Research Integrity and Compliance
New Faculty Orientation: August 19, 2021
Welcome and Introductions

Office of the Senior Vice President for Academic Affairs and Provost (SVPAAP), Office of Faculty Affairs

- **Melissa Thompson**, JD, Research Integrity Officer (RIO)
- **Mariah Bauer**, PhD, Director, Responsible Conduct of Research (RCR)

Division of Research

- **Adam Grant**, Director, Export Compliance Office (Export Compliance Officer)
Research at UMD

- UMD mission statement: “Achieving excellence in teaching, research, and public service within a supportive, respectful and inclusive environment...”
- Excellence in research requires integrity in research.
Research Integrity at UMD

- Promoting and supporting responsible conduct of research (“RCR”)
- Ensuring regulatory/funding compliance
- Addressing allegations of research misconduct
Research Integrity at UMD

- UMD Policy and Procedures Concerning Scholarly Misconduct
- Office of Faculty Affairs (Research Integrity Officer)

- Promoting and supporting responsible conduct of research (“RCR”)
- Ensuring regulatory/funding compliance
- Addressing allegations of research misconduct
Scholarly Misconduct: The Policy

- **Applies to all scholarly work** (including research, grant applications/proposals, and other creative activities) performed either:
  - at UMD by any person (including faculty, staff, students, visitors, and others); or
  - elsewhere by a person acting under the auspices of the University; or
  - with the use of UMD resources
- **Applies regardless of funding mechanism** (*i.e.*, isn’t just limited to federally funded work with agency-specific requirements for handling allegations of research misconduct)
- **Goes beyond the federal definition** of “research misconduct” to address other forms of inappropriate behavior in scholarly endeavors
Scholarly Misconduct: The Definition

<table>
<thead>
<tr>
<th>Research Misconduct*</th>
<th>Other Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Falsification</td>
<td>• Improprieties of authorship</td>
</tr>
<tr>
<td>• Fabrication</td>
<td>• Abuse of confidentiality/ misappropriation of ideas</td>
</tr>
<tr>
<td>• Plagiarism</td>
<td>• Deliberate misrepresentation of qualifications</td>
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</table>

*Federal definition; required to address these forms by federal regulation.

Scholarly misconduct is **not**: unintentional error; differences in interpretation/judgment of data/results; student academic dishonesty.

Authorship disputes are typically **not** treated as scholarly misconduct.

- Deliberate material failure to comply with federal, state, or University requirements affecting research
- Violation of generally accepted research practices
Scholarly Misconduct: Real Cases*

- Image manipulation/manufacture ← major issue
- Reusing data – or presenting data from one experiment as data resulting from different set of experimental conditions ← major issue
- Relabeling sample/tissue types
- Completely making up experimental results, an intervention, a control
- Lying about replication
- Deliberately omitting data points or “cherry-picking”
- Deliberately changing statistical calculations
- Stealing someone’s idea(s) from a conference presentation or a peer review opportunity
- Employing “mosaic plagiarism” or “forgetting” to reword content in a review article

* [from multiple institutions]
Scholarly Misconduct: The Process

- Also driven by federal regulation
- Step-wise process, with specific standards that must be met at each stage to proceed
- Multiple individuals involved in reaching key determinations (including subject matters experts)
- Incorporates due process, confidentiality, protection from retaliation, restoration of reputation
Scholarly Misconduct: The Process

To reach a finding that misconduct occurred, the process needs to establish that there was:

✔ a significant departure from accepted practices;
✔ committed intentionally, knowingly, or recklessly; and
✔ supported by a preponderance of evidence.

Even if scholarly misconduct is not established, the respondent’s conduct could still be found to constitute an unacceptable or questionable research practice, leading to referral to an appropriate administrator for action, including disciplinary action.
Scholarly Misconduct: Outcomes

- Can lead to **corrective action, disciplinary action and/or sanctions** (by institution and by funding/regulatory agencies)
  - Examples: correction/retraction of papers; research restrictions; remedial training; prohibition from working with students or removal from Graduate Teaching Faculty; oversight (e.g., data management); termination/expulsion; debarment (can’t receive federal funding); prohibition from serving on review committees; payback of funds; referral for further legal action

- Can also lead to **actions against the institution** by funding/regulatory agencies or the DOJ
  - Examples: penalties for False Claims Act violations; increased scrutiny, oversight, audits; additional burden for grant applications; temporary halt on ability to receive funding
Scholarly Misconduct: Your Role

Help us address it.

