

Status

Radiological Health Science Program

Rob Stewart, Ph.D.

Associate Professor and Assistant Head of Health Sciences

Director, Radiological Health Science Program

CIVL 1173B

trebor@purdue.edu

<http://rh.healthsciences.purdue.edu/faculty/rds.html>

Head of School

As of September 1...

Dr. George A Sandison (*Head of Health Sciences from 2000-2008*) left the School to become the **Clinical Director of Medical Physics at the University of Washington Medical Center (Seattle, WA)**



Dr. Wei Zheng

- **Professor of Health Sciences and Toxicology**
- **Head, School of Health Sciences**
- **Associate Dean of the College of PNHS**

Research: *Occupational and Environmental Toxicology*

Assistant Head



Dr. Rob Stewart

- Associate Professor
- Assistant Head, School of Health Sciences
- Director, Radiological Health Science Program

Research: *Dosimetry and Radiation Biology*

Education

B.S. Nuclear Engineering, Kansas State University, Manhattan, KS (1988).

M.S. Nuclear Engineering, Kansas State University, Manhattan, KS (1990).

Ph.D. Mechanical and Nuclear Engineering, Kansas State University, Manhattan, KS (1997).

Professional Experience

2008 – *present* Assistant Head School of Health Sciences

2008 – *present* Director, Radiological Health Sciences Program

2006 – *present* Associate Professor (tenured). Purdue University School of Health Sciences.

2002 – 2006 Assistant Professor, Purdue University School of Health Sciences.

1997 – 2002 Senior Scientist. Pacific Northwest National Laboratory (Richland, WA)

1990 – 1993 Research Scientist. Pacific Northwest National Laboratory (Richland, WA)

Tenured and Tenure-Track RHS Faculty



Rob Stewart, Ph.D.
Associate Professor and
Assistant Head of Health Sciences
Joined School in 2002
Dosimetry and Radiation Biology



Jian Jian Li, M.D., Ph.D.
Professor
Joined School in 2004
Molecular Radiation Biology



Keith Stantz, Ph.D.
Assistant Professor
Joined School in 2005
Biomedical Imaging



Shuang Liu, Ph.D.
Associate Professor
Joined School in 2005
Radiopharmaceutical Chemistry



Ulrike Dydak, Ph.D.
Assistant Professor
Joined School in 2007
Magnetic Resonance Imaging



New Faculty Member
Assistant or Associate Professor
Join School in 2009 (??)
"Radiological Sciences"

Courtesy and Visiting RHS Faculty



James F. Schweitzer, Ph.D.
Assistant Professor of Health Physics
Director, Radiological and
Environmental Management



Tatjana Jevremovic, Ph.D.
Associate Professor of Nuclear
Engineering



Mark A. Green, Ph.D.
Head, Division of Nuclear Pharmacy
Professor of Industrial and Physical
Pharmacy

Mr. Tim Kirkham ('82 *HP Alumni*) is a co-instructor for HSCI 534 Applied Health Physics (fall 2008). Also serving as co-advisor for the Purdue Student Branch of the HPS

Undergraduate RHS Program

■ ***Pre-Medicine Track (07R)***

- Prepare students for Medical School (*specialty in radiation oncology, radiology, nuclear medicine*) and graduate studies in Medical Physics (*imaging and therapy physics*)
- Eligible for the “+1 year” in *Medical Physics* (M.S. degree). Also encouraged to apply to Ph.D. program in *Medical Physics*.

■ ***Health Physics Track (073)***

- Prepare students for entry-level positions in radiation safety and graduate studies in *Health Physics* and *Nuclear Engineering*
- Eligible for the “+1 year” in *Health Physics* and *Nuclear Engineering and Radiological Health Science* (M.S. degree). Also encouraged to apply to Ph.D. program in *Health Physics* (and *Nuclear Engineering*).

<http://healthsciences.purdue.edu/academics/undergraduate/rhs/>

RHS Undergraduate Enrollment

- **One of the largest (*if not the largest*) undergraduate Radiological Health Sciences program in the U.S.**
- **Recent Enrollment Statistics**
 - Spring 2008 (**63 students**)
 - ❖ 9 students *pre-medicine*, 54 students *health physics* (1 dual OHS/HP)
 - Spring 2007 (**73 Students**)
 - Spring 2006 (**85 students**)
 - Spring 2005 (**60 students**)
 - Fall 2004 (**67 students**), Spring 2004 (**66 students**)
 - Fall 2003 (**51 students**)
 - Fall 2002 (**13 students**)
 - Fall 2001 (**3 students**)
 - Fall 2000 (**4 students**)

