Montana State University Graduate Council Symposium

Enhancing Career Path Opportunities

Robert M. Augustine
Senior Vice President
Council of Graduate Schools
Email: raugustine@cgs.nche.edu
Montana State University Assets

- Respected Graduate School
- Dean Hoo’s Graduate Leadership
- Engaged Graduate Faculty Council
- Engaged Graduate Student Council
- Presidential Planning for Graduate Study
  - Investments to expand doctoral study
  - Investments to enhance research profile
  - Investments to enhance compensation & funding
Impressive Strategic Achievements

- *Science*
- *Applied and Environmental Microbiology*
- *Journal of the American Society for Mass Spectrometry*
- *Journal of Neuroscience*
- *Organic and Biomolecular Chemistry*
- Leopold Leadership Fellow
- Young Scientist Prize of the International Society on General Relativity
- Gravitation and the Marcel Grossmann Prize
Perspectives from Current Candidates….

- Pushing Forward
  - What are the next steps I should take?
- Research Fatigue
  - How do I get past multiple personal/professional demands and finish?
- Career Development
  - We don’t yet have “graduate communities” or formal professional development.
- Choices
  - How do I know which direction to take: academic vs. non-academic?
Work that Remains….Graduate Council

Areas of Symposium Focus

- Planning + Leadership + Communication
  - How do I stay focused and finish?
- Resilience Resources
  - How do I balance personal/professional needs?
- Academic Career Development
  - How do I get there?
- Leadership: Broadening Career Pathways
  - How do I consider all career options?
Planning
Leadership
Communication

How do I stay focused and finish?
Models to Guide the Symposium

- Michigan State University
  - http://www.grad.msu.edu/
  - PREP Program
- Cornell University
  - http://gradschool.cornell.edu/
  - Competencies Program
- University of Pennsylvania
  - http://www.upenn.edu/
  - Online Career Services Program
- University of California Davis
  - https://gradstudies.ucdavis.edu/
  - Mentoring at Critical Transitions Program
- Virginia Polytechnic Institute & State University
  - http://graduateschool.vt.edu/
  - Graduate Life Program
# Essential Skills

**Finishing: Guidance from Key Partners**

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## The PHD Completion Challenge: Ten Year Completion Rates (CGS)

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<th>Area</th>
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Finishing Issues: Successfully Navigating Critical Transitions

1. Transition from Career or Undergraduate Study to Graduate Study
2. Transition from Graduate Coursework to Qualifying Examinations
3. Transition from Examinations to Dissertation/Networking
4. Transition from Dissertation/Networking to Post-Graduate Launch
Key Factors that Contribute to Finishing PHD Completion Project, CGS 2009

- 80% Financial Support
- 65% Mentoring/Advising
- 57% Family/Non-financial Support
- 40% Social/Peer Group Support
- 36% Program Quality
- 29% Professional/Career Guidance
- 22% Clear Program Requirements
- 18% Personal Circumstances
- 11% Other Support Circumstances
Planning = Setting Expectations

- **Dissertation**
  - Establish expectations/time table and directions for future with your mentor.

- **Research**
  - Establish potential direction including disciplinary, interdisciplinary, and networking needed and include committee members.

- **Other Publications/Related Work**
  - Establish separate expectations/time table for any other work with your mentor.

- **Portfolio**
  - Review expectations for work to be included in your portfolio, understand first author, multiple authors, etc.

- **Entrepreneurship**
  - Discuss patents, books or other opportunities after the dissertation and know how institutional policies on intellectual property work.
Leadership = Maintaining Momentum toward Finishing

- Mentoring Sessions
  - Create and maintain a written agenda for every meeting and use every session to advance.
- Calibration
  - Ensure regular calibration and expectations/time table are always on that agenda.
- Early Identification
  - Seek resolution to conflict/concerns immediately.
- Early Intervention
  - Establish a conflict resolution plan when conflicts arise.
Leadership: Getting Finished
David Mumby

- A PHD Student’s Race Against Time—How to Win/Graduate Faster
  http://thegradstudentway.com/blog/?p=1573
- Daily Writing
  - Write every day, write drafts even if data is still in progress.
- Progress
  - Seek realistic expectations for the research not perfectionism.
- Use of Time
  - Stay focused on dissertation goals and meet them.
- Remind Mentor of Goal
  - Ensure that your mentor maintains the time-table and helps recalibrate if there are set-backs.
- Use Committee Assets
  - The committee members are additional assets, keep them updated and use their help.
Leadership: Overcoming Barriers: Conflict Resolution Essentials

