McNair Welcomes New Students

As a new year and semester start at NMU, the McNair Scholars Program is pleased to announce the addition of seven new students to our group of active and hard-working scholars.

In a competitive application process last semester, these students were selected from a field of highly skilled and ambitious applicants by the McNair Selection Committee. These students were selected based on many factors, including academic success and graduate school potential, and represent a broad spectrum of academic disciplines and personal backgrounds.

Starting this semester, the new scholars will begin attending workshops and learning the ins and outs of the graduate school process. All of us at the McNair program are excited for our new students to begin working with us this semester.

Welcome, New McNair Students!

Ciera Cammon - Spanish Major
Matthew Cowling - Sports Science/Pre-Med Major
Emily Hansen - Biology Major
Helina Haile - International Studies
Matthew Keiser - Biology Major
Ricki Oldenkamp - Zoology Major
Justine Pinskey - Graduate Biology Student

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BDNF and Me

By Katie Abrahamsson

Over the summer the McNair Program gave me the opportunity to continue working with Dr. Erich Ottem in the beginning stages of his research project and to enjoy a fantastic Marquette summer. The main goal of Dr. Ottem’s project is to outline the importance of brain-derived neurotrophic factor (BDNF) in the health and maintenance of motoneurons. Further understanding BDNF’s role in the signaling axis of motorneurons can be applied to disease paths of motorneurons; specifically, amyotrophic lateral sclerosis (ALS); a disease that affects 2-4 per 100,000 people.

Dr. Ottem’s project utilizes mouse-models that carry different genotypes. Part of my duties this summer was to care for the animals, mate them according to a breeding scheme and genotype them using PCR so that the correct genotypes could be achieved and affirmed. In the laboratory, I learned the importance of focus, precision, and record-keeping for every level of laboratory work.

My favorite part of the laboratory work was using immunocytochemistry to highlight neurons in spinal cord tissue. The slide preparation included many steps that took a few days to complete. All preparation had to take place in the dark so that the quality of the fluorescent tags was maintained. At one point, I was using a paint-brush to tease a section of spinal cord onto a slide in darkness (except for one little lamp). Viewing these neon-green neurons under a fluorescent microscope took my breath away. I am extremely proud of the work that I have done and am thankful that the McNair program gives recognition to my continued work with Dr. Ottem.
Balsams and Budworms
By Emily Sprengelmeyer

The McNair research component allowed me to collect data on the Slate Islands Provincial Park during the summer of 2010. I traveled the 13 miles from Terrace Bay, Ontario, to the islands in Lake Superior with fellow Boreal Ecosystems (BI 435) classmates. Dr. Alan Rebertus led the course and was also my summer research mentor.

The Slate Islands are dominated by balsam fir, white cedar, and mountain maple and most well-known for woodland caribou, but they are also inhabited by snowshoe hare, red fox, and a variety of bird species. My research focused on spruce budworm infestation and the subsequent abundance of woodland caribou on the islands. With help from Dr. Rebertus, I attempted to determine if balsam fir damaged by spruce budworm led to an increased caribou population density, and if previous infestations assisted the caribou’s ability to find food sources. I spent most of my time on the islands traversing balsam fir blow downs, quantifying arboreal lichen, and counting woodland caribou pellets. When I wasn’t working on my project, I canoed with other classmates around the archipelago, went bird watching, and studied caribou behavior.

After more than two weeks of data collection on the Slates, and a trip to Isle Royale National Park to study moose-spruce savannahs, we returned to Marquette. I began to analyze data from the field with the guidance of my mentor. This fortunately allowed me to familiarize myself with data analysis software. This analysis combined with my work on the Slate Islands allowed me to gain an understanding of techniques and field experience. The natural setting and subject matter for the course combined with the McNair summer requirements provided a unique and valuable research opportunity.

Scholars News and Updates

Tracy Pickering is heading to Ireland this month for the rest of the semester to study abroad. Tracy was also selected by the Political Science department to partake in the Washington Project during the summer of 2011.

Emily Sprengelmeyer is working as a high school tutor through the TRiO program Upward Bound.

Quentin Sprengelmeyer attended the Black Swamp Bird Observatory's annual Inland Bird Banding Association’s (IBBA) conference.

Eva Statler presented with a group of other psychology students at the Neuroscience 2010 conference in San Diego, California, in November.

Emily Perdue was accepted to present her McNair research at the Midwest Sociological Society.

