WASHINGTON STATE UNIVERSITY
College of Pharmacy and Pharmaceutical Sciences

2026 USTUR Scientific Advisory Committee Meeting
Hampton Inn, Richland, Washington; April 16–17, 2026

Operations and Research in FY2027

Sergey Y. Tolmachev, *Research Professor and Director*

United States Transuranium and Uranium Registries

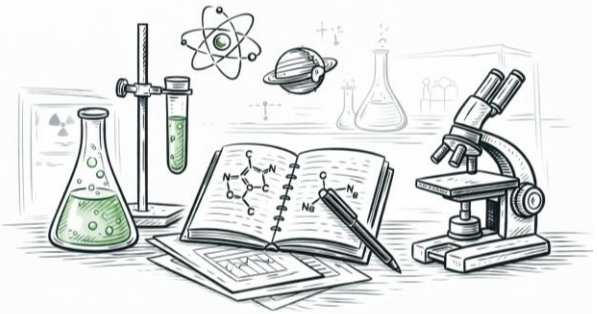
1845 Terminal Drive, Suite 201, Richland, WA 99354

ustur.wsu.edu | stolmachev@wsu.edu

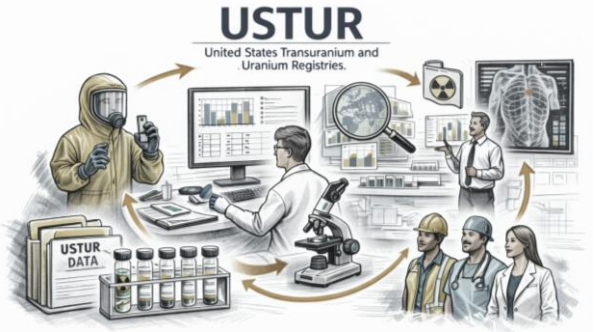
"Learning from Plutonium and Uranium Workers"

Mission and Specific Aims

Serve as a center of excellence for human based research on actinide biokinetics and internal dosimetry, contributing to radiation protection of workers and the public, and providing support to epidemiological studies and regulatory needs (to be discussed)

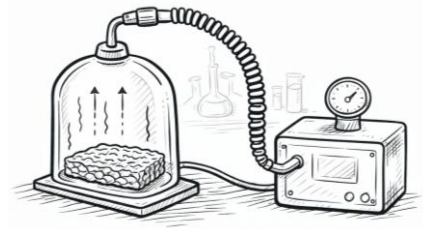


- Manage and operate the Registries
- Conduct scientific research and collaboration
- Demonstrate and promote broader use and application of USTUR research, data, and materials
- Contribute to the education of a new generation of scientists

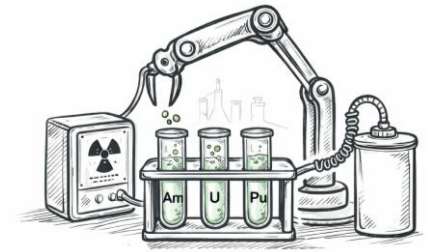


Radiochemistry Laboratory

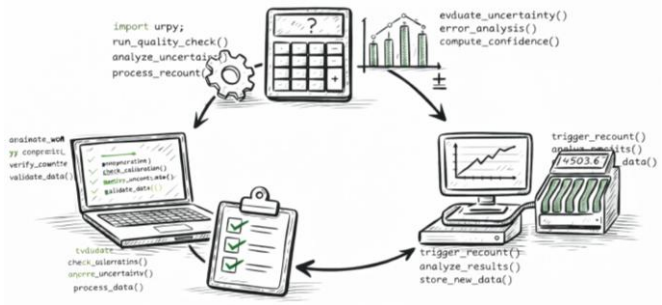
- Hire and train a junior **laboratory technician**
- Develop a **vacuum-assisted tissue drying protocol** to improve tissue sample preparation and increase analysis throughput



- Implement **automated actinide radiochemical separation** to accelerate tissue analyses and increase analysis throughput