• Review the Policy/Procedures.
• Ask questions (of me – not others...). (We can talk about “hypothetical” situations.)
• Report suspected misconduct – and put it in writing. (E-mail rio@umd.edu. Other approaches: call 301-405-6803 or submit an EthicsPoint report.) Be specific.
• Know that you can report anonymously or ask not to have your identity disclosed – and know that you’re protected.
• Don’t wait – and don’t investigate!
Scholarly Misconduct: Your Role

Help us prevent it.

- Faculty members are in a special position.
  - Identify best practices and model good behaviors.
  - Understand the motivating/underlying factors and encourage anyone struggling with them to seek support.
  - Know the red flags.
5 Ways Supervisors Can Promote Research Integrity

Are you a principal investigator, research coordinator, academic advisor, or mentor? Roles such as these place you in a unique position to cultivate exceptional research practices among the next generation of researchers.

1. Be Available & Approachable
   - Your team wants to learn from YOU!

2. Review Raw Data
   - You are responsible for the integrity of your team’s data.

3. Communicate Expectations
   - Prevent misunderstandings by making sure everyone is on the same page.

4. Provide Training and Guidance
   - Avoid making assumptions about anyone’s skills or knowledge.

5. Know Your Research Integrity Officer
   - Be prepared in case you ever suspect research misconduct.

POOR SUPERVISION

“I was scared to go to [my PI]. He used to scream & yell at me when things did not work as planned.”

INADEQUATE TRAINING

“After two years of a postdoctoral fellowship... I still don’t know how to properly publish Western blot data.”

COMPETITIVE PRESSURES

“I felt it was necessary to get a paper in a high-profile journal in order to get a faculty position.”

PERSONAL CIRCUMSTANCES

“I had been applying for a green card and felt pressured to make a good paper and get good publications.”

INDIVIDUAL PSYCHOLOGY

“Half of me wanted to make [my PI] proud. The other half was terrified of failing... so I fabricated a piece of data.”
POSSIBLE RED FLAGS OF RESEARCH MISCONDUCT

TIME
- Usable data are only generated when there is a pressing deadline
- Experiments are completed faster than usual

RESULTS
- Data are too good to be true
- Findings can't be replicated by others in the lab

LACK OF TRANSPARENCY
- Raw data can't be produced when requested
- Research materials and protocols are kept hidden
- Work is mostly done when no one else is around
Scholarly Misconduct: Your Role

Help us prevent it.

• But we’re all in this together, and you have help.

  • **Resources**
    • Visit our research integrity website: [https://researchintegrity.umd.edu](https://researchintegrity.umd.edu)
    • Attend research integrity events on campus – like OFA’s fall Faculty Forum series on research integrity!
      • Tentative topics: research misconduct; disclosure/conflict of interest/conflict of commitment; authorship/publication
      • Dates TBD
    • Contact responsible offices/units
  
  • **Education** *(e.g., RCR training)*
Research Integrity at UMD

- Addressing allegations of research misconduct
- Ensuring regulatory/funding compliance
- Promoting and supporting responsible conduct of research ("RCR")
Research Integrity at UMD

Standard topics:
- Research misconduct
- Authorship and publication practices
- Data acquisition, management, sharing, and ownership
- Mentor/mentee relationships
- Peer review
- Collaborative research
- Conflicts of interest
- Intellectual property
- Human/animal subjects research
- Safe laboratory practices

Emerging topics:
- Foreign engagement/influence
- Rigor and reproducibility
- Harassment

Promoting and supporting responsible conduct of research (“RCR”)

