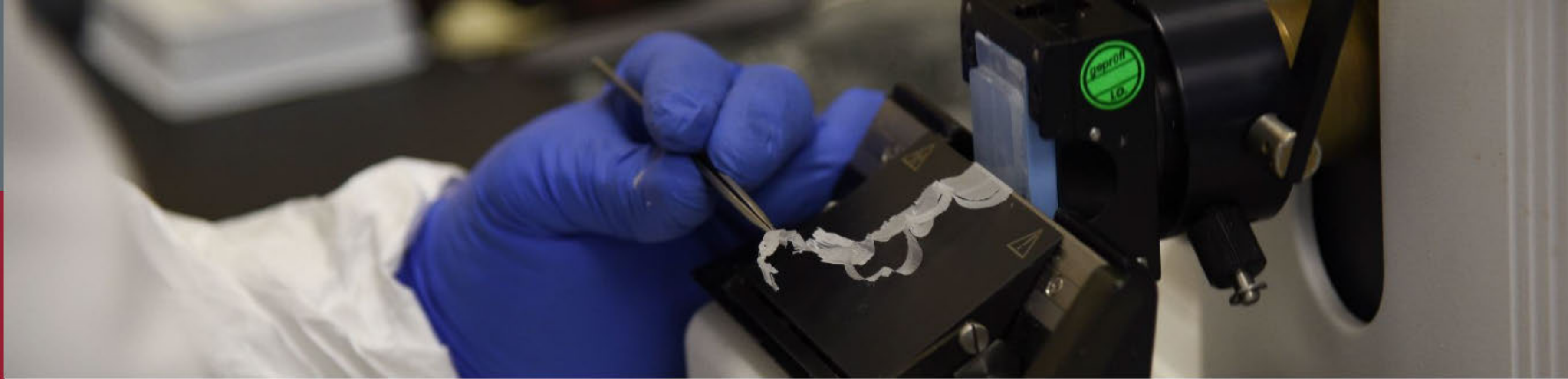


# National Human Radiobiology Tissue Repository

Stacey L. McComish, Associate in Research
s.mccomish@wsu.edu

College of Pharmacy, Washington State University
1845 Terminal Drive, Suite 201, Richland, WA 99354
www.ustur.wsu.edu

