HDR Student Induction
Research Integrity, Ethics and Hazardous Materials
Dr Bernadette Bradley, Biosafety Advisor 21/FEB/2019
The Research Integrity Team is here to provide assistance to help facilitate high quality research that is conducted with integrity and within the legislative framework.

As an office we:
- provide training & specialised advice;
- promote and monitor compliance; and
- process applications for permits and approvals.
Research Integrity Office Staff

- **Responsible Conduct of Research**
  Manager Research Integrity: Dr Catherine Gangell (Parental leave) / Gail Dixon

- **Human Research Ethics**
  Team Leader Ethics: Amy Bowater
  Clinical Trials Advisor: Anneli Robbshaw
  Senior Research Services Officer: Alina Dmitrieva
  Research Services Officers: Wendy Jacobs (Hlth), Heather Johnson (S&E), Pam Lee (CBS), Stephanie Holmquest (Hum)

- **Animal Research Ethics**
  Team Leader Ethics: Amy Bowater
  Manager Animal Facility: Dr Beng Chua
  Senior Research Services Officer: Alina Dmitrieva

- **Animal Welfare**
  Manager Animal Facility: Dr Beng Chua
  Animal Welfare Officer: Dr Tara Pike
  Animal Technicians: Kodee King, Dr Ashleigh Wolfe

- **Hazardous Materials**
  Biosafety and Defence Trade Control: Dr Bernadette Bradley
  Radiation Safety and Poisons: Dr Matt Carroll
Responsibilities of Supervisors
From the Australian Code for the Responsible Conduct of Research

- **Ensure training (3.3)**
  Discipline-based research methods and other relevant skills

- **Mentor and provide support (3.4)**
  Guide professional development. Provide guidance in all matters relating to research conduct and overseeing all stages of the research

- **Ensure valid and accurate research (3.5)**
  Oversight of the research outcomes
  Research methods and outcomes are appropriate and valid

- **Ensure appropriate attribution (3.6)**
  Appropriate credit for their work

Research Integrity Advisers
Provide advice to researchers with queries related to the Code
http://research.curtin.edu.au/research-integrity-ethics/research-misconduct/
Research Integrity Training Course

- Australian Code for the Responsible Conduct of Research
- Curtin University’s
  - Research Management Policy
  - Responsible Conduct of Research Policy and Procedure
  - Authorship, Peer Review and Publication of Research Findings Policy and Procedure
  - Research Data and Primary Materials Policy

- iPerform for Staff
- Blackboard for Students
Human Research Ethics

- Human research is conducted with or about people, or their data or tissue.
  - Taking part in surveys, interviews or focus groups
  - Undergoing psychological, physiological or medical testing or treatment
  - Being observed by researchers
  - The collection and use of participants’ body organs, tissues, fluids or exhaled breath
  - Researchers having access to the participants’ personal documents or other materials
  - Access to participants’ information as part of an existing published or unpublished source or database
Human Research Ethics Application Workflow

- Application submitted
  - Negligible risk: 1-2 days
  - Low risk: Review within the School/Faculty
  - Non-Low risk: Advisory Committee (unless Candidacy has been approved)

- Review by Team Lead (Ethics)
  - 1 week
  - 2 weeks

- Human Research Ethics Committee
  - 4 weeks
Animal Research Ethics

- An animal is defined as “any live non-human vertebrate (that is, fish, amphibians, reptiles, birds and mammals, encompassing domestic animals, purpose-bred animals, livestock, wildlife) and cephalopods”

- Animal research is divided into three categories:
  - Teaching studies
  - Research studies
  - Observational studies
Animal Ethics Application Workflow

3 R’s

- The replacement of animals with other methods
- The reduction in the number of animals used by good experimental design and use of statistics.
- The refinement of techniques used to reduce adverse impact.
Biological Hazards

**Chicken pox virus**
- Genetically Modified Organisms (GMO)
- Quarantined biological material imported from overseas or interstate
- Security Sensitive Biological Agents (SSBA)
- Microorganisms cultured from the environment
- Microorganisms in Risk Groups 2, 3 or 4
- Samples taken from humans or animals
- Australian native animals and plants
- Plants that are weedy or poisonous/toxic
- Insects that are dangerous or able to act as vectors for disease
- Human and animal research subjects

**Yellow Spot fungus**
Chemical Hazards

Classifications
- Hazardous Chemicals
- Dangerous Goods
- Poisons (permit required)
- Nanomaterials
- Chemicals of Security Concern
- Agricultural and Veterinary Chemicals

Types encountered
- Laboratory Chemicals
- Medicines & Drugs
- Gardening chemicals
- Paints
- Fuels
- Gases

Sodium Hydroxide Burn

Explosion
Radiation Hazards

Beauty treatment with a laser

Classifications

- Radioactive materials - e.g. Sealed or Unsealed Sources, Ores, NORM, Gauges
- X-ray or neutron equipment - e.g. Medical, Analysis, Dental, DEXA, Portable, Neutron generator
- Class 3B or 4 lasers - e.g. Research, Mapping, Medical, Surveying, Entertainment
- UV equipment - transilluminators

X-ray burn causing deformity of the hand
Radiation and Biosafety Application Workflow