Addressing allegations of research misconduct

Ensuring regulatory/funding compliance
Research Integrity at UMD

**Related compliance requirements:**

- **For researchers:** funding agency/sponsor-specific RCR training requirements (NIH, NSF, USDA/NIFA)

- **For the institution:** broader/blanket regulatory requirement (PHS/ORI) to foster environment that promotes responsible conduct of research and discourages misconduct
RCR: Existing Training Requirements

Certain major funding agencies have specific RCR training requirements for researchers:

- **National Institutes of Health ("NIH")**: requires training for “all trainees, fellows, participants, and scholars receiving support through any NIH training, career development award (individual or institutional), research education grant, or dissertation research grant”

- **National Science Foundation ("NSF")**: requires training for all undergraduate students, graduate students, and postdoctoral researchers participating in research supported by NSF funds

- **U.S. Department of Agriculture/National Institute of Food and Agriculture ("USDA/NIFA")**: USDA/NIFA requires that award recipients “train their staff” regarding, at a minimum, “authorship and plagiarism, data and research integration, and reporting misconduct”
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**RCR: Existing Training Requirements**

**Example: NIH requirements**

- **Source:** NIH notice [NOT-OD-10-019](#)
- **Applicability:** specifically named programs (certain D, F, K, T, and U awards) and any other NIH-funded programs supporting research training, career development, or research education that require RCR instruction as stated in funding opportunity announcements
- **Format:** substantial face-to-face discussions; combination of didactic and small-group discussions (e.g., using case studies); with participation of research training faculty members
  
  > “While on-line courses can be a valuable supplement to [RCR] instruction..., online instruction is not considered adequate as the sole means of instruction.”

- **Subject matter:** coverage of all previously mentioned standard topics
- **Duration/frequency:** at least 8 “contact hours”; undertaken at least once during every career stage – and no less than once every 4 years
RCR: Thinking Bigger

• But the responsible conduct of research is about more than just meeting compliance requirements.

• It involves the ethical responsibility – on the part of all researchers – to generate and disseminate knowledge with integrity and rigor.

• Embracing and engaging in the responsible conduct of research is a critical part of fostering a culture of research integrity, which is expected not just by funders, but by the institution, your peers and colleagues, and the public.

• Training and education in RCR plays a crucial and continuing role in ensuring that institutions and their researchers can fulfill this important, overarching obligation.
RCR: Thinking Bigger

• And training/education in the responsible conduct of research shouldn’t be limited to certain populations or undertaken simply to “check the box” of fulfilling funder requirements.
• It’s an effort that should be undertaken regardless of your funding status, the source of your support, or the stage of your research career.
• It should also continue throughout that career, particularly as expectations and best practices can evolve.
• The principles apply to all disciplines/fields – not just those represented by the funding agencies with requirements.
RCR: How It Helps You

- In addition to just protecting your reputation through the use of best practices – and protecting your ability to keep receiving crucial research funding through compliance with specific requirements – RCR training can actually benefit your day-to-day work, saving you time and frustration. **RCR education can:**
  - Help you avoid authorship disputes or issues with collaborators
  - Give you tips for managing and working with your data
  - Advise you on how to avoid pitfalls that can lead to questions about your work
  - Give you tips for how to interact with mentees
  - Help you keep up with best practices in publishing
RCR: Existing Training Options

- Take Collaborative Institutional Training Initiative ("CITI") online RCR training course
- Request a session on certain RCR topics from individuals in Division of Research (e.g., for sessions on COI or IP) or OFA (for research misconduct)
- Ask your department/college leadership about any local RCR programming (some departments/colleges dedicate faculty meetings to RCR topics; some graduate training programs have RCR courses)
RCR: What We’re Doing to Help

- Keeping track of expectations and developments.
  - Indicators of **increased interest** from funders in what institutions are doing to foster integrity/RCR and how researchers are fulfilling existing requirements
  - Major federal **oversight** agency staffing up compliance arm
  - Major funding agency (NSF) possibly expanding requirements to faculty

- Keeping track of trends.
  - Benchmarking with our peer institutions
  - Monitoring evolving areas of interest for regulatory/funding agencies
RCR: What We’re Doing to Help

