Department of Energy Headquarters, Washington, DC. In Mr. Podonsky's own words ….. "The Department of Energy congratulates the U.S. Transuranium and Uranium Registries (USTUR) on the 40th anniversary of the National Plutonium Registry. We thank you and your [Registrants] for your dedication and contributions to the radiological protection program. ….. Best wishes on your endeavors and continued success in your programs. We applaud your dedication and look forward to your rewarding future in this critical field." These are very encouraging words!

WASHINGTON STATE UNIVERSITY

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USTURnewsletter

Direct from the Director

2008 was again a year of great change (and scientific progress) for USTUR – and 2009 promises even greater progress. We, like everyone else in federally-funded research, have had to operate within severe budget cuts – and must continue to do so. However, this is "not all bad"! We've had to be very inventive – in order to "do more with less"! In particular, for several years now, we've had to "limp along" with temporary (and inadequate) radiochemistry laboratory facilities. This lack of resources caused us to fall further and further behind in getting results from precious donated tissues. But 2009 brings new hope! I am delighted to announce that we have just secured our own (leased) laboratory building – where we can set up much more efficient analytical procedures and facilities. These will significantly speed up our radiochemistry – and reduce its high cost. Better radiochemistry facilities are absolutely essential. The past year was especially remarkable – bringing four Whole-body Donors and four Partial-body Donors. There is great national and international scientific interest in USTUR's tissue analyses and 'biokinetic modeling' for these latest Donor cases, as well in the many earlier case studies yet to be fully analyzed and published.

If you have access to the internet, please take a look at our much improved web site (www.ustur.wsu.edu). This illustrates the exciting new developments that we made in our 40th Anniversary Year – and will continue to make.

Once more, I am honored to thank every Registrant for your continued participation in USTUR's research, and wish you (and your families) good health and joy in 2009.

Dr. Anthony C. James, CRadP

COLLABORATIVE EFFORT

WORKING WITH THE DATA

The Registries' mission is to improve the protection of workers and members of the public who may potentially be exposed to plutonium or other actinides—by utilizing our unique collection of real worker experience to make the determination of tissue doses more certain (and reliable). Our experience over 40 years of study has demonstrated that there is nothing particularly 'special' or hazardous about dose from plutonium (or americium and uranium). As with all other incorporated radionuclides, including naturally occurring ones, the possibility of affecting health depends only on the amount of tissue dose received, i.e., on the actual tissue content of the radionuclide. Information from USTUR's research is crucial to relating tissue doses to amounts of actual (not hypothetical) exposure. As real 'bearers of plutonium,' please be reassured that your average age is now 76 (see "Registrant Statistics"). Public perception (i.e., common misunderstanding) of the nature of plutonium, americium and uranium is very different—but we know better!

Research to define the actual hazards of low to moderate levels of internal exposure is a truly global effort—with USTUR Registrant Donors providing uniquely relevant information.

The following are some of our current collaborations with universities and other research institutions throughout the world.

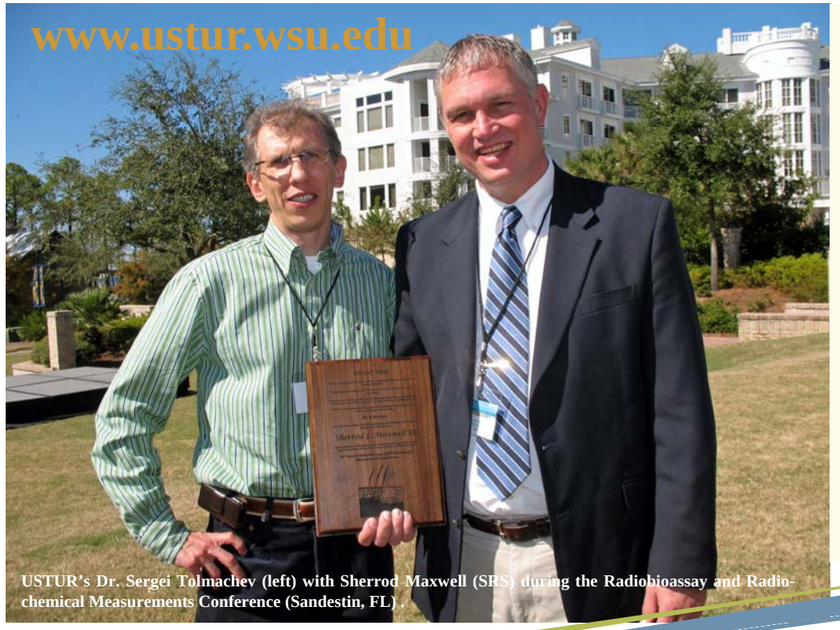
Health Protection Agency, United Kingdom. Application of advanced statistical methods to determine the uncertainty in tissue doses calculated from bioassay monitoring data.

