

The NICHD Connection

May 2013

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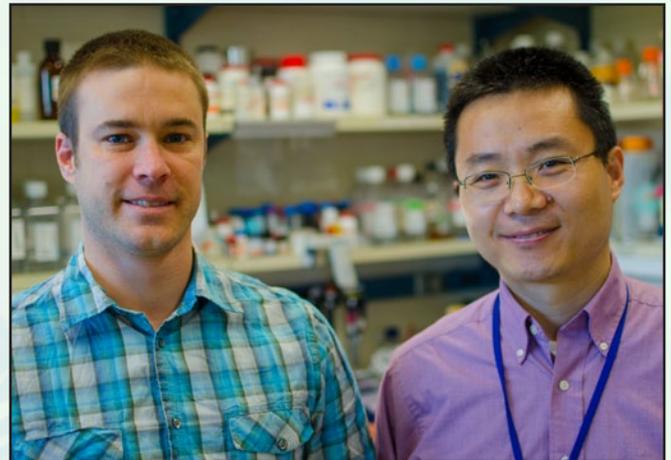
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Here Come the Interns!

By Drs. Dan Crooks and De-liang Zhang

Summer is swiftly approaching, and with it is coming a new contingent of summer interns to NIH. The NIH Summer Internship Program (SIP) provides young minds with a valuable chance to receive cutting-edge training in labs across the NIH and to carry out exciting biomedical



Dan Crooks, left, and De-liang Zhang

research, probably for the first time in their lives. These internships are an experience that should benefit both the mentor and the mentee in their future professional lives. Here are some suggestions for NICHD fellows who have volunteered to mentor these trainees over the summer.

Take some time to make your student feel comfortable and welcome. This can include helping them find where they need to be to get their safety training and badge. You should also discuss details about their summer schedule such as how they will get to and from the NIH and if they have any other commitments during the summer months.

Most important, ask your interns what their interests are, both in and out of school. Do they have goals? What are their hobbies, pastimes, talents, etc.? Is there a particular aspect of science that interests them the most or are they curious about a particular disease? Perhaps your trainee isn't even interested in pursuing a career in science; this is even more of an opportunity for you to get them hooked on science by providing them with a positive experience during their internship at the NIH.

The detail-oriented nature of science can be overwhelming to young trainees. Therefore, it is important to point out that the journey is more important than the destination. In other words, the ability of a trainee to

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Letter from the Editor

A lot of great information in this issue, so let's jump right in!

If you plan to mentor a student this summer, check out the **feature article** by postdoctoral fellows Dr. Dan Crooks and Dr. De-liang Zhang. They cover helpful tips when welcoming and teaching our youngest trainees. Dr. Celine Cluzeau presents another great teaching opportunity in our **“Interesting Opportunity” column**, where she recounts her experience developing a new teaching module for the Integrated Life Sciences Program at the University of Maryland.

I was truly inspired by the most recent NICHD Exchange meeting, **“Pediatric Cancer: Perspective and Promises.”** Even if you work outside the pediatric cancer field, there is much to be learned at the intersection between developmental biology and cancer genetics.

Check out the recap in this issue to see the latest thoughts in pediatric cancer care and research.

We continue our **“Career Planning with myIDP”** column, this month discussing how you can set achievable goals. Dr. Stephanie Cologna steps you through a simple, SMART process. And if you missed the **postbac poster workshop** last month, NICHD postbac Faith Summersett-Ringgold contributes a nice recap of the event.

As always, please don't forget to glance at the **May announcements** and **events**—the highly anticipated annual fellows retreat is almost here!

Your Editor in Chief,
Shana R. Spindler, PhD

Please send questions, comments, and suggestions to Shana.Spindler@gmail.com.

Here Come the Interns!

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identify what went wrong in an experiment is a more important skill than simply coming up with an answer to appease the mentor.

Think about what aspect of your work can be made into an entry-level project with clear goals that can be achieved using straightforward methods. Be prepared to adapt to the capabilities and interests of your intern and recognize that the most important thing that you both might gain from the internship might not be new data, but a better understanding of the scientific process and the ability to troubleshoot problems.

The prospect of taking on the responsibility for the training of an intern can be daunting, especially if this will be your first science

mentoring experience at the NIH. Fortunately, the Office of Intramural Training and Education provides excellent opportunities to make the most out of our mentoring experience. These opportunities include a four-week long mentoring course (two hours per week) entitled “Summer Research Mentor Training,” starting on May 21st in building 10. See <http://training.nih.gov> or contact Dr. Lori Conlan (conlanlo@mail.nih.gov) for more information.

The NICHD Division of Intramural Research Office of Education is also available to field questions or concerns about mentoring summer interns. They may be reached at hanningb@mail.nih.gov or yvette.pittman@nih.gov.



Interesting Opportunity: Blended Learning Course Design

By *Celine Cluzeau, PhD*

I am currently participating in the design of a “hybrid” cell biology course, along with four other postdoctoral fellows from the NICHD (Drs. Megan Sampley, Kate Monzo, Sarine Markossian, and Prasanna Krishnan), for the Integrated Life Sciences (ILS) Program at the University of Maryland (UMD).