- Request and analyze ***site-specific*** **proficiency-testing** samples
- Expand the **URpy code** to support automated quality control, uncertainty analysis, and recount processing



Industry-Academia Collaboration: LIMS

BASSETTI GROUP specializes in providing software solutions to help manage technical data and improve processes

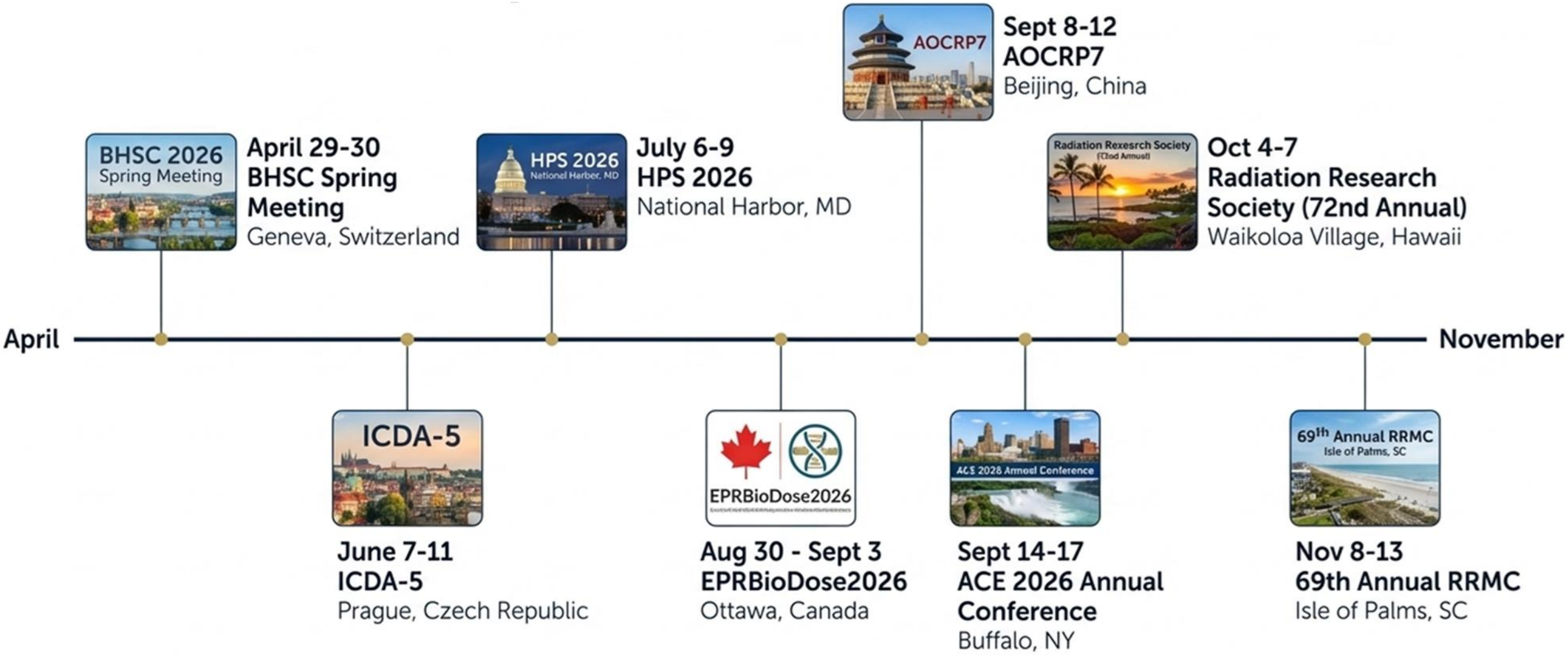
https://www.bassetti-group.com/en/about-bassetti-group/

- A new Educational Partnership Program enables universities to use software developed by the Group for academic and research purposes
- The program enhances BASSETTI GROUP's visibility by creating long-term awareness and increasing brand recognition (*Dale A. Delgado, General Manager, Bassetti Americas*)
- Virginia Commonwealth University in the first and the only participant to date

Publications and Presentations

2	7	2	8
Articles in press	Articles in preparation	Abstract accepted	Abstract submitted

Conferences



Professional Development

Radiation Epidemiology & Dosimetry Course

NCI Shady Grove, Rockville, MD

December 14-17, 2026.

