

THE DOSSIER

The Digest on Staff Scientists and Staff Clinicians: Information, Employment and Research

September 2011

Issue 6



From the Editor

Welcome to the September issue of The Dossier, a newsletter dedicated to the Staff Scientists and Staff Clinicians (SSSC) of the CCR!



This issue contains important messages from the Director's Office and a special article by Patricia S. Steeg, Ph.D. An update on the new SSSC Hiring Handbook and the initiation of a SSSC Professional Development and Mentoring Forum is discussed. We premier the first article of a new

Dossier series summarizing Information Technology resources at NCI as well as highlight the work of Sergey Tarasov, Ph.D., O.M. Zack Howard, Ph.D. and Nadya Taravsova, Ph.D. and their successful experi-

ence with the Biophysics Resource Facility. We also bring your attention to the new SSSC "Meet and Greet Social" event series initiated by Smitha Antony, Ph.D. and Connie Sommers, Ph.D. We hope to continue to provide relevant and pertinent information to aid in the success of SSSCs. Please send your contributions, suggestions and comments to budhua@mail.nih.gov.

Anuradha Budhu, Ph.D. (SS)
Editor-in-Chief

Laboratory of Human Carcinogenesis

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Identifying *Major Opportunities* To Better Serve Our Patients



The CCR faces a critical juncture. Costs are rising for both bench and clinical research at a time when Congress is looking closely at the value received for each dollar spent on government-funded research. Here in CCR we have been forced to make budget cuts, and signs point to possible additional cuts next year.

These challenging fiscal times can be dispiriting to all of us who are so dedicated to our patients and to the goal of making a real impact against cancer and AIDS. However, even with these cuts, the CCR receives a significant budget to fund our clinical research. So now, more than ever, we must capitalize on this taxpayers' investment and put our resources toward the best possible chances to make progress.

Toward that end, CCR's leadership has been thinking strategically about our clinical research portfolio. We have begun a process to identify several lines of clinical research inquiry, which we call *Major Opportunities*, that, if pursued, should produce results with broad applications across multiple clinical and laboratory branches. We are asking all of CCR's translational researchers to join us in focusing our efforts upon some key *Major Opportunities* over the next 3-5 years. These *Opportunities* will have specified goals and deliverables. And each will be accompanied by a main theme, a paradigm-shifting scientific

and clinical goal, and a rationale: for example, why this inquiry is feasible to undertake at CCR.

" We are asking all of CCR's translational researchers to join us in focusing our efforts upon some key Major Opportunities over the next 3-5 years.....each will be accompanied by a main theme, a paradigm-shifting scientific and clinical goal, and a rationale....."

To get the conversation started, we have proposed some *Opportunities* for your consideration and invite your ideas as well. By way of a survey from Dr. Wiltout and me, which was sent to you in mid-August, all Staff Scientists and Staff Clinicians, along with all of CCR's Principal Investigators, have been invited to participate in identifying CCR's clinical research *Major Opportunities*. We have been very encouraged by the initial response. Many have given us feedback on some initially proposed lines of inquiry and have proposed additional *Major Opportunities* for consideration.

The survey closes on September 8, 2011. All who provided input via this Web-based survey will be invited to participate in a one-day conference in October where the *Opportunities* will be finalized.

I wish to thank all the Staff Scientists and Staff Clinicians who have already given their thoughtful consideration to this effort and encourage others to do so. Working together, we can and will remain on a productive trajectory that saves lives.

Lee Helman, M.D.
Scientific Director for Clinical Science,
Center for Cancer Research



Please share this newsletter with your colleagues and visit the SSSC website at sssc.nci.nih.gov



The PI Corner

Section Editor: Caterina Bianco, M.D., Ph.D. (AS)



Admittedly, the responsibilities of Staff Scientists at NCI are as varied as the people who fill the positions. In past issues I have read about Staff Scientists helping out by mentoring post-docs, running the lab and keeping the operation going.

I want to talk about leadership, both leading a team of researchers and being a leader in a field of science.

