

SUMMER 2007
RESEARCH EXPERIENCE FOR
UNDERGRADUATES
IN
MATERIALS SCIENCE
JAMES MADISON UNIVERSITY

Welcome

Welcome to the Summer 2007 JMU Materials Science Research Experience for Undergraduates. We hope your time here at JMU is fun, educational, and productive.

What is the REU?

The Research Experience for Undergraduates Program is a program in which funds are given to a small number of colleges and universities throughout the United States to enable undergraduate students to participate in high level scientific research. These programs provide an immersion in research for ten weeks during the summer, direct mentoring of undergraduate students by faculty, and social and other events to encourage the development of a scholarly community engaged in scientific pursuits.

The bulk of the funding for this program comes from the Department of Defense through a program called ASSURE (Awards to Stimulate and Support Undergraduate Research Experiences) and from some funds provided by James Madison University. Some of the student scholarships are being funded by other funds from grants that individual faculty members have received.

Some of the students here this summer are funded by JMU directly as a way of including international students in our research community. These students have been brought to the United States by a group called IAESTE (International Association for the Exchange of Students for Technical Experience) and will work in the labs alongside the REU students, but must be follow some different rules because of their visa status.

Summer 2007 Participants

	<u>Institution</u>	<u>Advisor</u>
Dan Amon	James Madison University	Utter
Dane Arpino	James Madison University	Miles
Matt Bradley	James Madison University	Augustine
Tom Dowd	James Madison University	Paulson
Ashley Figueiredo	Sweet Briar College	Augustine
Michelle Hardy	High Point University	Mohler
Ralph Herman	James Madison University	Utter
Addie Hill	Winston-Salem State University	Caran
Keegan Hines	Washington & Lee University	Augustine
Callie Johnson	James Madison University	Tongen
Jack Larsen	Technical University of Denmark	Paulson
Erik Minges	UNC-Wilmington	Miles
Gustavo Ramallo	University of Mary Washington	Hughes
Sarah Sellman	James Madison University	Tongen
Ana Stevanovic	University of Belgrade	DeVore
Stephanie Torcivia	James Madison University	Caran
Dien Tu	James Madison University	Mohler
Patrick Turner	James Madison University	Augustine
Jon Wyrick	James Madison University	Augustine

What is required of You

You are taking a one credit course on research in materials science this summer and the primary requirement of that course is that you take a serious approach to solving the research problem to which you are assigned and that you use that experience to develop as a scientist. It is

typical to work as much as 40 hours a week for the next 10 weeks, though the exact hours that you work are to be determined by you and your mentor in the way that best suits your research. Your attendance will also be expected at several seminars, several field trips, and group meetings. Finally, you are expected to keep a detailed notebook of your work and give a presentation of your completed work during the week ending August 3.

Your Scholarship (REU students)

You will be enrolled this summer in a one credit research course here at JMU. For those of you who are not already JMU students, this means that you will be enrolled here as a special summer student and be able to receive an ID, email account, library privileges, and access to JMU facilities such as UREC. Your scholarship check is currently being processed by the JMU Financial Aid Office.

Since this is being paid as a scholarship, there will be no tax withheld from this check. We strongly recommend that you determine for yourself if this is taxable income for your particular situation and pay the tax required of you next spring.

Housing

Many of you are receiving housing from the REU program on Greek Row. If you have any problems related to this housing, please contact the JMU Events and Conferences Office at 568-3606.

Mail Service

If you would like to receive mail while here at JMU, you may have it sent to the physics department office:

*c/o Materials Science REU
Dept. of Physics MSC 4502
James Madison University
Harrisonburg, VA 22807*

Group Meetings

It is expected that your advisor will have some type of group meeting on a weekly basis, though he or she may choose some other way of communicating with you.

Social Events

There will be social events that allow students from the different labs to get to know each other better. These are tentatively planned to include a pool party/cookout and a canoe trip.

Field Trips

We hope to take two field trips this summer. In years past, these included NIST in Gaithersburg, MD, Dominion Semiconductor in Manassas and Johnson & Johnson's Spectacle Lens Group in Roanoke. You will be informed as soon as the trips are scheduled.

Seminars

There will be several seminars this summer involving visitors from other institutions. The dates and times for these will be listed on the web.

Future Publications

We hope that after the summer ends you all keep in touch with us and let us know how your career progresses. One thing that we do request is that you acknowledge the support of the Department of Defense ASSURE program (grant #0353773) and inform us of any publications or presentation that arise from your work this summer. In addition, please check with your advisor about other grants that you may need to acknowledge.

What To Do In And Around Harrisonburg

There are things to do in Harrisonburg in the summer. While this is not a comprehensive list and should not be considered an endorsement of any sort, here are some of the more popular regularly scheduled activities:

Fridays on the Square(<http://www.fridaysonthesquare.com>)

An event each Friday of the summer on Court Square in downtown H'burg alternating between bands and movies. Bands perform on the lawn of the courthouse every other Friday evening from 7 to 9 pm. On the other weeks, movies will be shown starting around 8:30 pm on the square (pre-show events start at 8 pm). All events free and open to the public.

