NCI CENTER FOR CANCER RESEARCH

FELLOWS & YOUNG INVESTIGATORS NEWSLETTER

Volume 10 Issue 3 November 2011

From the Editor's Desk

Welcome to the WINTER edition of the Fellows and Young Investigators Newsletter. In this issue, we introduce the newly formed Outreach Committee of the FYI-SC. We also provide highlights of Postdoc Appreciation Week on the Frederick campus. For the immunologists among us, we present a brief synopsis of the NIH Immunology Retreat that occurred in Cambridge, MD in September. Additionally, we highlight a CCR fellow's research that was recently published in *Nature Medicine.* Be sure to download the NCI App for your smartphone as it will be available soon. Also, the FYI Annual Colloquium is right around the corner, so watch your email for details.

From the Steering Committee to all NCI-CCR young investigators, Happy Holidays!

Editors:
Miranda Hanson, PhD
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IF YOU HAVE ANY COMMENTS, SUGGESTIONS OR WOULD LIKE TO CONTRIBUTE TO FUTURE NEWSLETTERS PLEASE EMAIL US AT ncic-crfyi@mail.nih.gov, or Miranda.Hanson@nih.gov

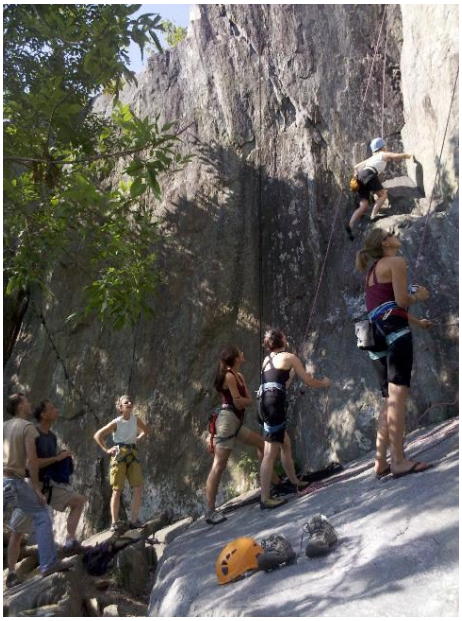
Providing support for fellows at CCR
CCR-FYI Association is supported by the CCR Office of the Director

CCR-FYI News

Introduction to the Outreach Committee: Come join us!

Several benefits exist for NCI researchers who actively engage the local community: 1) to remind us about the purpose of our research; 2) to gain experience in communicating our science to a general audience; 3) to network with funding institutions and organizations; 4) to further develop essential career-building skills not available in a lab; 5) and it looks great on a CV/resume.

In recognition of this, the Fellows and Young Investigators Steering Committee has created a ***NEW*** Outreach Committee. The purpose of this committee is to serve as an intermediary for those on campus interested in coordinating teams for fundraising events, volunteering for community scientific education, or just being involved with general outreach opportunities. Luckily, there exists an extensive, diverse network of non-profit organizations at our disposal.



Sunday at Great Falls, VA for the second day of the 2011 DC Climb -4-Life.

The first activity for the CCR FYI Outreach Committee was the HERA Women's Cancer Foundation Climb-4-Life[SM] last July. Established in 2002 by founder Sean Patrick, HERA Women's Cancer Foundation is a non-profit ovarian cancer organization that aims to empower women afflicted with ovarian cancer. HERA reaches out to all women, and the men who love them, to provide education on ovarian cancer symptoms and treatment, as well as provide a sense of community and support to those personally affected. At least 85% of the $460,000 collected to date from their signature climbing, hiking and running events has gone directly to funding research, education, and outreach.

Alyson Freeman (Vice-chair) Miranda Hanson (former Chair), Kristin Fabre (Chair), and Lisa O'Connor (HERA Board Member) at the Saturday evening reception.

The DC Climb-4-Life[SM] event consisted of a weekend packed with climbing and hiking along the Potomac and a fabulous reception held at the Rockville Civic Center Glenview Mansion. It was such a pleasure to meet and climb with fellow participants. People were exuberant to be there, and that attitude was contagious. The most meaningful moments for me, however, were interacting with people directly affected by cancer, yet having such inspiring expressions of hope and optimism. It gave me a personal sense of renewal for my determination to bring my best as a researcher when I approach the lab bench. I challenge you all to share in a similar experience. We have resources that make it very easy to tap into the community and become active. Our Outreach Committee or the NCI Office of Advocacy Relations (OAR; http://advocacy.cancer.gov/) are just a couple options. So…GET INVOLVED!!!!!