• Thinking about what UMD needs as our research enterprise grows and the way in which we conduct research evolves.
  • Recently established Responsible Conduct of Research Collaborative (“RCR-C”)
    • Joint initiative of the Offices of the Provost and Vice President for Research
    • Pinned to President Pines’ TerrapinSTRONG initiative
    • Ultimate goal: create robust, holistic RCR programming – for all researchers and administrators – as part of an informed, practical, and helpful RCR program
RCR: An Informed, Practical, and Helpful Program

- Creating **new training modules** and resources/tools to aid in employing best practices
- Developing **new options for fulfilling/supplementing training requirements** *(e.g., workshops/colloquia on RCR-related topics)*
- Collecting/distributing information regarding existing opportunities on campus
- Developing **user-friendly tracking/reporting system** for training completion
- Engaging with **key populations/stakeholders**, including faculty who represent different disciplinary research areas, regarding needs
- Coordinating RCR at the institutional level
RCR: What You Can Do

• **Talk about what RCR means** in your discipline/field – with your lab/research group and with your colleagues/peers

• **Seek out RCR training opportunities** – for yourself, your lab/research group, your department

• Review the resources available on [our research integrity website](http://example.com)

• E-mail us with questions at [rcr@umd.edu](mailto:rcr@umd.edu)

• Stay tuned for updates from us!
Research Integrity at UMD

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University of Maryland Research Enterprise Ranked Among Top 10 Publics in NSF Higher Education R&D Survey
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<th>Major Sponsor Category</th>
<th>Agency</th>
<th>FY 2020</th>
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<td>Universities</td>
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<tr>
<td></td>
<td>Grand Total</td>
<td>$574,970,726</td>
</tr>
</tbody>
</table>
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Animal Care Program

- Institutional Animal Care and Use Committee (IACUC)
- Department of Laboratory Animal Research (DLAR)
- Accreditation: Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC)

https://research.umd.edu/dlar
https://research.umd.edu/iacuc
iacuc@umd.edu
Human Subjects Protection

- Institutional Review Board (IRB)
- Training
- Post Approval Monitoring
- Accreditation: Association for the Accreditation of Human Research Protection Programs, Inc. (AHHRP)

https://research.umd.edu/irb
irb@umd.edu
Conflict of Interest

- Conflict of Interest
- COI Committee
- Financial Conflict of Interest (Public Health Services)

Professor Phil DeShong, Chief Compliance Officer
COI Chair

Joe Smith, Director

https://research.umd.edu/coi
coi@umd.edu
Export Compliance Office

- International travel
- Shipping/Export licenses
- Sensitive data/restricted research
- Visiting scholars
- US Sanctions (i.e. Iran, Syria, N. Korea, Sudan, Syria)
- International agreements due-diligence
- Export Control and International Compliance Committee

Adam Grant, Director
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export@umd.edu
Mary Dorman, Assistant Director, Research Safety
• Radiation
• Reactor Safety
• Laboratory Operations and Safety Committee

Sherry Bohn
• Biosafety Officer
• Institutional Biosafety Committee

Miriam Sharp
• Lab Safety Manager
• Chemical Hygiene Officer

https://www.essr.umd.edu/research-safety
Identifying Compliance Concerns: Proposal Questions and Certifications

- Official PI and Co-I confirmation of accuracy and completeness of proposal content
- The compliance questionnaire helps ORA identify activities that may need additional support from compliance offices (Export, COI, IRB, Research Safety, IACUC, etc.)
- Acknowledgement and acceptance of the sponsor’s representations and certifications
- Electronic signature is provided as proof in audits, inquiries and investigations
- Certifying to false information could result in administrative actions or possible criminal and/or civil penalties.
Research Support Oversight Committee

Chaired by
Senior Vice President and Provost
Vice President for Research
Vice President for Administration and Finance
Reporting Concerns

- [https://adminvp.umd.edu/ethics-integrity-and-compl](https://adminvp.umd.edu/ethics-integrity-and-compl)
- 1.844.607.1491