Nine of our students received 4.0 GPAs for the Fall 2010 semester. Congratulations are extended to the following scholars on all their hard work this past semester:

- Rachael Manthey
- Emily Perdue
- Dylan Hendrix
- Paula Fata
- Justine Pinskey
- Rickie Oldenkamp
- Matthew Keiser
- Matthew Cowling
- Cierra Cammon

This past semester was a busy one for our McNair students and this upcoming semester is going to be even busier. While taking a full load of credits, many of our scholars take time out of their schedules to be involved with extracurricular activities, to teach classes or simply to prepare for upcoming adventures. Take a few minutes to catch up with our students.
During the weekend of November 5-7, 2010, five McNair students who completed research this past summer had the unique opportunity of presenting their research at the 19th Annual National Ronald E. McNair Research Conference.

The National McNair Research Conference and Graduate Fair was held this year in Lake Geneva, Wis., and provided McNair students from across the country an opportunity to highlight their hard work and research findings to about 500 of their peers. In addition to presenting their research, participants were also able to take part in a large graduate fair that occurred at the conference as well. Students were able to talk with graduate representatives from over 30 schools from across the country.

In addition to the five students who presented their research for NMU, the McNair program also brought along two faculty mentors. Dr. Jonathan Allen, mentor to Emily Perdue, and Dr. Debra Morley, mentor to Andrea Selmser, were able to attend the conference with their students and provide them with guidance.

McNair scholar Eva Statler said her experience at the research conference was a positive one. “It felt incredible to present my research in an environment full of students that were not judgmental, very supportive, and really on fire to learn.”

Linda Sirois, another McNair scholar, also enjoyed her time at the conference. “I find the energy and optimism at these McNair gatherings to be very inspiring. The idea of striving for the highest possible academic goals is contagious. And it was a lot of fun, too.”

To see more photos from the conference, visit the McNair Scholars website.
This summer the McNair program is expecting 13 individuals to be participating in active research on NMU’s campus or participating in an intensive internship related to their field.

As one of the main components of the McNair program, the summer research aspect allows students to interact and form relationships with professionals in their field, learn different forms of research methodology and become a little more prepared for the rigors of graduate school. To prepare for their upcoming research, our scholars are working with their faculty mentors this semester and earning directed study credits for their efforts.

Emily Perdue, who worked with Dr. Jonathan Allen last summer, says she really enjoyed her research experience. “He worked with me as an equal partner, and because of that, I pushed myself to keep up. It wasn’t just gathering information— it was an exercise in thinking and I learned things I didn’t expect to.”

Last summer 13 McNair students completed research on campus as well and will be presenting their hard work this upcoming April at the Celebration of Student Work research conference here at NMU. Their work was outstanding and we are anxious to see what this year’s group of researchers can do!

**Tentative Summer 2011 McNair Researchers and Faculty Mentors**

**Kate Abrahamsson** began working with Erich Ottem, Ph.D. through the McNair program last summer and will continue to work with him independently this year.

**Macrea Anderson** will be working with Steve Nelson, Ph.D. from the Political Science Department.

**Sara DeBold** will be working with Sara Potter from the Communications and Performance Studies Department.

**Adrienne Garlick** will be working with Jeanne Lorentzen, Ph.D. from the Sociology and Social Work Department.

**Dylan Hendrix** is actively pursuing research opportunities at various universities across the country.

**Matt Keiser** will be working with Alan Rebertus, Ph.D. from the Biology Department.

**Karla Kopp** will be working with Patrick Brown, Ph.D., and department head for the Biology Department.

**Rachael Manthey** will be working with Amy Hamilton, Ph.D., from the English Department.

**Joe Masters**, who worked with Timothy Hilton, Ph.D. from the Sociology and Social Work Department last summer, will continue this partnership this summer.

**Michael Michalek** will be working with Ronald Sundell, Ph.D. from the Geography Department.

**Tracy Pickering** will be working with an organization through the Washington Program in Washington, D.C.

**Justine Pinskey** has been working with Robert Winn, Ph.D. from the Biology Department and will continue this work this upcoming summer.