June 1.....Film: *My Best Girl*

June 8..... Concert: Sons of Bill (alt-country and Americana rock)

June 15.....Film: *Sleepless in Seattle*

June 22..... Concert: Mercy Creek (pop, rock, blues, and bluegrass)

June 29.....Film: *October Sky*

July 6..... Concert: Nonesuch (Celtic and Appalachian)

July 13Film: *Shrek*

July 20..... Concert: Trent Wagler and the Steel Wheels (old time and folk)

July 27Film: *The Sting*

August 3..... Concert: Roger Marin (pedal/steel guitar)

Fundfest

Bands perform on the lot across from the *Daily News Record* offices on South Liberty Street. Admission is charged to assist a local charity.

May 30 The Worx

June 13..... Groovetown

June 27 The Rhondels

July 11 Billy Scott and the Prophets

July 25 Heartbeat of Soul

Kline's Dairy Bar

A must part of any summer in the valley. One of a kind ice cream Only three flavors at a time: vanilla, chocolate, and the flavor of the week.

Downtown Location (58 East Wolfe Street)

May 31 Orange Crème

June 21 Mint Cookies and Cream

June 7 Coconut Crème

June 28 Black Raspberry

June 14 Choc. Peanut Butter

July 5 Strawberry

South Main Location (2425 S. Main St.)

May 31 Mint Chocolate Chip

June 21 Blueberry Cheesecake

June 7 Strawberry Banana

June 28 Choc. Peanut Butter

June 14 Black Raspberry

July 5 Chocolate Chip Cookie Dough

Concerts on the Quad (<http://www.jmu.edu/jmuweb/general/news/general8735.shtml>)

A series of concerts will be held on the lawn in front of Duke Hall on Sundays at 7 pm. Picnic baskets, lawn chairs, and blankets are welcome.

- June 3Just Jazzin'
- June 10 Massanutten Brass Band
- June 17 Ovation Singers
- June 24Just Jazzin'
- July 1 Harrisonburg-Rockingham Concert Band

Shenandoah Valley Bach Festival (<http://www.emu.edu/bach>)

June 10-17, hosted by Eastern Mennonite University. Various concerts of Bach pieces at EMU and chamber music each day at lunchtime at Asbury UMC Church in downtown H'burg.

Green Valley Book Fair (<http://www.gvbookfair.com>)

Cheap, cheap books. Open only a few times a year - this summer from June 30 to July 15.

Harrisonburg Turks (<http://www.harrisonburgturks.com/>)

The Harrisonburg Turks are one of eight baseball teams in the Shenandoah Valley League, a summer college developmental league sanctioned by the NCAA. The Turks play in Memorial Stadium next to Harrisonburg High School on South High Street. Games start at 7:30 pm and are free for anyone with a JMU ID.

Saturday, June 2	New Market	Sunday, July 1	Woodstock
Thursday, June 7	Covington	Monday, July 2	Staunton
Friday, June 8	Winchester	Friday, July 6	Haymarket
Sunday, June 10	Haymarket	Thursday, July 12	Staunton
Weds., June 13	Luray	Saturday, July 14	Staunton
Friday, June 15	New Market	Tuesday, July 17	Woodstock
Thursday, June 21	Winchester	Weds., July 18	Covington
Friday, June 22	Luray	Saturday, July 21	Luray
Sunday, June 24	Waynesboro	Monday, July 23	Waynesboro
Tuesday, June 26	Fauquier	Tuesday, July 24	Fauquier
Friday, June 29	Front Royal	Saturday, July 28	Front Royal

Other Events

On Saturday, June 2, downtown Harrisonburg will be transformed back to the 1850's for the annual Court Days Festival. Re-enactments, food, and performances will go on all day long. More information is at <http://www.courtdaysfestival.org/>.

On Saturday, June 9 at 8:00 PM there is a "Musical Grab-bag" at the Little Grill Collective at 621 N. Main St. Various artists will perform for a \$5 suggested donation.

Massanutten Resort will host their Summer Jam on Tuesday, July 3 from 5:00-10:30 PM. This features music and fireworks from the peak at the end of the evening.

On Independence Day, July 4th, Harrisonburg will celebrate with events all day long and fireworks that night downtown for "Valley 4th". For more information, go to <http://www.downtownharrisonburg.org/v.php?pg=32>.

Court Square Theater has live music and movies as scheduled. Check out their web page at <http://www.courtsquaretheater.com/> for more information.

Check <http://downtownharrisonburg.bluekeyinc.com/calendarDisplay.php> for other things to do in downtown Harrisonburg this summer.