



BROWN

## Responsible Conduct of Research (RCR)

### BEARCORE – Brown Ethics and Responsible Conduct of Research Education

#### Spring 2018 Syllabus

**Course Description:** The **Brown Ethics And Responsible Conduct Of Research (BEARCORE)** program is administered by the Office of the Vice President for Research/Office of Research Integrity at Brown, and is offered to students and trainees from a variety of academic fields, biomedical and non-biomedical. It is designed to acquaint researchers and trainees with ethical issues that emerge in all disciplines, and to equip participants with knowledge and resources to conduct their scientific investigations responsibly and with the highest degree of excellence and integrity. Successful completion of the BEARCORE training fulfills the National Institutes of Health's (NIH) and the National Science Foundation's (NSF) RCR requirements.

**Course Contacts:** Rebecca Haworth, Research Integrity Manager, Office of Research Integrity

[Rebecca\\_Haworth@brown.edu](mailto:Rebecca_Haworth@brown.edu) Phone: 401-863-2041

Jules Blyth, Associate Director, Office of Research Integrity

[Juliane\\_Blyth@brown.edu](mailto:Juliane_Blyth@brown.edu) Phone: 401-863-3295

#### **Course Dates:**

1. Mandatory Sessions  
Thursday, March 8, 2018, 11 am – 1 pm  
Thursday, March 15, 2018, 11 am – 1 pm  
Thursday, April 5, 2018, 11 am – 1 pm
2. Elective Sessions  
One hour elective sessions are offered Mondays and Thursdays, 11 am – 12 pm and 12 pm – 1pm April 9, 2018 and April 30, 2018

**Course Location:**

Mandatory Sessions: Thursday, March 8 & 15 – South Street Landing, 350 Eddy Street, 4<sup>th</sup> floor, Rooms 498/499

Thursday, April 5 – Kasper Multipurpose Room (Room 040), Stephen Robert Campus Center/Faunce House, 75 Waterman Street

Electives: Please see location description for each elective listed below

**Course Format:** BEARCORE is an in-person training course. It is conducted in the following format:

- three two-hour weekly sessions that are mandatory for all participants; and
- one hour elective sessions.

The sessions are co-taught by Brown faculty members and subject matter experts with in-depth topic area knowledge. The sessions are predominantly case-based, and include mixed-media presentations, panel discussions, and in-class discussions of hypothetical and real scenarios drawn from current literature and news media.

**Course Requirements:** In order to earn a Certificate of Completion, participants must (a) attend all three mandatory sessions, and (b) attend at least three one hour elective sessions. Participants must engage in class discussions and complete any assigned homework.

**BEARCORE Refresher Course:** If you are enrolled in the BEARCORE refresher course, you must attend at least 4 hours of in-person teaching to receive the RCR Refresher certificate. You may, for example, attend two mandatory sessions (2 hours each) OR choose four one hour electives. You could also attend one mandatory session and 2 one hour electives.

**Required Readings/Assignments:** Relevant required readings or assignments will be given directly prior to each week's class.

**Other Recommended Readings and Books on Responsible Conduct of Research:**

- Steneck, N. (2004): Introduction to the Responsible Conduct of Research
- National Academy of Sciences, National Academy of Engineering, Institute of Medicine (2009): On Being a Scientist: A Guide to Responsible Conduct in Research.
- Comstock G (2013): Research Ethics: A Philosophical Guide to the Responsible Conduct of Research. Cambridge University Press, Cambridge, UK.
- Shamoo AE, Resnick DB (2002): Responsible Conduct of Research. Oxford University Press, New York.
- Israel, M and Hay, I (2006): Research Ethics for Social Scientists: Between Ethical Conduct and Regulatory Compliance. Thousand Oaks, CA; Sage Publications.

- Macrina, FL (2014): *Scientific Integrity: Text and Cases in Responsible Conduct of Research*. Fourth edition, ASM Press, Washington, D.C.

