Brief description
The main goal of this course is to increase participants’ awareness about responsible conduct of research including strategies for preventing irresponsible research practices inclusive of unacceptable research practices as well as research misconduct. The RCR course meets the requirement for individuals engaged in NIH and NSF funded research and focuses on a conceptual understanding of responsible conduct of research as key to human and societal development.

Summary
The scientific research enterprise is built on a foundation of professionalism and trust. Society inclusive of the public trusts that the results reported by all scientists are valid as they are based on honesty. In order to ensure that science is conducted ethically, and to preserve the public’s trust in science, it is important that investigators are aware of and able to use high professional and ethical standards in their work. Scientists are expected to adhere to the core values of objectivity, honesty, openness, fairness, accountability, and stewardship. Scientists are also expected to comply with international norms, professional codes, federal and state regulations; and institutional policies that govern research.

This short course in the Responsible Conduct of Research (RCR) will provide participants with an opportunity to engage in various topics that relate to responsible conduct of research. The course has been designed with the long term goal of fostering a research culture which is based on high ethical and professional standards. Among other things, the course seeks to empower participants to engage in conversations with peers, mentors, juniors about responsible conduct of research; to expose trainees to the reasons for and existence of rules, expectations, options, and resources relevant to the responsible practice of research; and to improve attitudes towards ethical decision making as an important part of the practice of research.
The RCR Course is suitable for any person involved in research, ranging from established faculty, IRB members, graduate students, research staff and any other individuals with an interest in science. Particular emphasis is given to the educational needs of graduate students and postdoctoral researchers. NIH and other research funders require individuals engaging in research to undergo instruction in RCR at least once during each career stage, and at a frequency of no less than once every four years. NIH guidelines explicitly argue against reliance solely on online tutorials for RCR education and insists on face to face training as face to face training increases opportunities for active engagement, which is important in ethical decision making. This course exceeds the NIH training requirements for all trainees, fellows, participants, and scholars receiving support through any NIH award. This course is distinct from the CITI online training that is available to GW faculty. In order to improve the practical relevance of the course to attendees, officials from relevant GW Offices and other invited guests will participate in the delivery of the different sessions of the course.

**Learning objectives**
Upon successfully completing this course, students will be able to:
1) Understand and be able to describe the ethical rationale for RCR instruction and associated regulations and policies.
2) Describe the concepts of research integrity, research misconduct and unacceptable research practices.
3) Describe basic ethical and regulatory requirements for conducting bench, animal, clinical, and public health research and apply them to research practice.
4) Recognize when laboratory practices, publication practices, and other research practices deviate from legal, ethical, or regulatory requirements.
5) Describe practices and strategies that promote compliance with ethical and legal requirements for the responsible conduct of research.

**Course topics and course delivery methods**
Through lectures, case studies, group discussions, directed readings and other methods, the course shall cover the following Core competency areas that are required by major funding agencies including NIH and NSF:
1. Protection and Use of Human Subjects in Research (IRB)
2. Conflict of Interest in research
3. Data Acquisition, Management, Sharing, and Ownership
4. Animal Care and Use in Research (IACUC)
5. Research Misconduct
6. Publication Practices and Responsible Authorship
7. Mentoring/Trainee Responsibilities
8. Peer Review
9. Laboratory and environmental safety
10. Collaborative Research

Required texts
The course has three required textbooks. Additional readings will be provided during class.

Methods of assessment
Student evaluation is based on a combination of one individual assignment (30% of final grade), one group assignment (30% of final grade), one quiz (30% of final grade) and attendance (10% of final grade).
Dr. Ndebele is a Professorial Lecturer in the Department of Global Health and a Senior Research Regulatory Specialist in the Office of Research Excellence (ORE) at the Milken Institute School of Public Health, the George Washington University. Dr Ndebele holds a PhD obtained from University of KwaZulu Natal (UKZN) in South Africa focusing on improving informed consent for clinical trials conducted in low-literacy populations. He has 20 years of experience in supporting responsible conduct of research (RCR) having held prior appointments in various institutions including Division of AIDS, US National Institutes of Health (Bioethicist); University of Botswana (Assistant Director for Research Ethics); College of Medicine, University of Malawi (Deputy Director); and Michigan State University (Assistant Professor). In the various positions, Dr Ndebele has played various roles relating to RCR including RCR and GCP Training, developing and reviewing research policies, delivering seminars on RCR topics and mentoring others. Paul has served as a Bioethics Scholar in Bioethics Programs at Johns Hopkins University; University of KwaZulu Natal; Padova University (Italy); and Ethox Centre at Oxford University. He has written widely in the area of Research Ethics and is mainly interested in issues of justice in global health research; and improvement of informed consent and research literacy.
Dr. Adnan Hyder is Senior Associate Dean for Research and Professor of Global Health at the Milken Institute School of Public Health of George Washington University. Previously, Dr. Hyder served as the Associate Chair of the Department of International Health and Director of the Health Systems Program at the Johns Hopkins Bloomberg School of Public Health. He was also previously Associate Director for Global Programs at the Johns Hopkins Berman Institute of Bioethics and founding Director of the Johns Hopkins International Injury Research Unit. For over 20 years, Dr. Hyder has worked to improve global health in low- and middle-income countries across Africa, Asia, Latin America, and the Middle East; and pioneered empirical work around health systems, ethics, and injury prevention in the developing world. Dr. Hyder has co-authored over 300 scientific peer-reviewed papers and numerous world reports on road safety, child injuries, and health systems. Dr. Hyder received his M.D. from the Aga Khan University, Pakistan and obtained his MPH and Ph.D. in Public Health from Johns Hopkins University, USA.