



**Climate and Space  
Undergraduate Student Handbook**

**2017-2018**

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## Introduction

Welcome! We are happy that you are pursuing a BSE or minor in Climate and Space (CLaSP). We will support you through your program of study. We encourage CLaSP students to become part of the department, the college, and university as a whole.

This handbook will help you get acquainted with us and the many opportunities and resources available to you at the College of Engineering (CoE). It contains lists of academic and personal resources as well as student organizations and groups. We strongly encourage you to discover the activities and resources that best meet your needs and interests.

## North Campus

North Campus is home to the College of Engineering; the School of Music, Theatre, and Dance; the Stamps School of Art and Design; and the Taubman College of Architecture and Urban Planning.



### Facilities and Services

- Pierpont Commons includes dining, meeting spaces, Barnes and Noble Bookstore, UM Credit Union, and Computer Showcase
- Duderstadt Library (The Dude) includes Mujo Cafe, library, arcade, visualization labs, and printing services
- North Campus Grove (or Diag) includes commons area around Lurie Bell Tower, sand volleyball court, and swings
- Chrysler Center houses all of the offices listed under “Academic Resources” (below)

### Maps and Transportation

- Student parking, see <https://ltp.umich.edu/parking/students.php>
- Interactive campus map [campusinfo.umich.edu/campusmap/campus/north](https://campusinfo.umich.edu/campusmap/campus/north)
- Transportation to central campus [mbus.doublemap.com/map/](https://mbus.doublemap.com/map/)
- Transportation around Ann Arbor (free with MCard) [www.theride.org](https://www.theride.org)

## Space Research Building (SRB)

The SRB is our educational, research, and administrative center.

### Facilities and Services

- Second floor includes the Global Change Lab (GCL), Computer Aided Engineering Network (CAEN) lab, lounge, administrative offices, and main auditorium
- First floor includes the Space Physics Research Lab (SPRL) and a break room
- Basement includes a tornado shelter and a ping pong table
- Common meeting rooms include the Donahue Room (2422), Auditorium (2246), and CAEN Lab (2230), and 2218
- Doors are unlocked from 7 AM - 7 PM on weekdays. M-card access to front lobby and rear doors is required after hours and on holidays



### Maps and Transportation

- A building map is included as Appendix A of this handbook.
- The parking lot behind SRB is available after 5pm and on weekends without a parking pass
- Campus bus lines closest to the SRB are Commuter North, Northwood, and North-East Shuttle. The closest bus stop is at François-Xavier Bagnoud building (FXB - Aerospace Engineering)

## CLaSP Courses and Curriculum

CLaSP courses are at <http://www.engin.umich.edu/college/academics/bulletin/courses/clasp>.

**Please note:** Most undergraduate CLaSP courses are offered once per year. A list of common undergraduate courses and the term typically offered are included as Appendix B. (This is not an exhaustive list of *all* CLaSP course offerings.) Courses offered in the next term are available at <http://clasp.engin.umich.edu/courses/> Deadlines associated with the next academic year are included in Appendix C.

### Climate and Meteorology (Undergraduate)

The BSE in Climate and Meteorology is divided into two distinct concentrations: a. Climate Sciences and Impacts Engineering and b. Meteorology. Sample schedules and more detailed information for Climate and Meteorology: <http://clasp.engin.umich.edu/academics/undergraduate/bse-climate-and-meteorology>.

## Space Science (Undergraduate)

Our BSE in Space Sciences and Engineering currently stands alone. However, a Space Instrumentation concentration is being developed and we hope to have it finalized this year. Sample schedules and more detailed information for Space Science <http://clasp.engin.umich.edu/academics/undergraduate/bse-space-sciences-engineering>.

## Sequential Undergraduate/Graduate Studies (SUGS):

The SUGS program allows those who are interested in completing both a BSE and master's level education an opportunity to do so in five years. Programs offered are Masters of Engineering in Applied Climate, in Space Engineering, and Master of Science in Atmospheric/Space Science.

Undergraduates with a 3.2 GPA may apply during their senior year. Information is available at <http://clasp.engin.umich.edu/academics/graduate/sugs>.

## Support and Resources

The University and CoE provide a broad range of academic, technical, personal, and departmental support and resources to assure your success.