There is no rule that only Principal Investigators can effectively lead. Diane Palmieri, Ph.D., a Staff Scientist in my lab, has been the source of fantastic research ideas that have propelled my lab's work. She spearheaded our work on brain metastasis of breast cancer, a long neglected area that is increasing in incidence and killing breast cancer patients. Leadership in research includes not only good ideas but "getting something done." Diane developed a repository of preclinical brain metastasis model systems, figured out the quantification issues for experimental therapeutics initiatives, and completed mechanistic gene discovery investigations. This work necessitated leading a team of scientists.

"There is no rule that only Principal Investigators can effectively lead....If the Staff Scientist position is to function as a career, consideration of leadership opportunities is, in my opinion, a 'must.'"

Leadership also involves participating in the scientific community. Diane is a full Collaborator on a grant concerning brain metastasis of breast cancer, together with 16 other investigators from institutions nationwide. Independently, she is the Principal Investigator of a grant from the Inflammatory Breast Cancer (IBC) Research Foundation to develop preclinical models of brain metastasis for IBC. She serves on the editorial boards of several journals and is an invited speaker at national and international meetings.

I offer these observations as an example. It has to be acknowledged that it is hard work to balance the various interests and needs in the lab, my ideas, Diane's initiatives and the lab's goals. We work together at this high-wire balancing act with the knowledge that diverse leadership is a strength, increasing the lab's creativity and productivity. If the Staff Scientist position is to function as a career, consideration of leadership opportunities is, in my opinion, a "must."

Patricia S. Steeg, Ph.D.
Head, Women's Cancers Section,
Laboratory of Molecular Pathology



From The Professional Development Committee

New Hiring Handbook for CCR Staff Scientists and Staff Clinicians

The Professional Development Committee of the Staff Scientists and Staff Clinicians Association is proud to announce the release of the first New Hiring Handbook for CCR Staff Scientists and Staff Clinicians. This handbook can be downloaded from the organization's website (<http://sssc.nci.nih.gov>) and contains important information regarding SSSC positions. The following topics are covered:

- Role of a Staff Scientist
- Role of a Staff Clinician

- Role of Tenured or Tenure-Track Investigators
- Staff Scientist and Staff Clinician Appointment Mechanisms
- Pay Determination
- Performance Reviews
- Appointment Renewals
- Policy on Displaced Staff Scientists/Staff Clinicians

From The Professional Development Committee (Continued)

- Salary Adjustment
- New NCI-CCR-Designations for Staff Scientists
- Mentoring
- More Information

The creation of this Hiring Handbook was motivated by the fact that 78% of SSSCs found it difficult to obtain reliable information about their position (source: 2009 SSSC survey). The content of a potential New Hiring Handbook was first discussed during the afternoon session “Staff Scientists: Our Issues, Our Solutions” at the First Mid-Year Training activity for SSSC in September 2010. The Professional Development Committee has been working on this handbook since October 2010. Several CCR

administrative officials have validated the handbook, and a version specific to DCEG SS is currently being prepared.



Christophe Marchand, Ph.D. (SS)
Laboratory of Molecular Pharmacology



The SSSC Ongoing Professional Development and Mentoring Forum

As a result of a discussion during the first meeting of the Mentoring Forum on June 22, 2011, conducted by Cynthia Masison and Ofelia Olivero, the need to facilitate the identification of mentors for SSSC was evident. As an action item from that meeting, the Office of Workforce Development (OWD), and the Professional Development Committee of the SSSC organization, partnered to provide a structure to generate growing potential possibilities for the members of the SSSC organization.

Following this initial meeting, a SSSC Ongoing Professional Development and Mentoring Meeting took place on July 27, 2011 at 6116 Executive Plaza. The meeting was attended by Theresa Brendler, Shannon Connolly, Carrie Crum, Debbie Hodge, Zack Howard, Christophe Marchand, Ofelia Olivero and Emily Tai. It was decided that the efforts of the OWD and the SSSC Professional Development Committee would consolidate in the creation of a Professional Development and Mentoring Program for the SSSC Community.

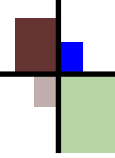
The program will have two primary components: mentoring and career development. These two components evolved separately, since one was a result of the discussions on the Mentoring Forum held on June 22, while the other resulted from the results of a survey given at the end of this year's SSSC retreat.