## BEARCORE Session Schedule

**Session 1**      **Thursday, March 8, 2018**      **11 am – 1 pm**      **MANDATORY**

Topics:      ***Being a “Responsible Scientist” in the Current Research Climate***

Today’s scientific enterprise faces many challenges: a tougher funding climate, especially for basic science, greater reliance on “soft” money, growing global competition, and increased regulatory oversight, to name a few.

In addition, societal and institutional expectations favor results, success, and publicity. In such a climate, can we, and indeed should we, promote ethics and practices that may, at times, stand at odds with what can get you ahead?

This session discusses the importance of research integrity and ethical practices within the current research climate. What does it mean to be a “responsible scientist,” today, and why does “Responsible Conduct of Research” need to be taught in a course?

Speaker(s)/Instructor(s):

Jill Pipher, Ph.D., Vice President for Research, Brown University

Cass Cliatt, Vice President of University Communications

Jules Blyth, Associate Director, Office of Research Integrity

Location:      South Street Landing, 350 Eddy Street, 4<sup>th</sup> floor, Rooms 498/499

**Session 2**      **Thursday, March 15, 2018**      **11 am – 1 pm**      **MANDATORY**

Topics:      ***Reproducibility and Transparency in Research; Research Misconduct***

Increasing concerns about the reliability of research has focused the attention of sponsors and journals on ways to improve the rigor and reproducibility of science. Regulatory requirements and reform efforts are being implemented to address this growing issue.

A number of issues have been implicated in the "reproducibility crisis"; lack of transparency in the reporting of results, poor study design and execution, data management issues, improper analyses of data, reporting biases (primary vs. secondary

outcomes, under-reporting of negative results) and incomplete descriptions of methods to enable replication.

This session will explore these issues, describe current sponsor and journal requirements for publication and reporting of research, and identify the key differences between a lack of rigor in research and actual research misconduct (plagiarism, and falsification/fabrication of data).

Speaker(s)/Instructor(s):

Keri Godin, Director, Office of Research Integrity

Stacey Springs, Ph.D., Investigator in Health Services, Policy and Practice; Fellow in Bioethics, Harvard Medical School

Location: South Street Landing, 350 Eddy Street, 4<sup>th</sup> floor, Rooms 498/499

**Session 3**      **Thursday, April 5, 2018**      **11 am – 1 pm**      **MANDATORY**

Topics:      **Addressing Bias and Conflict of Interest in Research**

*“The idea that scientists are objective seekers of truth is a pleasing fiction, but counterproductive in so far as it can lessen vigilance against bias.” (Young, SN)*

Cognitive and motivational mechanisms can produce bias and influence our judgment and behavior. Scientists are not immune to this. The reproducibility crisis has been linked, in part, to cognitive habits that have led to errors and mistakes in scientific research. Developing an awareness and understanding of these mechanisms is an important first step in helping to safeguard against such errors.

In this session, we will discuss theories and evidence concerning cognitive and motivational mechanisms that can affect research: from design to conduct and/or reporting. We will explore in detail the concept of “Conflict of Interest (COI)” and discuss some recent COI cases. Lastly, we will explore federal regulations and policies governing Conflicts of Interest in research.

To round it off, Brandon Marshall, Associate Professor of Epidemiology, will discuss his research on the effects of industry payments to physicians for opioid products.

Speaker(s)/Instructor(s):

Jules Blyth, Associate Director, Office of Research Integrity

Brandon Marshall, Ph.D., Associate Professor of Epidemiology, School of Public Health, Brown University

Location: Kasper Multipurpose Room (Room 040), Stephen Robert Campus Center/Faunce House, 75 Waterman Street

**ELECTIVES:**

**Session 1**      **Monday, April 9, 2018, 11 am – 12 pm**

***IP/Commercialization in Academia***

How does intellectual property, created in an academic research environment, move from discovery to market? What role does the university play in the commercialization process? Who owns the IP and who pays for the patent costs? What is the difference between a patent, copyright, and authorship? Who can be an inventor on IP? These and many other questions will be answered in this session by our experts from Brown's Industry Engagement and Commercial Venturing Office (IECV) and faculty with commercialization experience.