### Advisors

- **Academic Advisor** is your **primary contact** for advising related issues; course planning; personal, academic, and career counseling; advocacy and liaison; and contacts with GUSTO and AMS student groups (*Who's mine?* Appendix D)
- **Faculty Advisors** serve as point persons for issues specific to their respective field of expertise. They help students navigate issues specific to their career goals: becoming more marketable and finding research opportunities, capstone projects, and independent studies (*Who's mine?* Appendix D)

### Academic

- **CoE Bulletin** (<http://www.engin.umich.edu/college/academics/bulletin>) includes answers to a broad range of academic questions, college degree requirements, department degree requirements, academic rules, student rights and responsibilities, and course listings for each academic department
- **Engineering Career Resource Center (ECRC)** (<https://career.engin.umich.edu/>) includes career fairs, counseling appointments (resume review, mock interviews, negotiating job offers), workshops (career fair/interview prep, resume building, job search strategies), engineering careers, by Symplicity (co-op, internship, and full-time positions)
- **Engineering Learning Center (ELC)** (<https://elc.engin.umich.edu/>) includes 24-hour study area with CAEN-supported computers, free peer tutoring, and academic skill development workshops

- **International Programs in Engineering (IPE)** (<https://ipe.engin.umich.edu/>) includes study abroad, work/intern/research/volunteer abroad, and international minor for engineers
- **Michigan Engineering Honors Program** (<https://honors.engin.umich.edu/>) includes working with CLaSP faculty advisor (Professor Aaron Ridley), working closely with faculty and other honors students, a capstone project, skills through Honors seminars, and participation in meaningful community service projects
- **Office of Student Support and Accountability (OSSA)** (<https://ossa.engin.umich.edu/>) includes personal student support (helps students navigate the complexity of campus life - both personal and academic issues), critical incidents (supports students facing significant and urgent life events), Campus Mind Works drop-in wellness groups, and administration for the Scholastic Standing Committee and Honor Council
- **Registrar's Office** (satellite location in basement of Pierpont) (<http://ro.umich.edu/>) includes academic calendar and withdrawal deadlines (important!), ordering transcripts and diplomas, degree verification, enrollment and registration information, tuition and fees information, schedule of classes, and student records

## Technical

- **SRB IT Support** ([SRBithelp@umich.edu](mailto:SRBithelp@umich.edu)) includes helps with any department IT issues, projectors, and classroom computers
- **Computer-Aided Engineering Network (CAEN)** (<https://caen.engin.umich.edu/>) includes computer lab support throughout the CoE, printing (CoE students enrolled in courses receive \$40 printing allocation each full-term). Learn more at <https://caen.engin.umich.edu/printing/>, and online file storage
- **Information Technology Services (ITS)** (<http://its.umich.edu/help>) includes issues with Wolverine Access, log-in password resets, umich email/calendar problems, and MCommunity issues

## Personal

- **Counseling and Psychological Services (CAPS)** (<https://caps.umich.edu/>) Main office is located in the Michigan Union. However, there is an embedded counselor for the CoE located in 145B Chrysler Center (<https://caps.engin.umich.edu/>) includes free and confidential mental health services for currently enrolled students. Typical reasons for seeking counseling may include (but are not limited to) depression, anxiety, academic/performance concerns, adjustment difficulties, self-esteem, family issues, and other relational concerns.
- **Psychiatric Emergency Service (PES)** (<https://medicine.umich.edu/dept/psychiatry/patient-care/psychiatric-emergency-service>) includes emergency/urgent walk-in psychiatric evaluations 24/7, treatment recommendations, and crisis intervention. *In an emergency, call 9-1-1. Campus Police will transport to PES.*

- **Sexual Assault Prevention and Awareness Center (SAPAC)** (<https://sapac.umich.edu/>) 24-hour Crisis Line: (734) 936-3333 includes individual and group counseling for survivors of sexual assault, domestic violence, stalking, and sexual harassment.
- **Spectrum Center** (<https://spectrumcenter.umich.edu/>) includes education, information, and advocacy services and a safe and inclusive environment for LGBTQ students.
- **Services for Students with Disabilities (SSD)** (<https://ssd.umich.edu/>) includes services for students with visual, hearing, mobility impairments, or learning disabilities and, if registered with the SSD, appropriate accommodations to aid in their academic success.
- **University Health Service (UHS)** (<https://uhs.umich.edu>) includes for most currently enrolled students (with few out-of-pocket expenses) general medical services ranging from immunizations to eye care. Visit their website to obtain a full list of services.