Fundamentals

Principles of ionizing/non-ionizing radiation epidemiology, exposure assessment, and radiobiology.

Medical & Occupational

CT scans, fluoroscopy, radiotherapy techniques, nuclear medicine, and occupational worker exposure.

Environmental

Atomic detonations, natural background radiation, radon, and nuclear accidents.

Genomics & Topical Issues

Germline/somatic risks, transgenerational effects, space radiation, and risk communication.

Practical Applications

NCI Dosimetry Tools, Epicure Modeling, and RadRAT.

Follow-up Urine Sample Analysis

- To continue analyses we need to establish formal collaboration with the U.S. Air Force School of Aerospace Medicine (USAFSAM) Analytical Services

U.S. AIR FORCE

Instead of a MOU, I would also like to pursue the option of a 7600, meaning that we would require funds from your organization to support our analysis. (Heather Bigler, DR-III Branch Chief, Radiation Services)

WSU Tri-Cities

WASHINGTON STATE UNIVERSITY

OneNuclear Initiative

A ROADMAP TO UNIFY NUCLEAR RESEARCH, DEVELOPMENT & EDUCATION ACROSS THE WSU SYSTEM

Corey Hines, Nuclear Science Center and Noel Schulz, Institute for Northwest Energy Futures (INEF)

WASHINGTON STATE UNIVERSITY

COUGAR TRACKS: Your gateway to continuing education and workforce training.

WSU TRI-CITIES
Cougar Tracks

WASHINGTON STATE UNIVERSITY

Introduction to Radiological Security

A program designed to familiar students with the fundamentals of radiological security and the international and domestic policy response.

U.S. DEPARTMENT OF ENERGY

OAK RIDGE National Laboratory

ORS Office of Radiological Security
Protect · Remove · Reduce

Pacific Northwest NATIONAL LABORATORY

Broader Use of USTUR Materials

EURADOS ICIDOSE #3
InterComparison of Internal DOSE assessment #3

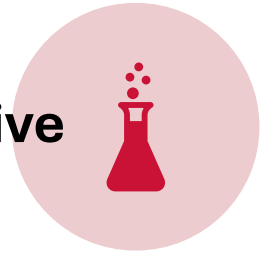
- The **third** Internal dose assessment intercomparison (ICIDOSE), organized by the European Radiation Dosimetry Group (EURADOS) and coordinated by Hungarians Research Network (HUN-REN) Centre for Energy Research will take place **2026 – 2027**
- Participants will **assess internal dose** according to either the most recent recommendations (RP188, ICRP OIR Report Series) or to the standards for accreditation across different scenarios, to address common issues encountered routinely or more seldom in internal dosimetry
- **USTUR will provide plutonium case(s)**

FY2028 – FY2032 Grant Renewal Highlights

- Advance (AI-assisting) **actinide** biokinetic modeling and internal dosimetry
- Quantify **uncertainties** in radiation dose assessment and epidemiological outcomes
- Implement **automated actinide separation** to accelerate radiochemical analyses and **eliminate** tissue sample backlog
- Expand **non-destructive imaging** and alpha-emitter mapping capabilities
- Expand research on occupational exposure to **non-radioactive** metals
- Continue **long-term preservation** and **digitization** of the National Human Radiobiology Tissue Repository
- Modernize **information systems** and **analytical quality assurance**

60-YEAR ANNIVERSARY

REQUEST FOR 45% BUDGET INCREASE



FTE INCREASE FROM 6.5 TO 8.5

EQUIPMENT PURCHASE

Thank you for your attention!

16	68	32	39
S	Er	Ge	Y
Sulfur	Erbium	Germanium	Yttrium
32.07	167.26	72.63	88.905

Chihuly Garden and Glass Exhibit, Seattle, Washington, USA