See you out there, Scientists!

Kristin Fabre

FYI Steering Committee, Chair

12th Annual Fellows and Young Investigators Colloquium to be held in the Spring

Are you a new fellow at the NCI, trying to get familiar with the rich resources that NCI and NIH offer? Do you crave collaboration opportunities to advance your research? Are you pondering your next career move? Whatever you are looking for to help your research and your career, you'll find it at the 12th Annual Center for Cancer Research (CCR) Fellows and Young Investigators (FYI) Colloquium, open to all NCI fellows and trainees, including postdocs, postbacs, graduate students, and staff scientists.

You will be inspired by the top-notch seminars from distinguished keynote speakers, you'll share ideas and show your research through oral presentations and eye-catching posters, and you may even be awarded for your research achievements. Step out of the lab for a couple of days and refresh yourself. Let your brilliant ideas flow freely. You are cordially invited to the 2012 Colloquium, organized by the CCR Fellows and Young Investigators Steering Committee and generously funded by the NCI-CCR. As we went to press, the time and date had not yet been decided, so watch for e-mail announcements with a detailed agenda and registration information.

This article will also appear in the mid-December *Poster* newsletter, produced by Scientific Publications, Graphics & Media for NCI-Frederick.

Submitted by:
Jianfei (Jeffrey) Zhao, PhD
Gene Regulation Section
Laboratory of Metabolism

Interested in joining the FYI Steering Committee?

Check it out by attending our next meeting on Thursday, December 15.

Location:

Bethesda: Bldg 40, Rm 1201/1203

Frederick: Bldg 549, Conf Rm B

Time: 11:00 AM– 12PM

Articles

National Postdoc Appreciation Week Celebrated

As the number of postdocs in the United States continues to grow into the several tens of thousands, it has become increasingly apparent the vital role these emerging scientists play in maintaining the progression of science and engineering frontiers. Not limited to the anonymous "lab rat", postdocs have a growing presence in the scientific community: training and mentoring other developing scientists, presenting their work at both national and global professional meetings, writing grant proposals and securing funds for research, and the emerging majority as first-authors of peer-reviewed publications. The National Academies have even gone so far to report that "the postdoctoral population has become indispensable to the science and engineering enterprise, performing a substantial portion of the nation's research in every setting" (1). In 2009, the National Postdoc Association (NPA) established National Postdoc Appreciation Week (NPAW) as a means to recognize postdocs, a large yet severely under-represented group; and to celebrate their significant contributions and humble dedication to scientific research. In September of 2010, grassroots efforts by NPA volunteers successfully passed a resolution through the U.S. House of Representatives, thereby officially recognizing NPAW on both national and governmental levels. NPAW 2011, which took place Sept. 19-23, marked its third annual celebration and proved to be another huge success. Between the U.S. and Canada, NPAW participation included a total of 166 recorded events occurring amongst 29 states, 67 cities, and 87 different institutions, including NCI-Frederick. To increase both the success of NPAW and membership in the NPA, the NPA Outreach Committee even offered a "toolkit" to help the institutions plan and organize their events.

Trainees attending National Postdoc Appreciation Week events held in Frederick

The NPAW activities at NCI-Frederick, led by the Fellows and Young Investigators (FYI) Steering Committee, were small in scale, but had a big impact on the NCI-Frederick community. Postdocs were made the focus for the week: a time of appreciation, increasing the awareness of their contributions, and reminding the campus how valuable these young scientists really are. Monday, Sept. 19, the first day of NPAW 2011, was "movie and popcorn day". Fellows gathered for an afternoon flick, "Extraordinary Measures", starring Harrison Ford and Brendan Fraser, as they supplemented their lunches with bags of popcorn. On Tuesday, the fellows joined the weekly Farmer's market, which consisted of the quick ingestion of several pints of melting ice cream and sherbet, followed by a group photo. As if popcorn and ice cream were not enough, fellows were enticed with coffee and doughnuts to attend a Wednesday morning panel discussion on Conflict Resolution, hosted by Kathleen Moore of the NIH Ombudsman Office and Selden Cooper, an eleven-year veteran of the NCI-Frederick's Employee Assistance Program (EAP). Although Kathleen was unable to attend the discussion due to an emergency, the fellows enjoyed a nice meet-and-greet with Selden as he enthralled his audience with his knowledge and wisdom, and enlightened them with some of the many resources the EAP has to offer. The NPAW activities were

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closed out later that afternoon with FYI's Frederick Postdoc Seminar. This seminar was the second in the Fall series and followed suit in the junk-food crave with liberal amounts of pizza and soda. A very special thanks to Drs. Jeffrey Strathern, Robert Wiltrout, Howard Young, and Jonathan Wiest for supporting these events, both morally and financially; as well as the NPA, FYI, and many volunteers therein that made this week possible.