## Departmental

- **Department Seminars** held every Thursday at 3:30pm in the auditorium (SRB 2246)
- **Coffee and Tea Hours** held daily at 3:00pm in SRB Lounge
- **Weather Discussions** held at location and times that change every semester
- **Diversity, Equity, and Inclusion (DEI) Tea Time** held monthly to openly discuss identity-based experiences, have critical dialogues about diversity and equity within our department, and create tools to counter non-inclusive forces in our community. The sessions are facilitated.
- **Ladies Lunch** held monthly to gather women students and allies of CLaSP together over lunch to discuss experiences and problems that women face in academia. These are accompanied by invited speakers from various departments.
- **Grievance Committee Meetings** held as required to enable students to register issues they face in the department in a safe space controlled by peers. Meetings address specific academic and personal problems and their solutions and foster a welcoming and inclusive environment for current and future CLaSP students.

## Extra-Curricular and Co-Curricular Organizations

CLaSP faculty and students enhance their professional and educational experience through participation in the following organizations.

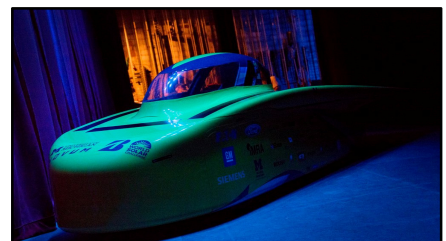
The Department faculty members and staff work closely with the first three groups listed below. GUSTO sponsors many events throughout the year that are of interest to all CLaSP students. All students are strongly encouraged to get involved.



- **Graduate Undergraduate Student Organization (GUSTO)** (<http://clasp.engin.umich.edu/academics/resources/gusto>) includes events within the

department that foster a sense of community, opportunities for CLaSP students to grow academically and professionally, and support of various events throughout the year

- **American Meteorological Society (AMS)** (<https://www.ametsoc.org/ams/>) under faculty lead, Dr. Frank Marsik, includes professional organization promoting information about the atmospheric, oceanic, hydrologic sciences and annual national meetings
- **Michigan Geophysical Union (MGU)** (<http://clasp.engin.umich.edu/academics/resources/mgu>) includes forums designed to showcase outstanding graduate and undergraduate student research in the Earth, oceanic, atmospheric, and space sciences; and interdepartmental engagement and dialogue
- **Michigan Hyperloop** (<https://www.michiganhyperloop.com/>) includes SpaceX Hyperloop Pod competition, building a hyperloop pod capable of transporting a human payload, and design of a vehicle capable of attaining and sustaining high velocity travel
- **Michigan Mars Rover Team (MRover)** (<http://teamprojects.engin.umich.edu/teams/marsrover>) includes design, build, and test a rover for extraterrestrial environments, the annual University Rover Challenge at NASA's Mars Desert Research Station competition, and educational outreach events for students of all ages
- **Society of Women Engineers (SWE)** (<http://www.swe.engin.umich.edu/>) includes the largest career fair on campus, engineering outreach activities, charity events, and networking and professional development
- **Student Space Fabrication Lab (S3FL)** (<http://clasp-research.engin.umich.edu/groups/s3fl/>) under CLaSP faculty advisors, Dr. Brian Gilchrist, Dr. Aaron Ridley, and Dr. Mark Moldwin, includes experience with space system design and fabrication, coupling classroom knowledge with practicum experience, and expertise that would otherwise take years of post-graduate experience to achieve
- **Students for the Exploration and Development of Space (SEDS)** (<http://www.sedsatum.org/>), a worldwide organization aimed to promote and develop space exploration, includes outreach events that get students in K-12 excited about STEM and space exploration, guest speakers, technical research projects, and networking with other members and faculty
- **University of Michigan Solar Car Team** (<http://www.solarcar.engin.umich.edu/>), needs a meteorologist (!), includes design, build, and race of America's best solar vehicles, student-run annual World Solar Challenge competition, and work with students across a multitude of departments
- **Women in Science and Engineering (WISE)** (<https://cedo.engin.umich.edu/diversity/programs/college/wiserp/>) increases the number of women pursuing degrees and careers in the STEM fields, includes Marian Sarah Parker Scholars Program and provides encouragement and support





## Research

CLaSP is a research-heavy department. See why at <https://www.facebook.com/umclasp/>. Faculty members are frequently in the news and awarded for their outstanding research. Because of our 1:1 student to faculty ratio, we encourage every CLaSP undergraduate student to get involved in research during his/her time here. There is no better way to get hands-on experience than working side-by-side with some of the best in the field. There are a few ways to get involved in research. Here are some options.