- Interest Based Approach for Resolving Conflicts/The Basics
- Context
  - Identify the stakeholders and the situation (requirements, policies, supervision, teaching).
- Issue(s) Focus
  - Specify the issues or problems separate from the individuals involved
- Interests
  - Document the needs, desires, values, fears of each stakeholder.
- Options
  - Consider a range of solutions and how these impact the interests.
- Solutions/Discussion
  - Review the options selected + ongoing dialogue.
Setting Expectations and Resolving Conflicts in Graduate Education

- A Resource: http://www.cgsnet.org/online-store
- Provides a model for guiding graduate faculty, graduate students, graduate program directors, and graduate deans toward solutions to promote degree completion.
- The monograph is available to all CGS member institutions.
Communication = Support Networks Essential to Progress

- **Professional Network**
  - Create and nurture via communication and meetings a professional support network to guide research, degree completion, career launch.
  - Use initial network to identify essential networks and presentations essential for post-graduate launch.
  - Establish your own “Writing Boot Camp” to foster support if one does not exist.

- **Personal Network**
  - Create a personal “social network” to ensure weekly personal/social health.
  - Create a personal “health network” to engage in weekly physical activities for physical health.
Communication Resources

- Chronicle of Higher Education
  - The Completion Agenda

- Guidance for
  - Use of your dissertation and dissertation title to increase job competitiveness
  - Communicating your work successfully
  - Launching future work
Essential Skill
Responsible Conduct of Research

- Webinar: **Introduction to RCR**
  Presenter: Dr. Rhonda Sutton
  Description: *Need some quick information on one of the main RCR topics? (i.e., mentoring, conflicts of interest, authorship and peer review, data management and/or research misconduct?)*

- [http://pfl.grad.ncsu.edu/workshops/responsible-conduct-of-research/](http://pfl.grad.ncsu.edu/workshops/responsible-conduct-of-research/)
Key Action to Achieve Outcomes

- **Planning**
  - Ensure Daily Progress

- **Leadership**
  - Ensure Clear Expectations and Conflict Management

- **Communication**
  - Ensure Social and Emotional Health
Resilience Resources

How do I balance professional and personal agendas?
**Professional Development: How to balance professional and personal agendas?**

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PHD Completion Insight

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Online Resource: 
The National Wellness Institute

- Tool Used by Michigan State University
- National Wellness Institute: Holistic Wellness for Success
- Resources to nurture holistic growth and success
  - **Occupational**: PhD Career Services, Financial Wellness
  - **Physical**: Rec Centers/Wellness Centers: Sleep, Fitness, Healthy Eating
  - **Social**: Local Social Outlets, Student Organizations, Women's Resources
  - **Intellectual**: Campus Workshops: Motivation, Ethical Research
  - **Spiritual**: Local Religious/Spiritual Option: Spirituality, Values, Acceptance
  - **Emotional**: Health/Counseling Options for Stress, Procrastination, Depression, Happiness
Online Resource: Grad Resources

- [http://gradresources.org/seminars/x](http://gradresources.org/seminars/x)
- Tool Used by North Carolina State University
- Services to address personal, emotional and spiritual needs
- Online materials
- Meaningful connections, engaging speakers, supportive faith-based communities
- Services focused on enabling graduate students to flourish personally and professionally.
- Crisis Help Line
Online Resource: National Association for Graduate and Professional Students

- [http://nagps.org/](http://nagps.org/)
- Calendar System
  - Year Scale
    - Professional Transition Deadlines: Finances, Proposals, Requirements
    - Personal Transition Deadlines: Family Focus, Friend Focus, Individual Focus
  - Month Scale
    - Professional: Key Meetings/Decisions/Deadlines
    - Personal: Key appointments/obligations
  - Week Scale
    - Professional: Daily Focus Areas
    - Personal: Daily family, friend, individual needs
Management Resource: In Search of Balance: Keys to A Stable Life, Swenson, David, 2010

1. Daily: Identify Productivity Time
   - Best productivity time (early, mid, late) for priority work.

2. Manage Interruptions
   - No distractions (phone/email) during productivity time.

3. Task Prioritization
   - Cognitive/priority tasks first, small tasks second: email/phone for social break.

4. Information Triage
   - Identify prime sources of information first.

5. Organizational Balance
   - Ensure planned personal flexibility/unscheduled time.
Management Resource: Crisis Intervention Plan