Course Instructor(s)/Speaker(s):

Brian Demers, Director of Business Development, Office of Industry Engagement & Commercial Venturing

Location: Digital Scholarship Lab (DSL) in the Rockefeller Library (10 Prospect Street)

**Session 2**      **Monday, April 9, 2018, 12 pm – 1 pm**

***Information/Data we cannot share: Proprietary Information and Export Controls***

Unlike companies, which are fiercely protective of their research results and data, academia has always fostered a culture of collaboration and sharing. However, an increase in collaborations with industry has introduced proprietary information into the academic research enterprise. Proprietary information is generally confidential and cannot be shared without prior permission from the industry partner. Moreover, university researchers' activities are increasingly intersecting with export control regulations, making it necessary in some cases to restrict sharing of research data, information, and technology. This session looks at proprietary information and discusses what researchers can and cannot do with such information. It further introduces participants to export control regulations in an academic setting and explores what activities may trigger controls and potential restrictions.

Course Instructor(s)/Speaker(s):

Leonard Katzman, Esq., Director of Business Development, Office of Industry Engagement & Commercial Venturing

Jules Blyth, Associate Director, Office of Research Integrity, Export Control Officer

Location: Digital Scholarship Lab (DSL) in the Rockefeller Library (10 Prospect Street)

**Session 3 Thursday, April 12, 2018, 11 am – 12 pm**

***Ethical Issues in Animal Research***

The scientific community largely views research with animal subjects as a scientific necessity to find cures and treatments that will benefit society. However, the use of animals in research is fraught with emotion and considered unethical by some, and anti-research organizations are focused on ending this practice. This session will explore responsible conduct of research as it applies to the use of animals in research. What is the regulatory framework that governs their use? What are a researcher's ethical obligations when working with animals? We will discuss the historical and ethical framework that forms the basis of today's animal research regulations and use realistic scenarios to walk through ethical decision-making as it pertains to using animals in research.

Course Instructor(s)/Speaker(s):

Lara Helwig, D.V.M., DACLAM, Director of Animal Care and Attending Veterinarian, Brown University

Location: Horace Mann, Room 103 (47 George Street)

**Session 4 Thursday, April 12, 2018, 12 pm – 1 pm**

***Conflict Resolution in Mentor/Mentee Relationships***

A strong mentor-mentee relationship is key to a positive and successful learning experience. When conflicts arise between mentors and mentees, they can affect an entire lab or research team. Addressing and resolving a conflict issue as soon as it arises is essential to maintaining a strong mentor-mentee relationship. While many people try to avoid conflict at all costs, dealing with an issue between a mentor and mentee can sometimes help to strengthen and solidify the relationship if the issue is rectified in a positive manner. This interactive session explores methods and processes for resolving conflicts between mentors and mentees. It also discusses what resources are available at Brown to facilitate conflict resolution.

Course Instructor(s)/Speaker(s):

Ruth Kohorn Rosenberg, J.D., Brown University Ombudsperson

Location: Horace Mann, Room 103 (47 George Street)

**Session 5**      **Monday, April 23, 2018, 11 am – 12 pm**

***Communicating Science***

For scientists today the ability to communicate is not just important, it is essential. Scientists have to be able to describe and discuss research and results clearly, concisely and accurately, not just to funders and peer reviewers, but to colleagues and the public at large. This is not always easy, especially when the science is complex. Join Associate Director of the Brown Brain Science Institute and former science journalist and editor, John Davenport, for a hands-on session on science communication. With the help of examples, attendees will learn session will discuss and will provide resources and tools to help you improve speak and write for the public, effect policy and decision-making, develop an elevator pitch, and impact the local community.

Course Instructor(s)/Speaker(s):

R. John Davenport, Ph.D., Associate Director, Brain Science Institute,  
Brown University

Location: Digital Scholarship Lab (DSL) in the Rockefeller Library (10 Prospect Street)

**Session 6**      **Monday, April 23, 2018, 12 pm – 1 pm**

***Responsible Data Sharing***

More and more researchers work with big data sets and/or receive data from an outside source. What are data use agreements and what are our responsibilities when working with outside data sets? Who owns the data and what kind of data can we share and with whom? What kind of data requires special protection and handling? What are PHI? What are CUI?

