UM-Missoula

Scott L. Whittenburg

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UM - Missoula

Scott L. Whittenburg
Vice President for Research
vpr@umontana.edu
Demographics

<table>
<thead>
<tr>
<th>Students</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2019</td>
<td>FY18</td>
</tr>
<tr>
<td>10,487 Total</td>
<td>728 Total</td>
</tr>
<tr>
<td>2,773 Graduate/Professional</td>
<td>521 Full-Time</td>
</tr>
<tr>
<td>1,393 Missoula College</td>
<td>207 Part-Time</td>
</tr>
</tbody>
</table>
College of Humanities and Sciences
- African-American Studies
- Anthropology
- Biochemistry
- Biological Sciences
- Chemistry and Biochemistry
- Communication Studies
- Computer Science
- Economics
- English
- Environmental Studies
- Geosciences
- History
- Latin American Studies
- Linguistics
- Mathematical Sciences
- Military Science
- Native American Studies
- Philosophy
- Physics and Astronomy
- Political Science
- Psychology
- Sociology
- Women’s, Gender, and Sexuality Studies
- World Languages and Cultures

Phyllis J. Washington College of Education
- Counseling
- Teaching & Learning
- Educational Leadership

W.A. Franke College of Forestry and Conservation
- Ecosystem and Conservation Sciences
- Forest Management
- Geography
- Resource Conservation
- Society and Conservation
- Wildlife Biology

College of Health Professions and Biomedical Sciences
- Family Medicine Residency of Western Montana
- Integrative Physiology and Athletic Training
- Pharmacy
  - Biomedical & Pharmaceutical Sciences
  - Pharmacy Practice
- Physical Therapy and Rehabilitation Science
- Public and Community Health Sciences
- Social Work
- Speech, Language, Hearing, and Occupational Sciences

College of the Arts and Media

College of Business
Alexander Blewett III School of Law
UM research and scholarship positively impacts our health, environment and economy. Through grants and contracts awarded to UM in fiscal year 2019, faculty members are developing a better influenza vaccine, researching and educating Montanans about our state’s precious water resources, and nurturing a vibrant bioscience workforce in Montana, among many other highlights. The strength of UM research is reflected in nearly record-high grant volume and expenditures, faculty members publishing high-quality and highly cited research findings, and student and faculty success pursuing highly competitive research fellowships.

**Research by the Numbers**

UM research highlights for fiscal year 2019 include:

- **Total number of publications by UM researchers:** 801
- **Number of proposals submitted:** 621
- **Total grant dollars awarded:** $92 million
- **Total grant dollars spent:** $84.8 million

**Number of articles by UM faculty published in the world’s top three general science journals in 2017-18:** 28

The highest number for any Montana and Big Sky Conference university

**Number of UM students awarded Fulbrights for research or English teaching:** 6

**Number of 2019 Western Montana Family Medicine Residency Program graduates:** 10

7 of whom plan to continue practicing in Montana
Centers and Institutes

45 Centers/Institutes

- Bureau of Business and Economic Research (1948)
- Center for Environmental Health Sciences (2000)
- Mountain Water Institute (2019)
- Center for Natural Resources and Environmental Policy (1987)
Instrument CORES

- Biospectroscopy Core Research Facility
- Core Laboratory in Neuromolecular Production
- Earth Materials Instrumentation Facility
- EMtrix Electron Microscope Facility
- Environmental Biogeochemistry Laboratory
- Fluorescence Cytometry Core
- Freshwater Research Laboratory (FRL)
- Inhalation & Pulmonary Physiology Core
- Macromolecular X-Ray Diffraction Facility
- Mass Spectrometry Core Facility
- Molecular Computational Core Facility
- Molecular Histology & Fluorescence Imaging Core
- Murdock DNA Sequencing Facility/Genomics Core
- Nuclear Magnetic Resonance Facility
- Statistics and Applied Mathematics Core (SAMC)
Groundwater characterization - isotope hydrology
Payton Gardner, Geosciences
Applied Remote Sensing – Spatial Analysis Lab
Jessica Mitchell, MNHP

Vegetation Spectroscopy & Lidar Scaling
sensor detection limits

Training and Student Opportunities

Applications
• Biomass and agriculture
  • productivity, quality
• Water provisioning
• Natural hazards and disasters
• Resiliency in complex systems
• Carbon Cycle Modeling
• Large dataset workflows
Critical Materials
Cody Youngbull, FLBS

The University of Montana (UM) Flathead Lake Biological Station (FLBS) has been developing medical, industrial, and environmental applications for rare-earth optical nanomaterials. In particular the use of Erbium, Gadolinium, Ytterbium, and Yttrium in optical upconverting nanocrystals (UNCs) have been recognized for their benefit in the following areas: ultra-trace chemical and biological sensors, transdermal photoactivated medicine and wound care, anti-counterfeiting and supply chain tracking, high-energy dispersed tangents, rapid bulk cure resins and optically cured adhesives, surface, air and water decontamination, and efficiency enhanced solar cells.