*"Learning from Plutonium and Uranium Workers"*

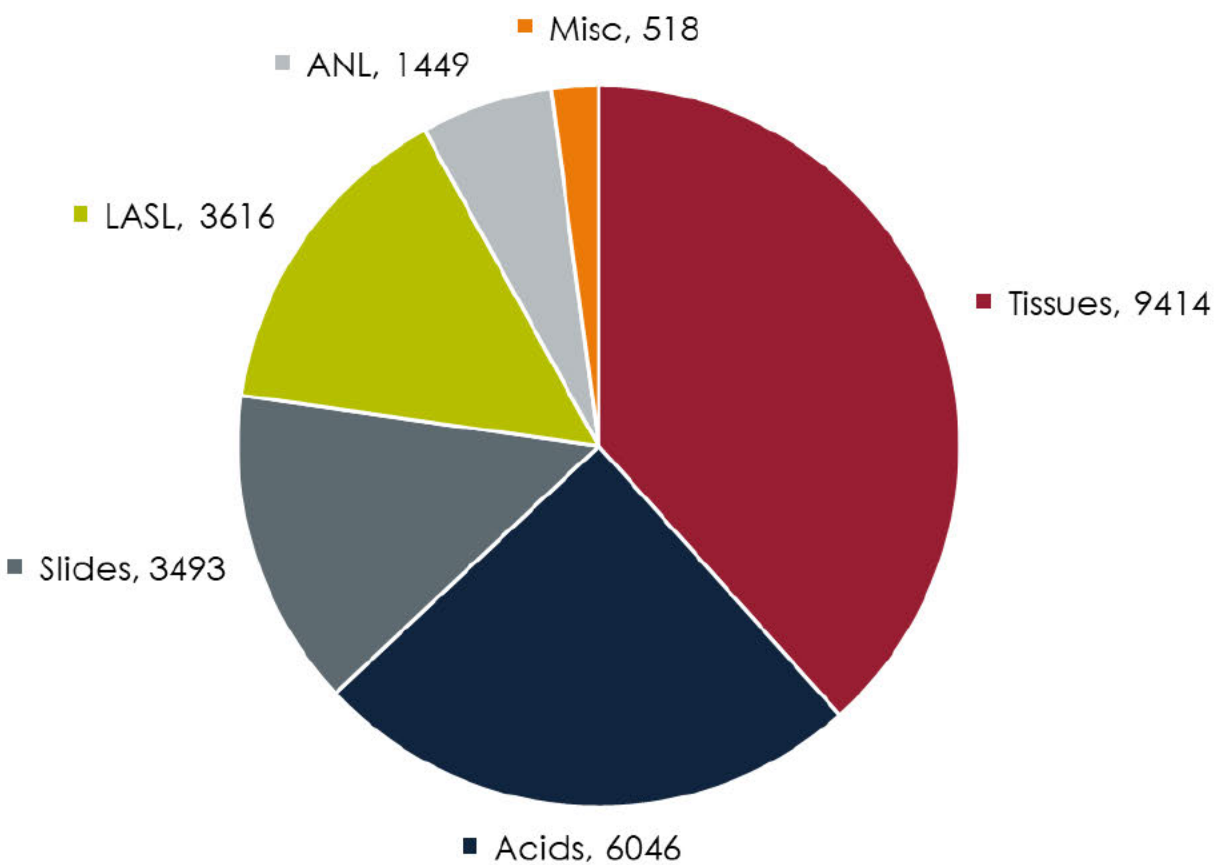
# What is the NHRTR?

- The National Human Radiobiology Tissue Repository (NHRTR) is a tissue collection associated with the Registries
- Created in 1992 when the USTUR acquired tissues and related materials from Argonne National Laboratory
  - ✓ Radium dial painters
  - ✓ Plutonium injection studies

# Materials at the NHRTR

- USTUR tissue donations
  - ✓ Frozen and formalin-fixed tissues
  - ✓ Acid-digested tissues
  - ✓ Histological slides and tissue blocks
- Argonne National Laboratory (ANL) historical samples
  - ✓ Frozen tissues
  - ✓ Dried bones
  - ✓ Histological slides and tissue blocks
- Los Alamos National Laboratory (LANL) population studies
  - ✓ Acid-digested tissues

# 22,798 Parent Samples*




*Pie chart includes 2,096 slide subsamples

# Inventory Status

An inventory status has been assigned to each project:

- ✓ Maintenance: Inventory of existing samples is complete; new samples are inventoried as they are received or generated
- ✓ Active: Inventory of existing samples is ongoing
- ✓ Future: Inventory not yet initiated

# Inventory Status: USTUR Samples


<u>Status: Maintenance</u>
9,414 parent samples
(233 during FY2018)


<u>Status: Maintenance</u>
6,404 parent samples


<u>Status: Active</u>
New stand-alone database designed by Elizabeth Thomas

Contains detailed information such as isotopic activities

THEMIS continues to track sample locations


<u>Slides: Maintenance</u>
3,493 samples

<u>Blocks: Future work</u>

# Inventory Status: LANL Samples

- Acid-dissolved tissues from population studies carried out by Los Alamos Scientific Laboratory


<u>Status: Active</u>
3,616 parent samples
(445 during FY2018)

# Inventory Status: ANL Samples

- Tissues received from ANL in 1992
- Primarily radium worker studies: MIT, NJRRP, ANL
- Plutonium injection studies – Chicago (1), Rochester (4)
- No further progress toward this task