Component one:

Mentoring

OWD and the SSSC Professional Development Committee will provide the structure for a mentoring program for the SSSCs that includes:

- ~1-hour mentoring overview meeting for mentees that focuses on helping them clearly articulate their goal of what they want in a mentor and what they want to accomplish in a mentoring partnership. – Target date: October 2011



The SSSC Ongoing Professional Development and Mentoring Forum

- ~1-hour meeting to help the mentee think about how to identify, interview and select a mentor – Target date: November 2011
 - The SSSC Professional Development Committee will compile a list of potential mentors. Mentors on the list can come from the administrative or scientific sides of NCI. Mentees may identify other individuals not included on this list as a potential mentor. The list will serve as a starting point for those who need it.
 - Quarterly check-in sessions with other mentees will be facilitated by the OWD staff. The goal of the check-in is to create accountability and provide a forum for the mentees to learn, share, problem solve and strategize about their mentoring partnerships. – Target date: late February/early March 2012 for first check-in, then approximately every 3 months thereafter
- ment and the challenges of managing others without being an official Supervisor of Record.
- The series will be set up as follows:
 - An ongoing series will begin in January 2012 with sessions every three months. These sessions will be staggered with the mentoring sessions, so that there will be one session approximately every six weeks.
 - This series is open to all SSSC (not restricted to only those in the Mentoring Program). Future topics include: communicating effectively, managing conflict, building trust, creating effective teams and creating motivating environments. The OWD will draft a list of potential training topics.

More information on logistics, dates and content will be sent to all SSSC by mail and posted on the website.

Component two:

Ongoing Professional Development Series

The OWD will provide a quarterly series of workshops for the SSSCs that focuses on professional develop-



Ofelia Olivero, Ph.D. (AS)
Laboratory of Cancer
Biology and Genetics



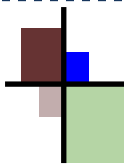
The Core Corner

Section Editor: Anne Gegonne, Ph.D. (SS)

Structural Biophysics Tools Are a Moving Force for the Development of Fully Synthetic Virus-Like Particles with Anti-Tumor Activity

In spite of extensive research, targeted delivery of therapeutics to the right organ and cells remains a major *problem* in cancer treatment. The motivation of a study initiated by Cancer and Inflammation Program Staff Scientist Nadya I. Tarasova came from useful lessons learned from nature. Viral particles transport whole proteins and nucleic acids to target cells due to

their ability to assemble/disassemble in a self-regulated manner and to selectively enter certain cell types. This knowledge was used to develop fully synthetic nanoparticles formed by precise self-assembly of a biologically active synthetic peptide that possesses both anti-cancer activity and the ability to target anti-cancer activity.



The Core Corner (Continued)

Section Editor: Anne Gegonne, Ph.D. (SS)

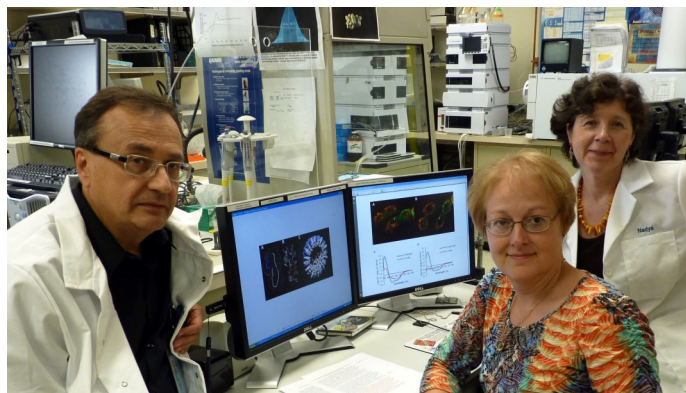
The study required collaborative efforts of three NCI groups and the University of Illinois. The major research efforts were divided between three Staff Scientists: Nadya I. Tarasova (Synthetic Biologics Facility, Cancer and Inflammation Program), who initiated the study and was responsible for all synthetic efforts, O.M. Zack Howard (Laboratory of Molecular Immunoregulation), who was critical for evaluation of anti-tumor properties of the particles, and Sergey G. Tarasov (Biophysics Resource in the Structural Biophysics Laboratory), who provided characterization of the physical and structural properties of the new self-assembling system.