Course Instructor(s)/Speaker(s):

Neil Sarkar, Ph.D., Director of the Center for Biomedical Informatics,  
Associate Professor of Medical Science, Associate Professor of Health  
Services, Policy and Practice

Location: Digital Scholarship Lab (DSL) in the Rockefeller Library (10 Prospect Street)

**Session 7**      **Thursday, April 26, 2018, 11 am – 12 pm**

***Responsible Data Management***

Come and learn about federal funders, publishers, and Brown's expectations for managing your research data. The major federal research funding agencies have adopted public access policies for sharing publicly-funded research data with the public. As a result these funders are requiring data management and sharing plans for inclusion along with grant proposals outlining how data will be stored, backed up, secured, documented, disseminated and preserved. Furthermore, an increasing number of scientific journals are requiring data be archived and made available for supporting published findings. This workshop will review data retention and stewardship expectations for research data at Brown and local tools for managing, preserving, and sharing research data. In addition to research data, several funders have created several new portals for publicly sharing publications as well. There have been several high-profile cases of predatory publishers using dishonest practices to solicit articles from researchers. This workshop will cover tools and resources at Brown to help you with recognizing warning signs of a predatory publisher and selecting reputable journals for publishing your research.

Course Instructor(s)/Speaker(s):

Andrew Creamer, Scientific Data Management Specialist, University Library

Location:      Horace Mann, Room 103 (47 George Street)

**Session 8**      **Thursday, April 26, 2018, 12 pm – 1 pm**

***Sponsored Research – what every investigator should know***

Most scientists will, in the course of their career, receive sponsored research support, whether it is through a federal grant, a work order, an industry contract or gift. What are the rights and responsibilities under each of these funding mechanisms? What is the life cycle of a sponsored award and what is expected of the Principal Investigator (PI) at each stage of the award?

This session will explore the various sponsored research mechanisms and discuss funders' expectations and PI responsibilities.

Course Instructor(s)/Speaker(s):

Patrice Carroll, Director, Office of Sponsored Projects

Katherine Fleck, Associate Director, Office of Sponsored Projects

Location: Horace Mann, Room 103 (47 George Street)

**Session 9**      **Monday, April 30, 2018, 11 am – 12 pm**

***Authorship Guidelines/Peer Review***

This session explores guidelines for responsible authorship. Who qualifies as an author on a publication? What practices are not acceptable? What do you do if there is disagreement in the research team over authorship? How do you avoid authorship conflicts? The session also discusses the peer review process: how does it work and what are the expectations for a peer reviewer.

Course Instructor(s)/Speaker(s):

Meredith Hastings, Ph.D., Associate Professor of Environment and Society and Earth, Environmental, and Planetary Sciences

Jules Blyth, Associate Director, Office of Research Integrity

Location: Digital Scholarship Lab (DSL) in the Rockefeller Library (10 Prospect Street)

**Session 10**      **Monday, April 30, 2018, 12 pm – 1 pm**

***Ethical Issues in Human Subjects Research***

The "Ethical Issues in Human Subjects Research" session will offer an overview of the responsible conduct of research as it pertains to human subjects research, whether biomedical or social/behavioral/educational. The presenters will provide an overview of the historical and ethical framework that form the basis of the human subjects research regulations that we follow today. They will discuss key definitions that determine the applicability of the human subjects regulations and illustrate how the principles are operationalized in institutional procedures and policies such as review by an Institutional Review Board (IRB) and the informed consent process. Case studies will be presented to encourage discussion.

Course Instructor(s)/Speaker(s):

Jane Metrik, Ph.D., Assistant Professor of Behavioral and Social Sciences (Research), Assistant Professor of Psychiatry and Human Behavior (Research)

Susan Carton Lopez, Associate Director, Office of Research Integrity, Director Brown University IRB

Location: Digital Scholarship Lab (DSL) in the Rockefeller Library (10 Prospect Street)