[1]Enhancing the Postdoctoral Experience for Scientists and Engineers: A Guide for Postdoctoral Scholars, Advisers, Institutions, Funding Organizations, and Disciplinary Societies. The National Academies Press. 2000.

Submitted by:
Jason Stagno, PhD
Biomolecular Structure Section
Macromolecular Crystallography Laboratory

2011 NIH Immunology Retreat

Bringing together all of NIH's immunology community the NIH Immunology Retreat this year was held on September 12-14th in the Hyatt Regency Chesapeake Bay, Cambridge MD. This annual event brings together scientists interested in immunology from across a large range of NIH institutes including NCI, NIAID, VRC, FDA/CBER, NIAMS, NHGRI, NEI, NIA, NHLBI among others.

Included this year were addresses from two excellent invited 'guru' speakers - Michel Nussenzweig, Rockefeller University, who spoke on the role of chromosomal rearrangements in B cells in cancer and Ellen Rothenberg, of California Institute of Technology, who discussed her work on the use of genome wide analysis in early T cell development. The special plenary session on "Novel Human Primary Immunodeficiencies from the NIH Clinical Center" focused on three talks from NIAID investigators Steve Holland, Joshua Miller, and Michael Lenardo. They discussed new insights into basic and clinical immunology arising from study of human patients with diverse immunodeficiencies including GATA2 deficiency, STAT1 mutations, anti-cytokine antibodies, phospholipase C gamma 2 deficiency, and loss of the magnesium transporter MagT1.

2011 NIH Immunology Retreat Gurus
This year the Gurus were Ellen Rothenberg (left) of Division of Biology, California Institute of Technology and Michel Nussenzweig, Laboratory of Molecular Immunology, The Rockefeller University. *Images adapted from biology.caltech.edu and rockefeller.edu*

This busy three-day meeting also hosted five sessions covering areas from inflammation and innate immunity, lymphocyte development, differentiation, effector functions and subsets, immunopathologies, tumor immunology, translational immunology, cell activation and signaling, infectious diseases and vaccines. Three poster sessions were very well attended and interactive, fostering lively scientific discussions and interactions.

In addition to the exciting and cutting edge science under discussion, there were also a number of social events that, in addition to being a lot of fun, encouraged interaction among the scientists. As has become a tradition at this meeting, this year saw a

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return of the boat race. Teams were challenged to produce a sea-worthy vessel using only cardboard and duct tape and the crowds cheered them on as they were pitted against each other in pairs on the Choptank River. New this year was a special Immunology Trivial Pursuit. Hosted by Ethan Shevach, teams of two put their knowledge of immunology past and present to the test.

This always-excellent meeting is organized by the NIH Immunology Interest Group (IIG), which also organizes a weekly seminar series that invites high caliber external speakers to the NIH. More information on their activities can be found at http://sigs.nih.gov/immunology/Pages/default.aspx.

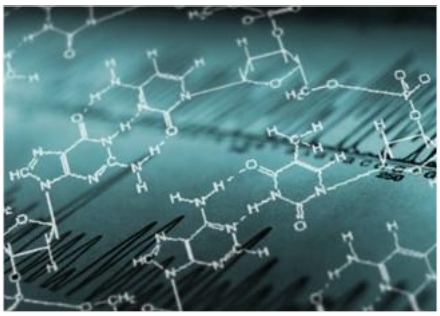
Submitted by:
Geraldine O'Connor, PhD
Laboratory of Experimental Immunology
Cancer and Inflammation Program

2011 NIH Immunology Retreat Boat Race
In boats of their own design, constructed using only cardboard and duct tape, teams of three to five competed in the Choptank River. *Images courtesy of Ron Germain*

Publication SPOTLIGHT

We are all aware that October was Breast Cancer Awareness month. In this issue of the FYI Newsletter, we are proud to extend the awareness further by featuring an outstanding ***Nature Medicine*** research article (*Nature Med.,* 17, 1275–1282, featured in News and Views in *Nature Med.* 17, 1183–1185) published on September 25, 2011 by **Dr. Suhwan Chang**, a CCR Research Fellow in the Mouse Cancer Genetics Program, under the guidance of Dr. Shyam K. Sharan. The article describes the discovery of a novel function of human breast cancer susceptibility gene *BRCA1*, using a mutant form of BRCA1 protein which does not disrupt the DNA damage repair function of BRCA1. The article further describes how BRCA1 regulates the gene expression of a micro RNA* encoding gene *MIR155HG* (encodes miR-155), which has been shown to play an oncogenic (cancer causing) role in immune cells.