As a result of their studies, the collaborative group has discovered that transmembrane peptides with additional negative charges on one of the termini self-assemble into spherical nanoparticles with surprising precision [1]. These fully synthetic proviral particles are biologically active on their own and can be used both as a drug and as a transport device with dual biological activity. This discovery opens up opportunities for generating highly homogeneous synthetic virus-like particles with controllable size, surface properties, biological activity and targeting ability for a wide range of applications.

The initial discovery that transmembrane peptides self-assemble was made by using dynamic and static light scattering that was later routinely used for determination of nanoparticles size, polydispersity and stability. Mass-spectrometry was applied to confirm the correct molecular structure of synthetic peptides and circular dichroism spectroscopy has helped to evaluate the transitions in the secondary structure of the peptide during assembly and cell fusion. Fluorescence spectroscopy has given insights into mechanisms of drug encapsulation by nanoparticles. Finally, isothermal titration calorimetry helped to evaluate the thermodynamics of nanoparticles demicellisation processes. These modern biophysical methods, provided by the Biophysics Resource (BR), were critical for the discovery of the self-assembly of a CXCR4 inhibitor and for understanding the molecular mechanisms of the assembly.

The BR <http://ccr.cancer.gov/resources/sbl/BR/Default.aspx> is an open, shared use facility; in general, BR users get training from BR staff members to run their own experiments with the help of nine modern biophysical techniques. For the most complex

studies, BR staff members collaborate with users by providing experimental design, data analysis and interpretation. Since its foundation in 2001, 157 scientists from 37 scientific groups have conducted collaborative research with the BR or have been trained to use BR instrumentation. In addition, 112 scientific publications and patents were prepared in collaboration with the BR or with a BR acknowledgement.



Sergey Tarasov, Ph.D. (SS)
Structural Biophysics Laboratory
Facility Head, Biophysics Resource

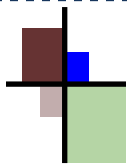
O.M. Zack Howard, Ph.D. (AS)
Laboratory of Molecular Immunoregulation

Nadya Tarasova, Ph.D. (SS)
Cancer and Inflammation Program
Head, Synthetic Biologics Core



Reference:

1. Tarasov S.G., Gaponenko V., Howard O.M, Chen Y., Oppenheim J.J., Dyba M.A., Subramaniam S., Lee Y., Michejda C., Tarasova N.I. Structural plasticity of a transmembrane peptide allows self-assembly into biologically active nanoparticles. *Proc. Natl. Acad. Sci. U.S.A.* 108: 9798-803, 2011.



The Information Technology Corner

IT Support at the NIH: Course 101

This new information technology (IT) column that will appear regularly in the Dossier is intended to help you understand the IT landscape at the NIH and provide you the knowledge to more readily have your needs met. In this initial article I will introduce you to the NIH and NCI IT support systems available to you at the Bethesda campus. There are several groups, each providing a distinct spectrum of services. These include:

- NIH Center for Information Technology (CIT)
- NCI's Center for Bioinformatics and Information Technology (CBIIT)
- Terpsys: a contractor to NCI that is hired to do most of the helpdesk IT
- CCR's Office of Information Technology (OIT): provides direct support to our research community.

So, what do all of these groups do and how and when do you engage them to get your problems solved and your questions answered?

Center for Information Technology (CIT), NIH: CIT provides different levels of support for each institute. For NCI, they run the email system, provide campus wide networking, as well as oversee the Internet connection and support for standard office computer software. CIT also provides Linux parallel processing system and Biowulf, for bioinformatics and molecular dynamics processing. Biowulf will be the focus of a future Dossier IT column.

NCI's Center for Bioinformatics and Information Technology (CBIIT): CBIIT provides the bulk of IT support for you. This includes local networking, desktop hardware and software support, 3 tiers of data storage, application hosting, Oracle and SQL Server database hosting, and coordinates IT security issues.

Terpsys Contractors: Terpsys contractors are hired and managed by CBIIT to provide you with day-to-day hardware and software support. Initiate a request for assistance as described below.