**Emily Sprengelmeyer** will be working with Patrick Brown, Ph.D. and department head for the Biology Department.

**Amanda Taisto** will be working with Erich Ottem, Ph.D. from the Biology Department.

**Brieana Videto** will be working with Robert Regis, Ph.D. from the Geography Department.
Summer on the Slates
By Quentin Sprengelmeyer

During the summer of 2010, I conducted my McNair scholar research while taking the class Boreal Ecosystems taught by Dr. Alan Rebertus, who was also my McNair mentor. This class took place on the Slate Islands, an archipelago located 13 miles from Canada, in the north-eastern section of Lake Superior. I was interested in investigating why there is a population of Arctic flora, plants usually found in tundra, scattered around the islands. I examined the types of bedrock the different populations grew on to see if certain plants preferred one type of bedrock. I also looked at the microclimate around the islands to see if it influences where the plants grow. I spent two weeks on the islands collecting data.

We got to the islands by way of a charter boat named The Bluebird. It took about an hour and half to reach the island that we were to call home for the next two weeks. The rock outcrop where we set up our base camp could not have been more perfect. We had a great panoramic view of the other islands and the sunset every night. On the water below us, common loons, herring gulls and red-breasted mergansers kept us company. We were also treated to woodland caribou foraging outside our tents while snowshoe hares scampered around. In the surrounding boreal forest I saw a total of 28 different species of birds. I can think of worse ways to spend a summer.

I filled my days with the hard work of collecting the data needed for my research. Every morning after breakfast, I would paddle out (in a canoe I named The Merganser) with a volunteer to different islands. Some days we would paddle several miles to get to our destination. We would climb up, sometimes a few hundred meters with a slope of sixty degrees, to the top of a rock outcrop. Then we would walk a 100-meter transect recording the different Arctic flora and the abundance of each species. We found eighteen different species of plants. One of my favorite plants was mistassini primrose (Priumula mistassiniica).

Conducting this research over the summer gave me valuable experience and also confirmed that I have chosen the right field. Thanks, McNair and Dr. Rebertus, for providing me with such a great opportunity!

A McNair Celebration

On September 11, the McNair scholars and faculty mentors were invited to a celebration dinner at Elizabeth’s Chophouse in Marquette. After completing its first year on campus and a successful summer of research, this evening was a great opportunity for the McNair program participants to relax and enjoy each other’s company.

Everyone at the McNair office is very proud of all of our scholars and all the hard work they’ve done this year, and we were excited to provide them with this celebratory dinner.

To see photos of this dinner, visit the McNair website.
Winter Workshops

It’s time for another semester of McNair workshops to start again. Since a large number of our scholars began preparing and will be working individually with faculty mentors this semester preparing for their upcoming summer research, a heavy emphasis will be placed on GRE preparation for our junior students. Dr. Andrew Poe from Mathematics and Computer Science will be facilitating weekly GRE prep workshops for students on Monday nights from 5-6 p.m. in 2806 West Science.

We have also listened to the feedback from our scholars and are offering a variety of other workshops to fit their specific needs this semester as well. These workshops will focus on topics such as on how to prepare your CV and graduate school application.

New to our program this semester will be our regular McNair Mentor meetings. Designed to help sophomore students obtain practical advice from “older and wiser” McNair students, these meetings will bring together the entire group of McNair students to discuss topics such as applying to graduate school and being active as an undergraduate, and answer any questions that may pop up.

Eva Statler, a May 2011 McNair graduate, believes these new mentor workshops will be very beneficial. “I believe that setting up McNair Mentors will be a very valuable experience for the new scholars,” says Statler. “I have already met with a few potential scholars to answer their questions about the application process and to help them pick a research topic. It is hard to jump into doing research with no experience. With the help of a mentor, the process could go a lot smoother and be more rewarding for the new scholars.”

Winter 2011 Workshop Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Workshop Name</th>
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<tbody>
<tr>
<td>Monday, January 10</td>
<td>Welcome Back and Welcome to the McNair Program</td>
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<tr>
<td>Wednesday, January 19</td>
<td>McNair Summer Research Meeting</td>
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<tr>
<td>Wednesday, January 26</td>
<td>Etiquette Workshop</td>
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<tr>
<td>Wednesday, February 9</td>
<td>McNair Mentors Meeting</td>
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<tr>
<td>Wednesday, February 23</td>
<td>CV/Resume and Personal Statement Workshop</td>
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<tr>
<td>Wednesday, March 16</td>
<td>Preparing for Graduate School Visits</td>
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<tr>
<td>Week of March 27</td>
<td>Individual Poster/Oral Presentation Practice</td>
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<tr>
<td>Wednesday, March 30</td>
<td>McNair Summer Research Meeting</td>
</tr>
<tr>
<td>Wednesday, April 6</td>
<td>McNair Mentors Group Meeting</td>
</tr>
<tr>
<td>TBD</td>
<td>Final meeting and end of the semester banquet for all McNair Scholars</td>
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*Except for January 10, all workshops will be held in 2609 West Science from 5-6 p.m.*
Scholars on Tour