1. Triage Plan
   - Have a reorganizational plan ready.

2. Redefine Productivity Time That Day/Week
   - Identify one task for priority that day.

3. Manage Interruptions
   - Seek social network for help.

4. Organizational Balance
   - Use flexible times as replacement for lost productivity time that day/week.
Campus Resources: Services to Develop as Partners in Graduate Study

- Campus Wellness Centers
- Recreation Centers
- Counseling/Health Centers
- Financial Counseling Centers
- Non-degree Continuing Studies courses/workshops
- Faculty Resources/Expertise
- Community College Resources
- Law/Medical School Resources
Resilience Resources

- **Online**
  - Online resources available when needed

- **Management**
  - Overall wellness planned and included
  - Daily productivity planned and coordinated
  - Crisis intervention plan available

- **Campus**
  - Campus resources known and accessible
Professional Development: How do I consider all career options?

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PHD Career Options

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Good News
Bureau of Labor Statistics

- Demand for jobs requiring a PHD/professional degree will increase by 16% between 2012 and 2022
- Demand for jobs requiring the MS degree will increase 18.4%,
- Unemployment rates substantially lower for doctoral/masters
Planning: Career Goal Alignment

- Align goals with the dissertation
- Align goals with committee members to support dissertation & career goals
- Align goals with external network to support dissertation & career goals
- Align goals with experiences that support the dissertation and career launch
Readiness: Academic Career Preparation

- Research Readiness
- Teaching Readiness
- Service Readiness
- Administrative Readiness
- Contract Negotiations
Academic Readiness: Institutional Continuum

- Associate (Community) College-2Year
  - UM-Helena College of Technology
- Baccalaureate Colleges
  - Montana State University-Northern
- Master’s Comprehensive Universities: S,M,L
  - Montana State University Billings (MS-L)
- Doctoral Research Universities
  - University of Nebraska at Omaha
- Doctoral Research High Universities
  - University of Montana
- Doctoral Very High Universities
  - Montana State University
Academic Readiness: Teaching Success

- (PFF) Preparing Future Faculty
  - Observe/experience teaching expectations at a variety of institutional types
  - Observe/experience teaching diverse populations
  - Experience with assessment/application of student learning outcomes
  - Experience with online learning/teaching
  - Experience with interdisciplinary/team teaching
  - Experience supervising assistants
Academic Readiness: Online Teaching

- Online Graduate Education
  - Experience with online teaching platforms
  - Experience with multiple online teaching formats: all online, hybrid, enhanced
  - Experience with discussion boards and online tools to foster learning communities
  - Experience with online security practices
  - Experience with synchronous online tools
Service & Administrative Readiness

- **Service Preparation**
  - Leading a Campus Committee/Board
  - Leading a Discipline Committee/Board
  - Leading a Community Committee/Board

- **Administrative Preparation**
  - Internship in an Administrative Office
  - Shadowing an Administrator
  - Serving on an Administrative Team
Academic Readiness: Retention, Promotion, Tenure, Advancement

- Culture/Philosophy of Teaching/Scholarship Balance
- Policies on Retention/Promotion/Tenure
- Service Experiences aligned with areas of potential interest/career development
- Administrative opportunities
- Support for Research and Research Collaborations
Contract Negotiation Resources

- Union/Non-Union
  - Union Contracts: Review Prior
    - Published Scale of Raises
    - Published Scale of Promotional Compensation
  - Non-Union
    - Determine Range Prior
  - Library: Published Salary Data
  - Clarity on Benefits
  - Recent Practices
    - State funding support
    - Private institutional support
Writing Your Research Statement

- University of Pennsylvania
- Offer the evolution of your research
- Highlight your research accomplishments,
- Show where your research will be taking you next.
- Include
  - What got you interested in this research?
  - What was the burning question that you set out to answer?
  - What challenges did you encounter along the way, and how did you overcome these challenges?
  - How can your research be applied?
  - Why is your research important within your field?
  - In what direction will your research take you next, and what new questions do you have?
Writing Your Teaching Philosophy Statement

- University of Pennsylvania
- Demonstrate readiness for teaching
- Describe meaningful teaching experiences
- Describe your mentoring philosophy
- Include your related commitment
  - Journal club coordinator
  - Tutoring experience
  - Contributions to professional societies
Key Outcomes for Academic Careers

- **Planning & Readiness**
  - Prepare for Research
  - Prepare for Teaching
  - Prepare for Online Teaching
  - Prepare for Service and Administrative Expectations
  - Prepare for Contract Negotiations
Leadership: Broader Career Pathways

How do I consider all career options?
Academic or Business/Industry/ Government Careers?: Emory University

- Strong Interest Inventory
  - [http://www.becomewhoyouare.net/aboutStrong.html](http://www.becomewhoyouare.net/aboutStrong.html)
  - Assesses interests, guides pathways aligned with interests.