Even though CIT and CBIIT are different entities, request for any type of IT support should be initiated through CIT. *You should always* create a "service request" in the CIT support system either by filling out the form at: <http://itservicedesk.nih.gov/Support/> or by calling CIT Support at: 301-496-4357 . Contacting CIT

is important, because it will give you an official ticket number that we can use to follow-up on requests should there be a problem or should the service you receive not meet your satisfaction. If you verbally discuss an issue with a Terpsys staff member, follow-up by submitting a CIT ticket explaining the issue and that you discussed it with an NCI support contractor. If your issue is not being resolved in a timely manner, forward the ticket number to me, jdshilling@nih.gov, along with an explanation of the issue. I will contact my CBIIT liaison and we will get a solution path for you.

CCR Office of Information Technology (OIT)

OIT helps CCR scientists and clinicians solve computer related problems. OIT also coordinates IT efforts within the Office of the Director in support of CCR as a whole. Our specific areas of support include:

- Biospecimen Tracking
- Clinical Trials Management
- Clinical Protocols Life Cycle Management
- Collaborative interactions and managing knowledge in the lab or clinic setting.
- Support for issues that are too difficult for the NIH IT Service Desk
- Videoconferencing

If you ever do not know where to turn, or what you need specifically, or just want to brainstorm, you can always contact me to discuss the challenge you are facing. My staff and I will be happy to work with you.

Next issue – NCI-Frederick IT systems.



Jeff Shilling
IT Architect
CCR Office of Information
Technology



CCR Staff Scientist and Staff Clinician Meet and Greet



Some of us have worked at the NIH for several years, but too many of us know almost nothing about each other. To address this need among the SSSC community, we have initiated the "Meet & Greet" social. On July 21st, the SS and SC of Building 37 met informally over lunch to interact and socialize (see pictures from the event below).

The overwhelming positive response for such an informal networking group has motivated us to announce an ice-cream social for all SSSC of Building 37 on September 14th, from 2:30 pm-3:30 pm in Room 2107/2041 of Building 37. Our goal is to provide an opportunity for those interested to meet their SSSC

SSSC Ice-cream Social
September 14th, 2011, 2:30-3:30pm,
Bldg. 37, Rm. 2107/2041

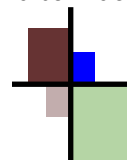
"neighbors" in an informal setting. We hope this social initiative fosters friendships that could also translate to collaborative opportunities in the future. In addition, we encourage SSSC from other venues to contact us for information if you wish to initiate socials in your areas (especially Building 10 and Frederick).

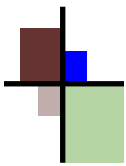
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 Laboratory of Molecular Pharmacology

Connie Sommers, Ph.D. (SS)
 Laboratory of Cellular and Molecular Biology

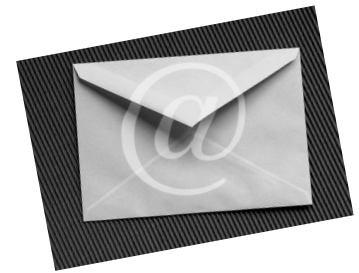


Pictured from left to right: Top row: Hongliang Zhang, Patricia Day, Juraj Bies, Xiaolan Qian, Yuan Jiang, Xuguang Zhu, Shuling Zhang, Dale Lewis, Sikander Khan. Middle row: Valery Blistovsky, Atsushi Terunuma, Christophe Marchand, Aaron Schetter, Smitha Antony, Lakshmi Balagopalan, Connie Sommers, Anuradha Budhu, Ofelia Olivero. Bottom row: Ruibai Luo, Swati Choksi, Takashi Furusawa, Ana Robles, Yvona Ward and Valarie Barr





A Call for Content



We need your input! Send your articles or suggestions with subject title “The Dossier” to: budhua@mail.nih.gov

This newsletter is an avenue for you to express your ideas and thoughts regarding being a Staff Scientist or Staff Clinician at CCR and to make pertinent announcements.

Your contribution is very important to the success of The Dossier. Please send us your commentary, announcements and suggestions for topics/subject matter and we will do our utmost to include your material in upcoming issues.

Join one of these SSSC Committees

Professional Development: Contact [Dr. Christophe Marchand](#)

Communications: SSSC Website: Contact [Dr. Sharon Moore](#)
The Dossier: Contact [Dr. Anuradha Budhu](#)

SSSC Retreat: Contacts: [Dr. Sergey Tarasov](#)
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