Last May seven of our McNair students took graduate school trips to visit the campuses and speak with the faculty at the University of Michigan and Michigan State University. This year, we are once again planning a similar trip with several of our students, likely to graduate schools in Wisconsin and Illinois. With several of our students expressing an interest in these schools and their programs, it was an easy choice for this year’s trip.

In addition to our large group trips, students are encouraged to venture out and visit their own schools of interest. In November, Michael Michalek visited one of his top choices, the University of Wisconsin–Madison. During his trip to UW-Madison, Michael was able to learn a lot about his specific program of interest within the geography department and speak with their graduate program director.

We believe these trips are very valuable to our students as they begin to start narrowing their graduate school selections down. Not only does it allow them to experience how different a large research institution can be, it also allows them to talk to faculty at prospective institutions and discuss their graduate school options. This is a great experience for all students who are applying for graduate school and we encourage all of our students to attempt to visit their schools of interest prior to applying.

McNair Student Spotlight: Eva Statler

This month’s student spotlight looks at one of our hardworking seniors, who over the last year has participated in not one, but two research projects with two different professors.

Eva Statler is a senior psychology major with a minor in health and nutrition. Over the last year Eva has been working with Dr. Adam Prus from the psychology lab studying schizophrenia and with Dr. Mohey Mowafy studying eating behaviors among students at Northern Michigan University. Eva’s hard work has paid off and she’s been able to take part in many opportunities.

“I presented my research done in the psychology lab, using the radial arm maze, at the National McNair Conference. McNair also helped me fund my trip to San Diego, Calif., with my psychology lab to present our research at the Neuroscience Conference. The conference held 32,000 people, most with Ph.D.s or in a graduate program, so I was very fortunate to be able to participate as an undergraduate.”

Eva will be graduating in May and intends to pursue her Ph.D. in clinical psychology.

To read more about Eva, check out her full profile at the McNair Scholars website.
First Nations Food Taster

This past November, seven McNair students participated in a great NMU tradition: the First Nations Food Taster. Put on each year by the Native American Student Association, the McNair students were able to enjoy a traditional Native meal with the company of other scholars. As always, there was plenty of food to go around and our scholars enjoyed a wide variety of foods they don’t normally have an opportunity to enjoy. The menu this year included bison stew, fry bread, corn soup, pumpkin rolls and much more.

Charlene Brissette, the president of the Native American Student Association (N.A.S.A.) commented that, “the First Nations Food Taster is a significant event for the Native Student Group, N.A.S.A., not only because it is a fundraiser for our annual powwow, but it also brings together traditional and contemporary dishes for everyone to try. We share the recipes that are served and the language that can be used during typical conversations.”

The McNair Scholars Office believes that taking time to participate in cultural activities is an important part of our students’ education. Throughout the course of the year, we encourage our students to take part in different cultural events on campus, and whenever possible the McNair Scholars office supports our students financially in these activities.

Why McNair?

When many of our students applied to the new McNair program a year ago, they may have had no concept about what they were getting themselves into. One year later, though, after dozens of workshops, numerous individual meetings with Megan and Carl and several group outings, our scholars have many things to say about the elite program they are part of at NMU.

Linda Sirois: I am grateful to have the opportunity to participate in all the learning that is offered in the McNair program. The workshops and informal meetings have been enormously helpful in teaching about the graduate school process and I’m much more comfortable and confident about continuing my education.

Karla Kopp: I applied to the McNair program because I knew I would get the best resources to get my foot in the door for the graduate school process. My favorite thing so far has been the incentive given to me to evaluate myself and really figure out what it is I want for my future.

Nancy Kenok: The mentor aspect of our research is both enriching and inspiring. My mentor, Dr. Alex Ruuska, was always able to offer me insight and advice that I might not have received elsewhere.

Dylan Hendrix: I applied to the McNair program in hopes of challenging myself academically and socially, while at the same time building up my resume and learning more about graduate studies. The program has been a great way to meet people, visit possible graduate schools, and learn about different cultural events.