As of 2006, 284 students completed B.S. in Health Physics

Purdue Student Branch of HPS

▪ **Officers**

- Kim Morgan (*junior*), President
- Alex Green (*junior*), Vice-President
- Carrie Sheldon (*senior*), Treasurer
- Annie Sekel (*senior*), Secretary

▪ **Membership**

- 20 Students attended PBHPS meeting on Sept 3
- 16 Students attended PBHPS meeting on Oct 1

▪ **Facebook Group** (search for “HPS”)

- <http://www.facebook.com/>

▪ **HP 4 Hire Fundraiser**

- Need help around lawn or house this fall?
- Donation to society of \$15 per student per hour requested
- Funds used for social events, travel, educational activities, ...
- Would like to raise enough funds to create a new scholarship program for HP students (need a minimum of \$25,000)
- Contact Zach Tribbett (ztribbet@purdue.edu) to arrange an HP 4 Hire “event”

RHS Curriculum Changes (March 2007)

■ Mathematics

- Three semester calculus sequence (MA 161, 162 and 261) required
- Differential equations (MA 262) required for “+1 year” in HP and MP

■ Physics

- Replaced general physics (PHYS 220 and 221) with Modern Mechanics (PHYS 172), Electricity and Optics (PHYS 241) and Modern Physics (PHYS 242)

■ Health Physics Track (073)

- Require 29 additional credit hours of coursework
 - ❖ 7 credit hours in nuclear engineering (NUCL 200, 205, 305)
 - ❖ 12 credit hours of electives in the radiation sciences
 - ❖ 10 credit hours of general and computational science electives

■ Pre-Medicine Track (07R)

- Require 19 additional credit hours of coursework
 - ❖ 9 credit hours of electives in the radiation sciences
 - ❖ 10 credit hours of general and computational science electives

NRC Undergraduate Scholarship

▪ Nuclear Regulatory Commission (NRC) Award

- Schools of Health Sciences and Nuclear Engineering
- Total amount of award is \$198,720.00.
- Administered by Drs. Tatjana Jevremovic (Nuclear Engineering) and Rob Stewart (Health Sciences)

▪ Objective

- To recruit, retain, monitor and mentor undergraduate students of high academic ability and performance in the nuclear engineering and radiological health science (health physics)

▪ Scope

- Opportunity for 4-8 undergraduate students
- Tuition and monthly stipend (1 or 2 years) = \$20,000 to \$30,00 per year per student

Graduate RHS Program Enrollment

■ Health Physics (2 total)

- M.S. by coursework (*2 students*)
- M.S. with thesis (*0 students*)
- Ph.D. (*0 students*)

❖ Jason Harris graduated in December 2007 and is now an Assistant Professor at Idaho State University

■ Medical Physics (26 total)

- M.S. by coursework (*9 students*)
- M.S. with thesis (*0 students*)
- Ph.D. (*17 students*)

■ Radiation Biology (2 total)

- M.S. by coursework (*0 students*)
- M.S. with thesis (*0 students*)
- Ph.D. (*2 students*)

New degree program in 2006

30 total graduate students in RHS (*total for school = 39*)

HP Graduate Program

- **Program in existence for over 48 years**
 - As of 2006, 91 Ph.D. students and 134 M.S. students have completed the graduate program in Health Physics
- **Challenges and Future Direction**
 - Hire a new faculty member in Health Physics
 - Increase enrollment
 - Revise M.S. and Ph.D. plans of study (implement in fall 2009).
 - ❖ Specialization in *Medical Health Physics* and *Reactor Health Physics*
 - ❖ New and additional courses
 - ❖ Implement a 1-year internship program in Radiological and Environmental Management (REM) under the supervision of Dr. Jim Schweitzer (Director of REM)
 - Identify additional internship opportunities at nuclear power plants and with other organizations

MP Graduate Program

- **Joint program with Indiana University School of Medicine**
 - Formed in 1990 by Drs. Paul Ziemer (Purdue) and George Sandison (then at the IU School of Medicine)
 - Rob Stewart (Purdue) and Indra Das (IUSM) current program directors
- **Offer M.S. and Ph.D. degrees with specializations in**
 - Therapeutic (*Oncology*) Physics
 - Diagnostic (*Imaging*) Physics
- **Future Direction**
 - Hire new faculty member in the therapeutic physics area
 - Revise M.S. and Ph.D. plans of study (implement in fall 2009).
 - ❖ New and additional courses
 - ❖ Implement a one-year clinical residency program for M.S. students
 - ❖ Implement expanded clinical residency program for Ph.D. students (3 to 12 months)
 - Submit application for CAMPEP accreditation in Fall of 2009