### **Ask a faculty member**

Each winter term your advisor will distribute a list of who's doing what in the department. If you see something of interest, contact the faculty member. These experiences may be closely tied to your interests. Depending on the research, there is a possibility you could earn either independent study credit *or* a stipend. This should be discussed with the faculty member directly.

### **Summer Undergraduate Research in Engineering (SURE)**

The SURE program provides 10-12 weeks of full-time summer research to UM undergrads who have entered or completed their junior year. A stipend is included. Get more information at <https://sure.engin.umich.edu/>.

### **Faculty Research Project Teams**

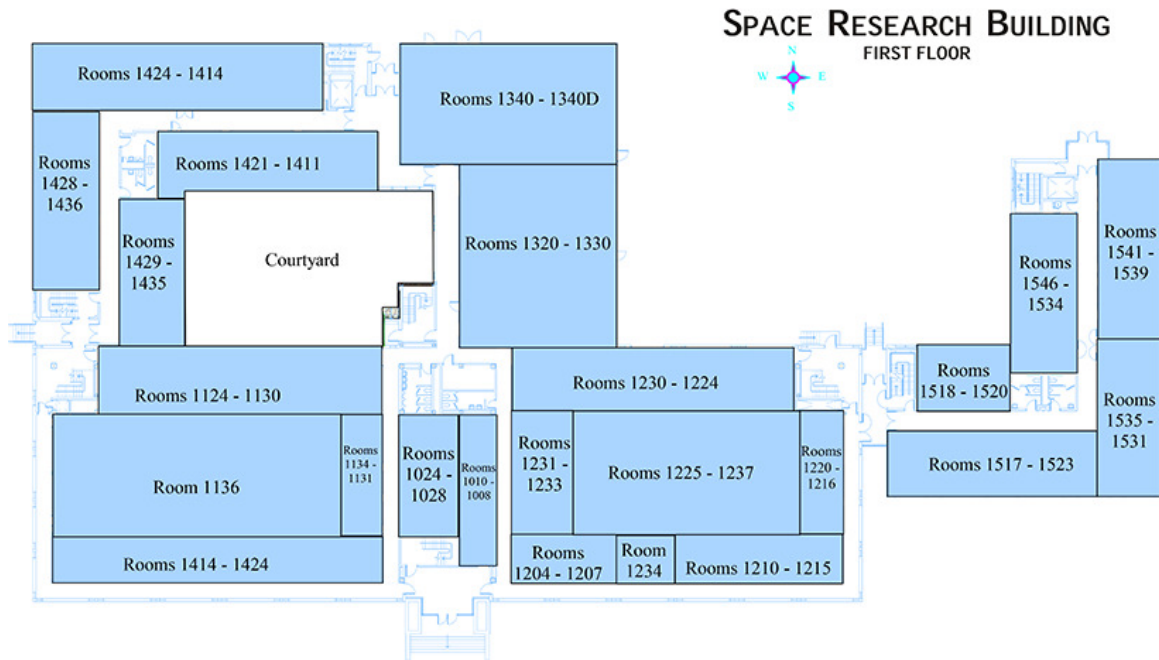
These project teams unites undergraduate, graduate, and faculty in multi-year, team-based research. They provide insight into real-world research and deep technical training and opportunities to publish in academic journals and conferences. Get more information at <http://mdp.engin.umich.edu/faculty-research/>

