

2013 Scientific Advisory Committee Meeting  
Courtyard Marriott Hotel, Richland, WA  
September 6 – 7, 2013

## Research & Operation Plan for FY2014

**Sergei Y. Tolmachev, PhD**

*USTUR Director*

*Associate Research Professor, College of Pharmacy  
Washington State University*

*[stolmachev@wsu.edu](mailto:stolmachev@wsu.edu)*



*“Learning from Plutonium  
and Uranium Workers”*

# Research & Operation Concept

## USTUR Research Center (Intramural Project)

Sergei Y. Tolmachev, PhD, PI & Director, Associate Research Professor

### Radiochemistry/Mass Spectrometry

Sergei Y. Tolmachev, PhD

- Expeditious Analysis of Donated Tissues
- Application of New Actinide Separation Techniques
- Application of Advanced Measurement Techniques

### Tissue Repository & Databases

Stacey L. McComish, MS & Maia Avtandilashvili, PhD

National Human  
Radiobiological Tissue  
Repository (NHRTR)

Case Narratives, Health  
Physics, Radiochemistry,  
Pathology

## Extramural Projects/Collaborations

- WSU, Pullman, WA
- NAU, Flagstaff, AZ
- AREVA, Richland, WA
- Health Canada, Ottawa
- U. Ghent, Belgium
- U. Laval, Quebec, Canada
- JPC, Silver Spring, MD
- SUBI, Ozyorsk, Russia
- DIT, Dublin, Ireland
- NCI, Bethesda, MD

### Pacific Northwest National Laboratory

Radiological Science  
Michelle Johnson, Manager

Radiation Biology  
William Morgan, Director

EU/SOLO/PHE  
John Harrison, Coordinator

EURADOS/WG-7  
Maria Lopez, Chair

### Washington State University, Tri Cities

Grad Certificate Program  
in Radiation Protection  
James Pratt, Chair

Nursing Program  
Phyllis Morris, Director

KIT/Radiation Protection  
Bastian Breustedt, Head

"Work for Others"

WSU – Washington State University  
NAU – Northern Arizona University  
AREVA – AREVA NP Inc  
DIT – Dublin Institute of Technology

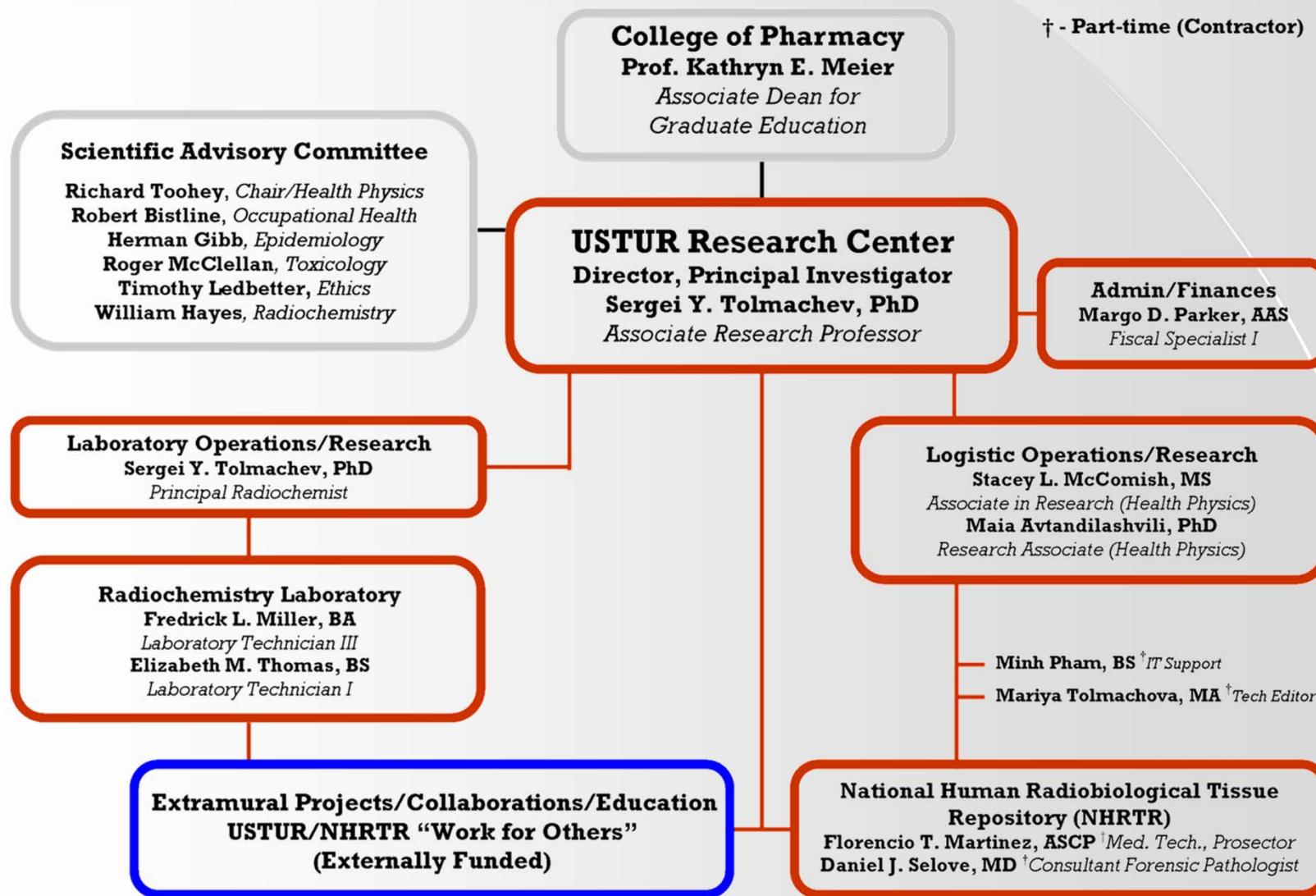
JPC – Joint Pathology Center  
KIT – Karlsruhe Institute of Technology  
SUBI – Southern Urals Biophysics Institute  
NCI – National Cancer Institute