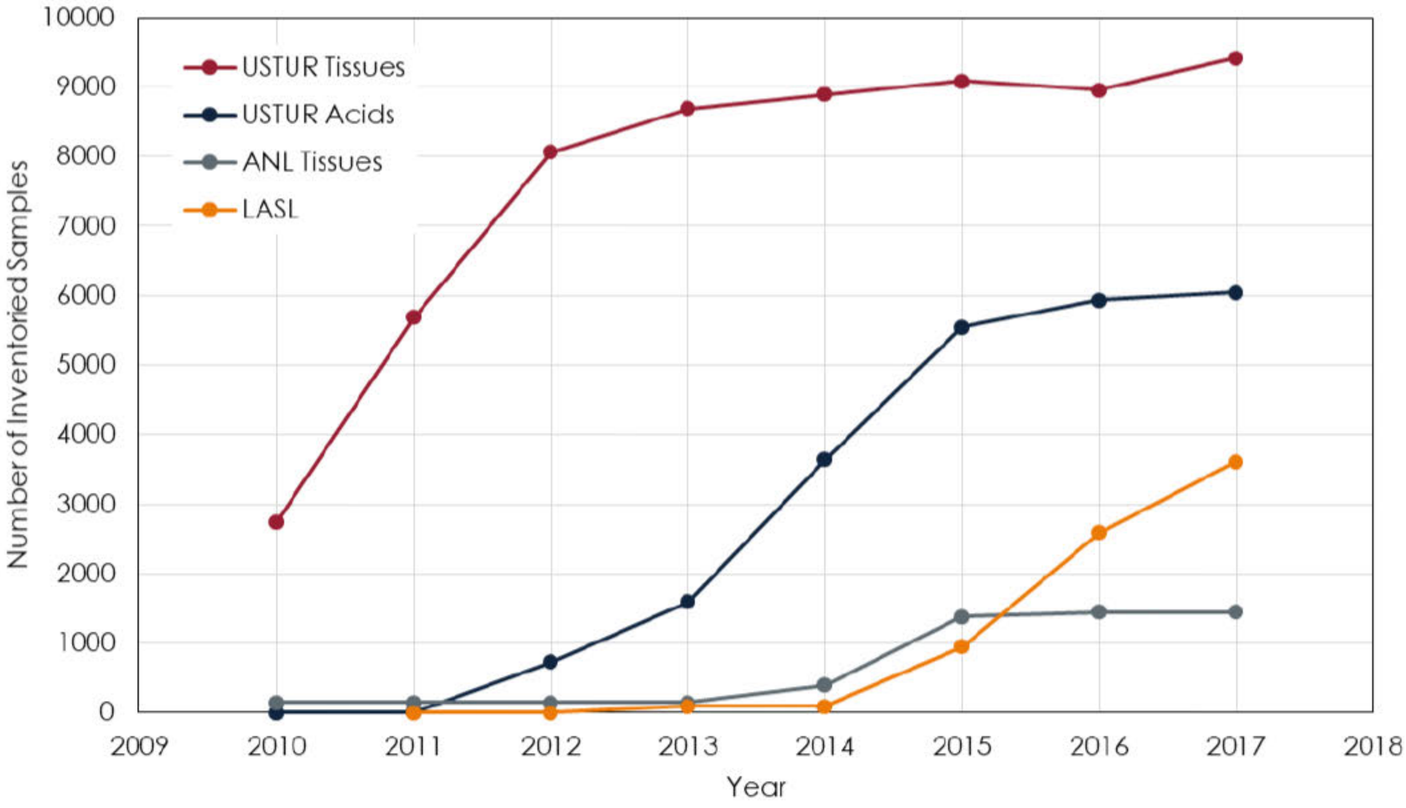
Frozen Tissues: Active
979 parent samples

Slides: Active
470 blood smears

Dried Bones: Future

Plastic embedded: Future

# Data Trends



10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Number of Inventoried Samples
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year
USTUR Tissues
USTUR Acids
ANL Tissues
LASL