### **UM-SANSA International Research Experience for Students (IRES)**

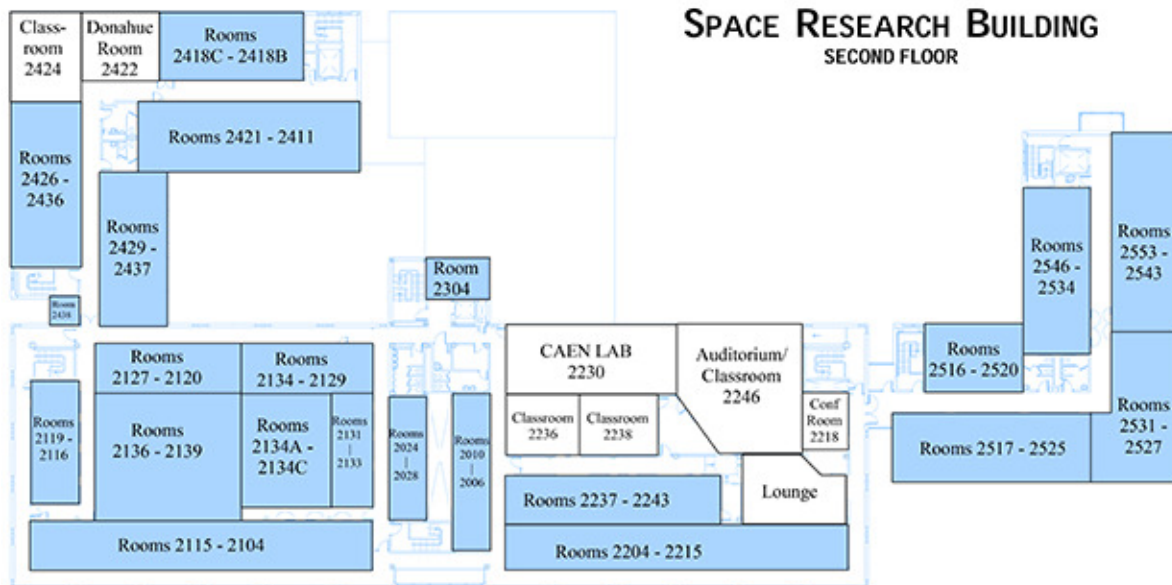
IRES engages undergraduates in publishable research projects that support six students per year for the summer at the SANSA Space Science Directorate in Hermanus, South Africa. It pairs students with SANSA scientists, engineers, and post-docs to provide one-on-one research mentoring. Get more information at <http://clasp.engin.umich.edu/academics/undergraduate/intl-research-experiences-for-students>

# Appendix A – Space Research Building (SRB) Map

## Second Floor

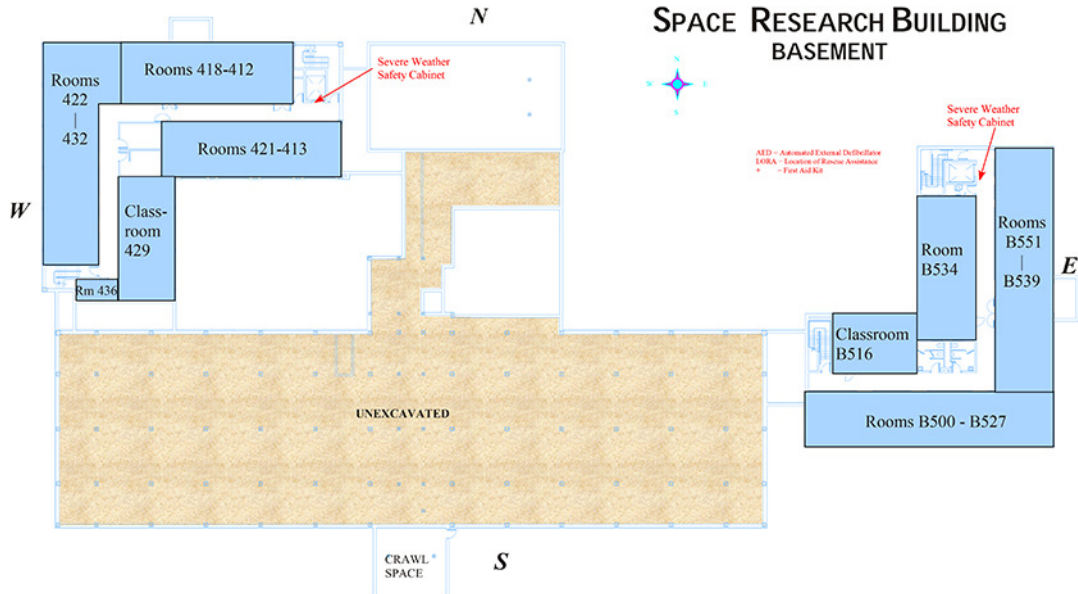


## First Floor



# Appendix A – Space Research Building (SRB) Map (continued)

## Basement



## Appendix B – Course Offerings by Term

Course	Fall	Winter	Notes
Climate/Space 320	X		
Climate/Space 321		X	
Climate/Space 323		X	
Climate 350		X	
Space 370	X		
Climate/Space 380	X		
Climate 401	X		
*Space 405	X		(Small Satellite Design)
*Space 405	X		(Engineering Astrophysics)
*Climate/Space 405		X	(Data Analysis)
*Climate 405		X	(Remote Sensing)
*Climate/Space 405		X	(Solar Physics)
Climate 410	X		
Climate 411		X	
Climate 414		X	
Climate 421	X		Every other Fall. Next offering: FA18
Climate 422	X		
Climate 440	X		
Climate 451	X		Every other Fall. Next offering: FA17
Climate/Space 462		X	
Climate 463		X	
Climate 466	X		Every other Fall. Next offering: FA17
Climate 473	X		
Climate 474		X	
Climate 475		X	
Space 477		X	
Space 478	X		
Space 495		X	495 and 595 alternate Winter terms
Space 595		X	

\* Note: 405 is used for all new courses. Once they are taught for one academic year, they will be given their own unique course number. Keep this in mind when you are registering.