#### Key

EU – Euratom  
EURADOS/WG-7 – European Radiation Dosimetry Working Group 7  
SOLO – Epidemiological Studies of Exposed Southern Urals Populations  
PHE – Public Health England (UK)



# Organization Structure



## FY2014 Budget

### U.S. Department of Energy, Office of Illness and Injury Prevention Programs (DOE/HS-13)

#### *Management and Operation of the United States Transuranium and Uranium Registries*

- ✓ DOE awarded: \$900,000
- ✓ Operational budget: \$883,542

### External: DOE Joint Coordinating Committee for Radiation Effects Research (JCCRER Project 2.4)

#### *Characterization of 'Bounded' Plutonium Retention in the Human Respiratory Tract*

- ✓ Anticipated budget: \$46,000



## Research & Operational Tasks

- Accept Registrants' tissue donations
- Analyze donated tissues expeditiously
- Populate a searchable, comprehensive database
- Involve in academic activities
- Keep scientific collaborations active
- Publish results
- Eliminate negative carry-over



# Registrant Donations

Stacey L. McComish & Sergei Y. Tolmachev



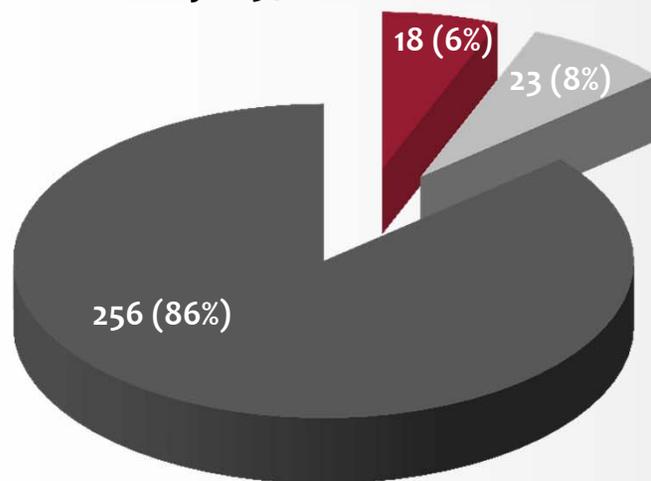
## Radiochemistry FY2014

Elizabeth M. Thomas, Fredrik L. Miller &  
Sergei Y. Tolmachev



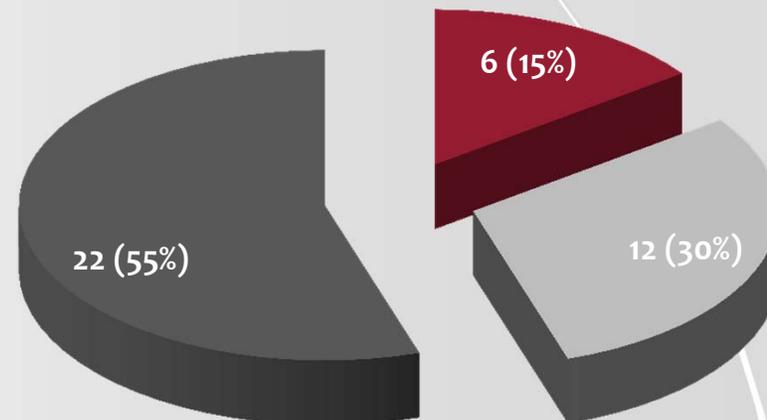
# Radiochemical Analysis Summary

Partial-Body: 297



■ Intact ■ Incomplete ■ Complete

Whole-Body: 40



■ Intact ■ Incomplete ■ Complete



## FY2014 Radiochemical Analysis

- Priority: elimination of 24 intact cases
  - ✓ ‘whole-to-partial’ donation frequency 1:3 (25%)
  - ✓ ‘old-to-new’ frequency 1:3 (25%)
- Perform: survey analysis (20 – 30 samples) to obtain key initial scientific information
- Analyze: 400 samples