Swiss Federal Institute of Technology, Zurich. Application of scanning Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) to measure the distribution of actinides in bone (improve bone dosimetry).

Environmental Bioassay Laboratory, Savannah River Site, Aiken, SC. Application and development of better separation methods to measure actinide elements and beryllium in USTUR tissue samples.

Northern Arizona University, Flagstaff, AZ. Ultra-sensitive measurement of actinide isotopic composition and concentration in USTUR tissue samples using Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

Radiation Protection Bureau, Health Canada, Ottawa. Ultra-sensitive measurement of americium-241 in hair and fingernails (by LA-ICP-MS) as a rapid tool to identify persons seriously exposed by a possible terrorist Radiological Dispersion Device (RDD).



USTUR's Dr. Sergei Tolmachev (left) with Sherrod Maxwell (SRS) during the Radiobioassay and Radiochemical Measurements Conference (Sandestin, FL) .

REGISTRANT STATISTICS

The average age of living USTUR Registrants is 76, with the youngest 37 and the oldest 90. We have 94 active Registrants (64 over the age of 75), and 329 donors (average age 68).

As you know, your registration must be voluntarily renewed every five years. If you are one of the 46 Registrants due for renewal in 2009, you will receive a renewal packet in the mail. Please complete your registration forms and obtain your witness signatures (as indicated on the forms). We will include in your packet a medical history questionnaire to enable you to inform us of any changes in your health over the previous five years. On receiving back your renewal paperwork, we will know that you wish to continue your participation in the USTUR program. We hope that you will choose to renew your current agreement with the Registries and, should you have any questions or need help completing your forms, please don't hesitate to call us on our toll-free number (800) 375-9317.

NEW FACES

Mrs. Gabriela Alpizar began as a laboratory technician on April 1st. She assists in tissue sample preparation and is responsible for entering and tracking the progress of (many thousand) USTUR and National Human Tissue Repository (NHRTR) samples in our newly commissioned computerized (and bar-coded) inventory and chain-of-custody database system.

Mrs. Lorena Parra Peregrino also began on April 1st—as USTUR's Secretary and Receptionist. If you call our toll-free number, she will direct your call.

Publications/Presentations

An important aspect of USTUR's research is open publication (privacy-protected) and presentation of results at scientific conferences. We made presentations at six conferences in 2008, including two overseas:

- Conference on Plasma Spectrochemistry for Trace Element Analysis, Temecula, CA, January 7-12.
- Annual Meeting of the Japan Health Physics Society, Okinawa, June 26-27 (by invitation).
- Annual Meeting of the Health Physics Society, Pittsburgh, PA, July 13-17.
- Annual Meeting of the Council on Ionizing Radiation Measurements and Standards (CIRMS), Gaithersburg, MD, October 6-8 (by invitation).
- International Congress of the International Radiation Protection Association, Buenos Aires, Argentina, October 19-24 (externally funded).
- International Symposium on Beryllium Particulates and Their Detection, Albuquerque, NM, November 17-19 (by invitation).

All of these presentations are available to view on USTUR's web site.

Former Worker Medical Follow-up

The DOE Former Worker Medical Screening Program, otherwise known as the DOE Former Worker Program, offers free medical screening to former DOE workers who may have been exposed to hazardous substances during their work for DOE. The legislative mandate for this program is the 1993 Defense Authorization Act (PL 102-484, Section 3162).

The medical screening includes a physical exam, blood and urine tests, a hearing test, and other special tests depending on work history and exposures, such as a chest x-ray, lung function tests, a test for exposure to asbestos.

This screening is designed to test for such conditions as:

- Chronic respiratory diseases
- Hearing loss
- Liver and kidney problems
- Some forms of cancer

Special tests are available for workers who were exposed to beryllium, asbestos, or silica.

Exam results that are of concern are sent to the participants' personal physicians who will decide the next steps.

All former DOE workers who separated from DOE at least 3 years ago are eligible to enroll in this program. Anyone who has worked with toxic substances, including the following, is encouraged to enroll:

- Asbestos
- Beryllium
- Radioactive substances
- Metal welding fumes

Since 1996, DOE has provided funding to various groups who provide these services. These groups include major U.S. universities and medical schools, national health care delivery systems, local health care facilities and major unions.

If you are an active Registrant, we have enclosed a Former Worker Medical Screening Program brochure—to provide you with more information.