# Big Picture

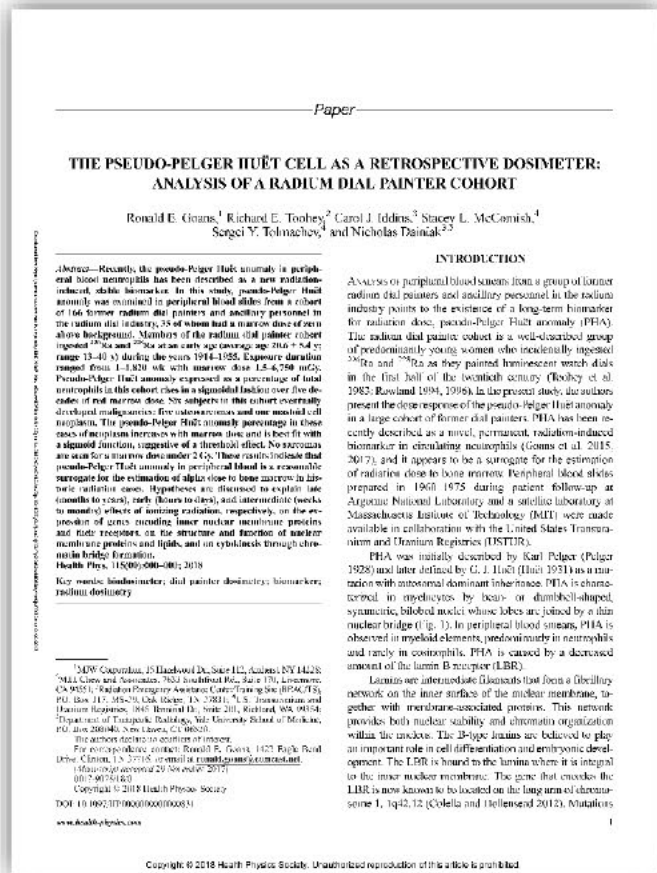
Radiation Protection Dosimetry (2017), Vol. 176, No. 1-2, pp. 50–61
Advance Access publication 24 April 2016
doi:10.1093/rpd/ncw083

THE MAYAK WORKER DOSIMETRY SYSTEM (MWDS 2013): A RE-ANALYSIS OF USTUR CASE 0269 TO DETERMINE WHETHER PLUTONIUM BINDS TO THE LUNGS

M. Puncher[1,*], A. Birchall[2] and S. Y. Tolmachev[3]
[1]Department of Toxicology, Centre for Radiation, Chemical and Environmental Hazards, Public Health England, Chilton, Didcot OX11 0RQ, UK
[2]Global Dosimetry, Didcot, Oxon, UK
[3]US Transuranium and Uranium Registries, College of Pharmacy, Washington State University, 1845 Terminal Drive, Suite 201, Richland, WA 99354, USA

*Corresponding author: matthew.puncher@phe.gov.uk

Received 9 February 2016; revised 9 February 2016; accepted 28 February 2016



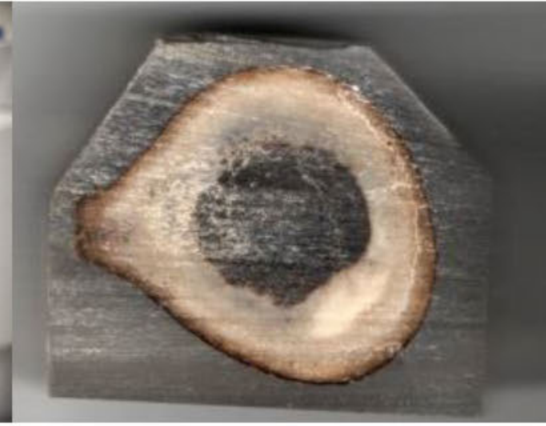
Paper

THE PSEUDO-PELGER HUËT CELL AS A RETROSPECTIVE DOSIMETER: ANALYSIS OF A RADIUM DIAL PAINTER COHORT

Ronald E. Goans,[1] Richard E. Toohey,[2] Carol J. Iddins,[3] Stacey L. McComish,[4] Sergei Y. Tolmachev,[4] and Nicholas Dainiak[3,5]

INTRODUCTION

Copyright © 2018 Health Physics Society. Unauthorized reproduction of this article is prohibited.


# Questions?