## FY2014 Tasks

- Radiochemistry data revision/reporting
- Method development/optimization (as needed)
- Standard operation procedures update/publication
- DQO implementation
- Laboratory facility maintenance



# Health Physics Database

Maia Avtandilashvili & Stacey L. McComish



## Data Entry Strategy

- Complete new donations as received
- Complete all whole-body cases
- Expedite partial-body cases
  - ✓ Rocky Flats (102/119)
  - ✓ Hanford (104/109)
  - ✓ Los Alamos (29/29)



# National Human Radiobiological Tissue Repository (NHRTR)

Stacey L. McComish & Sergei Y. Tolmachev



## NHRTR Inventory

- Complete inventory of frozen tissues
- Continue inventory of acid solutions
- Start inventory of frozen tissues from radium dial painters
- Estimate the total 'RAM' holding of the NHRTR



## Material Ownership: What is Next?

- WSU Office of Grant and Research Development (OGRD) is working on modification of the USTUR grant agreement “*to move such an ownership description into the main part of the contract so that going forward it isn’t ‘lost’.*”



## Research Collaborations

Maia Avtandilashvili, Stacey L. McComish &  
Sergei Y. Tolmachev



## FY2014 Scientific Collaborations

- JCCRER Project 2.4/PNNL/PHE
  - ✓ 'Bounded' plutonium characterization
- PNNL Physical Sciences Division
  - ✓ 3D *in situ* imaging: nano-particles in brain
- EURADOS WG7/WG10
  - ✓ DTPA therapy model
  - ✓ Wound model
  - ✓ Retrospective biodosimetry



Pacific Northwest  
NATIONAL LABORATORY



ИОУРИБФ



EURADOS →



## Publications/Presentations

- Journal

- ✓ Int J Radiation Biology 1
- ✓ J Anal At Spectrometry 1

- Podium

- ✓ Plenary Meeting: EURADOS WG7 1
- ✓ 5<sup>th</sup> International MELODI Workshop 1
- ✓ 11<sup>th</sup> International Conference: Health Effects of Incorporated Radionuclides 2

- Poster

- ✓ 11<sup>th</sup> International Conference: Health Effects of Incorporated Radionuclides 1



# USTUR: ResearcherID

- Since 1968: ~500 publications

RESEARCHERID



**My Publications**

My Publications (20)  
[View Publications](#)  
[Citation Metrics](#)  
[Manage](#) | [Add](#)

ResearcherID labs  
[Create A Badge](#)  
[Collaboration Network](#)  
[Citing Articles Network](#)

---

Publication Groups

USTUR Publications (176)  
[View Publications](#)  
[Citation Metrics](#) ▶  
[Manage](#) | [Add](#)

Publication List 2 (0)  
[View Publications](#)  
[Citation Metrics](#)  
[Manage](#) | [Add](#)

**USTUR Publications: Citation Metrics**

This graph shows the number of times the articles on the publication list have been cited in each of the last 20 years.  
 Note: Only articles from Web of Science with citation data are included in the calculations. [More information about these data.](#)

**Citation Distribution by year**

Year	Citations
1993	3.0
1994	7.0
1995	16.0
1996	9.0
1997	12.0
1998	18.0
1999	6.0
2000	28.0
2001	24.0
2002	28.0
2003	32.0
2004	18.0
2005	20.0
2006	26.0
2007	32.0
2008	18.0
2009	11.0
2010	18.0
2011	18.0
2012	13.0
2013	23.0

Total Articles in Publication List: **176**

Articles With Citation Data: **39**

Sum of the Times Cited: **443**

Average Citations per Article: **11.36**

h-index: **12**

Last Updated: **08/30/2013 17:56 GMT**

<http://www.researcherid.com/Workspace.action/>



## Give to USTUR



- Through WSU Foundation
    - ✓ A. C. James Scholarship
    - ✓ Support USTUR research
  - Scholarship: \$25,000 (min \$\$\$ to start)
  - USTUR support: any \$\$\$ contribution
  - Contribution by: Credit card
  - Website: WSU/COP 'I Want to Give'
- 
- ✓ <http://www.pharmacy.wsu.edu/give/index.html>
  - ✓ <https://secure.wsu.edu/give/default.aspx?fund=3432>



# Questions?