**Radiation Application**
- Radiation Application submitted
  - Assessment of compliance requirements
  - Regulator Approval
  - Radiation Safety Officer/Committee
  - Up to 1 year (4 weeks)

**Biosafety Application**
- Biosafety Application submitted
  - Assessment of compliance requirements
  - Institutional Biosafety Committee
  - 4 weeks
  - Regulator Approval
  - Up to 1 year
Applying for project approval - InfoEd

- Apply for and manage your approvals from Curtin’s:
  Animal Ethics Committee, Human Research Ethics Committee,
  Institutional Biosafety Committee, Radiation Safety Committee

- Students can submit the application but cannot be Chief Investigators
  - When a Student creates an application, they must assign a Staff member as the Chief Investigator.
  - They must add themselves as an investigator on the form to see the application.
  - They can find the application by searching for the record number in ‘quick find’.

Legislation

- **Federal legislation**
- **State legislation**
- **Standards**
- **Codes of Practice**

- Occupational Safety and Health Act 1984
- Occupational Safety and Health Regulations 1996
- Gene Technology Act 2000
- Gene Technology Regulations 2001
- Biosecurity Act 2015
- Biosecurity and Agriculture Management Act 2007
- Biosecurity and Agriculture Management Regulations (2013)
- National Health Security Act 2007 (Part 3 – Regulation of security-sensitive biological agents)
- National Health Security Regulations 2008
- National Health and Medical Research Council Act (1992)
- Wildlife Conservation Act (1950)
- Fish Resources Management Act (1994)
- Dangerous Goods Safety Act 2004
- Dangerous Goods Safety (General) Regulations 2007
- Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007
- Dangerous Goods Safety (Security Risk Substances) Regulations 2007
- Poisons Act 1964
- Poisons Regulations 1965
- Agricultural and Veterinary Chemicals Act 1995
- Environmental Protection Act 1986
- Environmental Protection (Controlled Waste) Regulations 2004
- Health (Drugs and Allied Substances) Regulations 1961
- Misuse of Drugs Act 1981
- Misuse of Drugs Regulations 1982
- Chemical Weapons (Prohibition) Act 1994
- Chemical Weapons (Prohibition) Regulations 1997
- Industrial Chemical (Notification and Assessment) Act 1989
- Agricultural and Veterinary Chemicals Code Act 1994
- Agricultural and Veterinary Chemicals Code Regulations 1995
- Customs Act 1901
- Defence Trade Controls Act 2012
- Excise Act 1901
- Excise Regulations 1925
- Therapeutic Goods Act 1989
- Radiation Safety Act 1975
- Radiation Safety (General) Regulations 1983
- Radiation Safety (Qualifications) Regulations 1980
Hazard Identification Tool (HIT)

Before conducting research or teaching activities at Curtin, you must:

- identify the hazards inherent in your work,
- document your safety protocols in a written risk assessment, and
- seek any approvals you need from Curtin or Government regulatory bodies.

The HIT for HDR students should be filled out as part of the candidacy approval process.

Purpose:
To provide feedback about chemical, radiation, biological and environmental hazards associated with your work and provide advice about any approvals and safety controls.
Complete the HIT

- Access the HIT: https://hit.curtin.edu.au/

Question B5:
Are you planning to conduct research activities involving any poisons, medicines and/or drugs? (i.e. pharmaceutical products, antibiotics, toxic chemicals)
- Yes
- No
- Unsure

Question B6:
Are you planning to conduct work involving nanomaterials?
- Yes
- No
- Unsure

Question B7:
Are you planning to conduct work activities with or where any gases, fumes and/or dust from solid chemicals may be generated?
- Yes
- No
- Unsure
Read the Feedback

Section B: Radiation Safety

Question B5:

Are you planning to conduct research involving Ultraviolet Sources? (Examples: Transilluminators, panray lamps, UV tubes, lamps, bulbs, germicidal cabinets, biohazard cabinets, analytic equipment (such as spectrometers) that use accessible UV sources, etc)

Answer: Yes

You mentioned UV was to be used in the work. If using transilluminators you will need to ensure that your supervisor has a current transilluminators project approval number to cover your work. If so, please provide me with the approval number. If not, please download the application form [http://research.curtin.edu.au/research-integrity-ethics/radiation-safety/](http://research.curtin.edu.au/research-integrity-ethics/radiation-safety/) and submit the completed application to the University RSO, Office of Research and Development, building 100, or email to radsafety@curtin.edu.au. Feel free to contact me if you think it would resolve the issue more efficiently or you are having trouble completing the form.

You may need to attend a safety training course. If you are working relatively independently with these transilluminators you may need to obtain a radiation license from the Radiological Council – the WA Radiation Regulator. For many transilluminators your supervisor or another staff member will have a license and you will be working under their license and supervision for radiation safety.

For other UV sources it may be sufficient to ensure students have read the safe working procedures and risk assessments for the apparatus and undergo inductions and training on its use (records must be kept). Could you please provide some brief information about the apparatus, its make and model, its wavelength and power outputs, its location (building number, room number) and whether it will be used in any way that is not consistent with its intended use.

Radiation Safety Advisor at Curtin University, Matt Carroll, 9266 1708, radsafety@curtin.edu.au
Questions?