## Appendix C – 2017/18 Academic Year Deadlines

### Fall Term 2017

Deadlines	Full Term	First 7 Week	Second 7 Week
Classes begin	Tuesday, 9-5-17	Tuesday, 9-5-17	Monday, 10-23-17
Classes audit deadline and drop deadline without "W"	Monday, 9-25-17	Monday, 9-18-17	Monday, 11-6-17
Classes drop and pass/fail deadline without SSC Petition	Friday, 11-10-17	Friday, 10-13-17	Friday, 12-1-17
Classes end	Tuesday, 12-12-17	Friday, 10-20-17	Tuesday, 12-12-17

### Winter Term 2018

Deadlines	Full Term	First 7 Week	Second 7 Week
Classes begin	Wednesday, 1-3-18	Wednesday, 1-3-18	Monday, 3-5-18
Classes audit deadline and drop deadline without "W"	Tuesday, 1-23-18	Tuesday, 1-16-18	Monday, 1-19-18
Classes drop and pass/fail deadline without SSC Petition	Friday, 3-16-18	Friday, 2-9-18	Friday, 4-13-18
Classes end	Tuesday, 4-17-18	Tuesday, 2-20-18	Tuesday, 4-17-18

### Spring and Summer Terms 2018

Deadlines	Spring	Spring/Summer	Summer*
Classes begin	Tuesday, 5-1-18	Tuesday, 5-1-18	Wednesday, 6-27-18
Classes audit deadline and drop deadline without "W"	Monday, 5-14-18	Monday, 5-21-18	Tuesday, 7-10-18
Classes drop and pass/fail deadline without SSC Petition	Friday, 6-8-18	Friday, 7-6-18	Friday, 8-3-18
Classes end	Monday, 6-18-18	Tuesday, 8-14-18	Tuesday, 8-14-18

- These deadlines are subject to change.

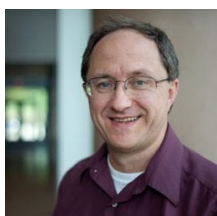
## Appendix D – Advisors and Other Contacts

### Advisors



#### Academic Advisor - Undergraduate

**Lindsay Coleman, MA**  
Staff Academic Advisor  
2237 SRB, 734-764-3282  
[colemali@umich.edu](mailto:colemali@umich.edu)



#### Faculty Advisor - Meteorology

**Dr. Frank Marsik**  
Lecturer III and Associate Research Scientist  
Office, 734-763-5369  
[marsik@umich.edu](mailto:marsik@umich.edu)



#### Faculty Advisor - Space Sciences

**Prof. Mark Moldwin**  
Arthur F. Thurnau Professor and Associate Chair for Academic Affairs  
Office, 734-647-3370  
[mmoldwin@umich.edu](mailto:mmoldwin@umich.edu)



#### Faculty Advisor - Climate Sciences and Impacts

**Prof. Ricky Rood**  
Professor and Dow Sustainability Distinguished Faculty Fellow  
Office, 734-647-3530  
[rbrood@umich.edu](mailto:rbrood@umich.edu)

### Other Contacts

<b>Prof. James Slavin</b> Department Chair	734-764-0392 <a href="mailto:jaslavin@umich.edu">jaslavin@umich.edu</a>	Oversees all departmental operations
<b>Mary Nehls-Frumkin</b> Department Manager	734-763-7305 <a href="mailto:maryln@umich.edu">maryln@umich.edu</a>	Manages all department activities and initiatives
<b>Marti Moon</b> Building Facilities	734-647-3420 <a href="mailto:mamoon@umich.edu">mamoon@umich.edu</a>	To submit a workorder, please email <a href="mailto:clasp-facilities@umich.edu">clasp-facilities@umich.edu</a>
<b>Sandra Pytlinski</b> Graduate Student Coordinator	734-936-0482 <a href="mailto:sanpyt@umich.edu">sanpyt@umich.edu</a>	Coordinates all graduate student services. Contact for SUGS questions and application