BRCA1 mutations have been implicated in both breast and ovarian cancer. One such BRCA1 mutation involves a change of an Arginine residue 1699 to a Glutamine (R1699Q). The R1699Q mutation was previously predicted to be associated with predisposition to breast cancer. In their paper, Chang *et. al.* characterized R1699Q mutation in the embryonic stem (ES) cells and demonstrated that the mutation did not result in any defects in DNA damage repair and cell cycle progression. Interestingly, they observed that in the mutant ES cells undergoing differentiation, there was an increased amount of miR-155. They further confirmed their ES cell based studies by examining miR-155 level in human breast cancer cell lines without BRCA1 as well as tumors from BRCA1 deficient mice. They observed a similar increase in miR-155 levels in the analysis, suggesting a role for BRCA1 in miR-155 repression. Using elegant biochemistry based experiments, Dr. Chang and his colleagues elucidated the mechanism of how BRCA1 represses miR-155 transcription (gene expression) by binding to its promoter. They further elucidated that this repression is mediated by the association of BRCA1 with a histone deacetylase (HDAC) complex.



Dr. Chang's novel findings will allow the use of miR-155 as a marker for the BRCA1 deficient tumors. In addition, Dr. Chang's work has opened new avenues for researchers to test and explore the role of anti-miR-155 agents as a therapeutic for the BRCA1 deficient cancer.

*A micro Ribonucleic acid (mi RNA/miR) is a short RNA molecule (with 22 nucleotides) found in eukaryotic cells.

Submitted by:
Chhavi Chauhan, PhD
Mouse Cancer Genetics Program

Are you LinkedIn with the CCR FYI?

Check it out at http://www.linkedin.com/groups?gid=2495548

If you are not on LinkedIn, you will have to create an account, which takes no more than five minutes

The Fellows and Young Investigators (FYI) Association was organized by non-tenured and non-tenure-track MDs, PhDs, or the equivalent, and pre-doctoral intramural scientists. It enhances the intramural training program, fosters communication among fellows and the CCR community, and serves as a liaison to administration programs that affect the training experience by:

- Organizing and promoting educational activities such as training courses and seminars
- Identifying potential employment opportunities in traditional and nontraditional career paths
- Helping orient new trainees
- Facilitating communication among members

Upcoming Events

Spring 2012: 12th Annual FYI Colloquium

- Watch email for more details and call for abstracts!

NCI-Frederick Postdoc Seminar Series

- Watch email for announcements
- If you are interested in presenting as a speaker, please contact Linda Brubaker (brubakerld@mail.nih.gov)

The NCI App for smartphones will be available soon!

To all CCR trainees

Did you know that the *CCR Office of Training & Education*:

- **Assists trainees and mentors with mentoring issues.**
- **Assists in submitting applications for various funding mechanisms.**
- **Provides opportunities for expanding collaborative interactions.**
- **Assists trainees in the transition to different career paths.**
- **Provides numerous courses**
- **And much more!**

CCR Office of Training & Education
Jonathan S. Wiest, PhD
Director for Training and Education
Tel: 301.451.9638 wiestj@mail.nih.gov

Opportunities to Practice Talks for Conferences, Seminars & Job Interviews

The **PASS (Presentation and Seminar Skills)** series has teamed up with Scott Morgan to provide CCR scientists with an hour-long session of one-on-one tutoring. During this session, you will go through your presentation with Scott, where he will provide feedback on style, content, delivery of message, etc. A week or two later, you will then have the opportunity to present your talk in front of your colleagues and to receive constructive feedback. Scott will also attend and provide additional feedback following the presentation. Scott has over 15 years of valuable experience in science communication and has recently co-authored a book, 'Speaking about Science'.

We will work with you and Scott to arrange a suitable time and schedule. This is a wonderful opportunity for anyone who wishes to improve his/her presentation skills either for a meeting presentation or job talk.

If you are interested in taking advantage of this opportunity or have additional questions, please contact either **Bríd Ryan (ryanb@mail.nih.gov).** Available slots will be filled on a first come – first served basis.