

Interns

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Internship Program Overview

The MRTI internship program is a combination of work and study for upper-level high-school, undergraduate, and graduate students, or college graduates who are looking for experience. Internships are an excellent way for students to work in career-related positions which give them the experience and career direction they need. As employers who hire interns, we have the opportunity to grow our own future leaders and to bring in employees with a fresh perspective on the work world, the organization, and the task at hand. Throughout the spring, MRTI recruits using our internship flyers (see an example on appendix A) on local high schools and university campuses (e.g., Michigan Tech University, the University of Michigan, and Eastern Michigan University) to hire interns for 6 to 12 weeks in the summer.

Providing interns with relevant work ensures our internship program's success. Interns do work related to their major field of study or general interests that is challenging, that is recognized by MRTI as valuable, and that fills the requirements of the schools' internship credit, if applicable. Interns are given the opportunity to help provide assistance to a research project under a designated mentor. Their contributions to this project and any other tasks completed during the internship, are summarized by the intern during a formal presentation near the end of the internship. Depending on the nature of the project and the contributions the intern makes, the intern may have the opportunity to be recognized as a co-author on a symposium/conference poster or paper, a journal manuscript, an internal research report (white paper), or a formal sponsor report.

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Internship requirements

There are three levels of internships available for MRTI. Internships are available to High School, Undergraduate, and Graduate students that have different levels of prerequisites. A description of the levels and applicant requirements are given below.

For all levels, interns will be hired into an hourly position at the Michigan Tech Research Institute, a part of Michigan Technological University. An hourly position provides an hourly wage with no medical, retirement or vacation benefits. Interns are required to be US citizens. If applicable/available, the internship can be used to fulfill requirements for the student's undergraduate or graduate program. Arrangements for this need to be made before the internship begins, and requirements of the granting institution need to be compatible with MRTI capacities.

High School: Depending on the age of the intern, the institute will comply with high school requirements as outlined on their work permit (supplied by the high school). High school level interns should know how to use Microsoft Office® programs and know how to follow directions from their managers. High school interns will be trained the basics of software or hardware that will be required during the internship. Examples are Geographic Information Systems (GIS), image processing, or web-design software and field data collection equipment (water quality sensors, etc.). Interns will learn how to perform entry-level tasks, such as georeference images with a GIS, acquiring remote sensing image products, collecting field data, or edit web site content and functionality, that will allow them to be effective in their position. All interns will give one presentation to a group of people as part of their training.

Undergraduate: Undergraduate students have the same requirements as listed above for High School level interns and the following additional skills. Undergraduate-level interns should be able to work independently on entry-level tasks, have exposure to mathematical statistics, and understand the basics of GIS, remote sensing, or a subject relevant to the internship field of focus (i.e. database management, electrical engineering). Undergraduate interns will be given the opportunity to build their skills based on the tasks required for the internship. They will have access to software and/or hardware to explore its utility and be given direction from a mentor with expertise in the field of study. All interns will give one presentation to a group of people as part of their training.

Graduate: In addition to the requirements listed above for Undergraduate-level interns, Graduate students will need to know how to use software for simple to advanced analysis. Prior experience with programming and use of statistical software such as SAS, R, or MatLab is of value; programming or statistical analysis experience is required. Graduate students will need to be able to follow direction from their managers and work independently on projects with limited guidance. In addition, Graduate students will be expected to bring fresh ideas and solutions to the project. Graduate students will have access to software and/or hardware to explore its utility and be given direction from a mentor with expertise in the field of study. All interns will give one presentation to a group of people as part of their training.

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Year 1

Todd Hockenberry began his internship in January 2006. He was just completing an undergraduate degree in Geography from Eastern Michigan University during this time. Todd worked on the Landsat dNBR activity reported on above (item 5). Results of his work are reported on in the attached description of how dNBR is derived ([Appendix C](#)) and the poster and paper presented in St Petersburg, also attached ([Appendix H](#)). He completed his internship in May 2006.



Luz Silverio was brought into Altarum's summer internship program and fully funded through the NASA-NIP grant. She had completed her second year of undergraduate schooling at Washington University when she started in May 2006. Luz's contributions were many. She provided extensive work on the ecoregions map, did most of the work on the first-order estimation of fuel consumption by ecoregion, and helped collect field data in Alaska. Her contributions were summarized in her final presentation required under the Institute's summer internship program ([Appendix J](#)). She completed her internship in mid-August 2006.



Jenna Melwki was hired as a summer intern through the summer internship program with the intention of having her help with the NASA-NIP grant project. She made only a few contributions to this project, however, concentrating her time on other projects within the Environment and Emerging Technologies Group within Altarum Institute. She was called on to help with GIS metadata work for the NASA-NIP. Her main contribution to the NASA-NIP project was in providing help with pre-processing of Landsat imagery for the land cover map of Alaska.

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Year 2

Luke Spaete has worked on several aspects of the project and presented a poster at the San Diego Fire Congress in November 2006 entitled "[Assessment of Alaskan Fire Duration Using MODIS Products](#)". He traveled to Alaska for two weeks in August 2006 for field work. Luke is currently (as of September 2008) on leave from MTRI while working towards a master's degree in forestry.



Ben Koziol worked during the summer of 2006 on compiling data for the Lower-48 fuel consumption part of the project. He has been hired as a full-time employee at MTRI and in August 2008 received a master's degree from University of Michigan's School of Natural Resources and the Environment.



Rick Powell is a research assistant at MTRI and in 2007 received a master's degree in remote sensing. He worked on field data collection and attended the Fairbanks burn severity working group meeting in June 2006. Rick provided valuable contributions to the image analysis of Alaska fires. He presented a poster, "[An Object-based Approach to Burn Severity Assessment](#)," at the November 2006 Fire Congress.



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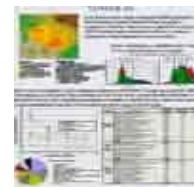
Years 3 and 4

Edalin Michael, a student at University of Michigan's School of Natural Resources and Environment, interned at MTRI during the summer of 2007. Edalin contributed to the project by [designing and building this website](#).





Michael Billmire began interning at MTRI in fall of 2007. Michael took over the work that Ben Koziol began for the Lower-48 fuel consumption branch of the project (see center portion of linked poster). He worked primarily on gathering supplemental datasets on fuel characteristics, collecting and preparing burn severity data from the MTBS database, and summarizing and analyzing the burn severity by ecoregion and fuel type. He has also programmed an automated process to perform these tasks for the benefit of future interns. In May 2008, Michael received a master's degree from the UM School of Natural Resources and the Environment.



Rick Dobson began interning at MTRI in winter of 2008. While Rick's work did not focus on the fire consumption project, he did contribute to various tasks that included populating the fire severity database with newly available data and helping to construct histograms of the burn severity data.

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