- The Birkman Method®
  - [https://www.birkman.com/services/the-birkman-method/](https://www.birkman.com/services/the-birkman-method/)
  - Scientifically developed multi-dimensional assessment
  - Integrates behavioral, motivational and occupational data
  - Aligns roles/relationships for maximum productivity

- Career Breakfasts/Lunches
  - Exploration lunches with faculty and members of business and industry to explore careers and opportunities
Launching Careers in Business, Industry Government: An MSU Perspective

- The Versatile PHD
- [https://versatilephd.com/](https://versatilephd.com/)
- Preparation for non-academic careers
- Network with PHDs in non-academic careers
- Access resumes and cover letters
- Access panel discussions
- Many institutions are members
- Individuals may become member and access resources
Bio Careers

- Post Graduate Life Sciences
- Academic and non-academic career opportunities
- Job listings
- Webinars for many career pathways
- Bio Careers Blog
- Bio Careers articles
Chemistry Careers

- Careers in Industry, Government, Non-Profit Sector + Academic Careers
- Professional Development Seminars
- Networking
- Portfolio Preparation
Corporate Boards: Seek PHDs with Transferrable Skills

- Transferrable Skills
  - professionalism/work ethic
  - oral/written communication
  - teamwork/collaboration
  - critical thinking/problem solving
  - ethics/social responsibility

- Transferrable skills mastered during graduate study

- Transferrable skills cross academic disciplines
Gallagher 2014 Transferrable Skills Employers Find in Graduate Degree Holders

- Leadership
- Higher Level Communication Skills
- Critical Thinking/Problem Solving
- Employee Networks
- Potential for Advancement
- Engagement Potential
- Reputation of Institutional Credentials
Planning for Careers in Business, Industry, Government

• Discussion with Academic Mentor
• Proposed Career Launch Pathway
• Finding a Non-academic Mentor
  ▪ Institutional Advisory Boards
  ▪ Mentor’s Non-academic Networks
  ▪ Other Discipline Faculty
  ▪ Program Alumni
• Coursework/Certifications
• Seeking Internship
• Collaborative Team Experience
• Leadership Experience
• Creating Networks
• Creating a Portfolio
Building Experiences for Careers in Business, Industry, Government

○ Coursework/Certifications
  ○ Adding business/management courses
  ○ Considering Certificates

○ Seeking Internships
  ○ Include Collaborative Team Experience
  ○ Include Leadership Experience
  ○ Including Networking Opportunities

○ Creating a Portfolio
Building a Portfolio for Careers in Business, Industry, Government

- Creating a Portfolio
  - Research
    - Publications/related creative activity
    - Presentations
  - Leadership: Projects launched/completed
  - Collaboration: Teams guided/advanced
  - Communication: Advisory board presentations
  - Outreach: Community engagement
  - Achievement: Recognition/awards
Presentations to Non-academic Audiences

- The Three Minute Thesis (3MT®)
- [http://threeminutethesis.org/](http://threeminutethesis.org/)
- Celebrates exciting research conducted by PhD students
- Developed by [The University of Queensland](http://www.uq.edu.au)
- Cultivates academic, presentation, and research communication skills
- Supports capacity to effectively explain research in three minutes
- Promotes language appropriate to a non-specialist audience
Failure Management

- Policies on Academic Issues
- Processes Used by Grant Authors
- Asking for Feedback
  - What were the factors
  - How can you cultivate future success
- Seeking guidance by asking about failures among your mentors and peers
Key Outcomes

- **Leadership**
  - Obtain key experiences
  - Obtain key transferrable skills
  - Networking
  - Portfolio of work
  - Communication development
  - Failure management
Topic Roulette

- Perspectives: What professional development focus is right for Montana State University?
- Leadership: Can the Graduate Student Council launch these?
- Planning: Can the MSU offer credentials for PD completion?
- Funding: Is there a funding source to implement 3 needed programs?
- Debt Management: Guidance on paying back loans
Courage…..PHDs are tasty!