Last year at the annual NICHD Fellows Retreat, I met Dr. Byrn Booth “Boots” Quimby, associate director of the ILS program at UMD. Dr. Quimby is interested in integrating active learning tools in her teaching classes, and she offered to facilitate a workshop for NICHD fellows interested in developing new teaching strategies. I attended her workshop to learn more about course design, learning outcomes, and active learning tools, which together help students achieve a deeper understanding of classroom topics.

During the workshop, we established learning outcomes for a specific module within one of the ILS Program classes. Several of the workshop participants, including myself, continued to work with Dr. Quimby in the development of a new cell biology course that will be taught next fall. The course involves blended (also known as hybrid) learning, in which online material is used to enhance classroom interactions with students.

The online portion of the course gives students necessary background information about each topic, reserving time in the classroom for in-depth learning activities, such as problem-based learning and small group activities. Online modules include seminar videos (from iBioseminars)*, recorded short lectures (using ScreenFlow), reading selections from the support book, and short quizzes to evaluate learning and identify difficult concepts to clarify during the next classroom meeting.

I am currently developing two online and two in-class modules of 75 minutes each. Preparation for the online content includes: identifying seminars and videos matching the learning objectives of the modules, designing and recording complementary material, creating a single video document, and developing a set of 40-50 quiz questions for each module.



Celine Cluzeau

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Interesting Opportunity (continued from page 4)

The classroom modules are designed to encourage problem-based learning rather than didactic interactions. An important goal for classroom activities is to introduce the students to experimental design and critical thinking with real experimental data, from our own experiments or from published articles.

After this initial design phase, each of the five participating NICHD fellows will evaluate the modules developed by the other fellows for the cell biology course. We will utilize the feedback to modify the content, if needed, before we teach the class next fall. Through this experience, I have realized that an important aspect of course development, both online and in the classroom, is to first develop the learning outcomes for each module and then choose which type of activities fulfills those objectives and to establish

A NOTE FROM DR. MEGAN SAMPLEY, WORKSHOP PARTICIPANT:

Dr. Quimby will return to the NIH campus this summer to lead another teaching workshop for a new round of postdocs who are interested in teaching. I strongly urge those interested in teaching to participate. The science of teaching and learning is a rapidly growing field, and as academics and future professors, we should do our best to keep up with it.

which type of assessment is best to evaluate students' learning.

***EDITOR'S NOTE:** iBioseminars is a project of the American Society for Cell Biology to bring free, high-quality biology short talks and seminars to people around the world. Please visit their website (<http://ibioseminars.org>) for more information. ScreenFlow is recording and editing software that allows you to record your computer screen, as well as webcam input (audio and video), edit the video, and share it with others. More information can be found at <http://www.telestream.net/screenflow/overview.htm>.

NICHD Exchange Recap - "Pediatric Cancer: Perspectives and Promises"

By Shana R. Spindler, PhD

If you asked a doctor 50 years ago what the average prognosis was for a child with cancer, the answer would have been a grim 30 percent chance at a five-year survival. That is not so today. Thanks to the ingenuity of researchers and doctors, the average survival rate from childhood cancer has skyrocketed to more than 80 percent. But along with this success come potential complications later in life for these patients. Today, nearly one in every 640 adults between the ages of 20 and 39 years received cancer treatment at a young age. On April 17, 2013, experts gathered in an NICHD Exchange meeting to discuss how to best care for this growing population of survivors.

The Childhood Cancer Survivor Study, an extensive follow-up of over 14,000 childhood cancer patients and 4,000 of their siblings, has enabled doctors to identify common themes in the aftermath of cancer treatment. Dr. Maya Lodish, deputy program director for the NIH fellowship program in pediatric endocrinology, kicked off the discussion with a presentation of some of the most prevalent late effects after cancer treatment. Among the long-term problems are endocrine complications, metabolic syndromes, cardiovascular disease, diabetes, and secondary cancers. Many of these conditions are dependent upon the type and intensity of treatment given.

But perhaps what resonated most throughout Dr. Lodish's talk was that researchers are clearly shifting a portion of attention to making post-treatment life as normal as possible. With better prognosis



Drs. Stratakis, Javois, Lamar, and Lodish

rates, parents are now asking quality-of-life questions, like "Can my child participate in sports?" or "Will my child be a normal height?" Understanding how different treatment options can increase or decrease risk for chronic conditions later in life can influence therapy choices.

One particular concern, reproductive health, is at the heart of the NICHD mission. Now that people with childhood cancer are living well beyond childhood, into and past puberty, the question of fertility is an important one. Just like many other health conditions after cancer treatment, the effect on fertility is dependent upon a list of factors, including age, gender, disease, treatment type, administrative method, and treatment duration.

While advances have been made for egg, embryo, or sperm preservation, young children who have not yet reached puberty still have few options. Current efforts are examining reproductive tissue preservation for post-treatment grafts back into the patient, but researchers are debating the

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NICHD Exchange Recap (continued from page 6)

risk of tissue contamination with cancer cells as well as ethical concerns associated with embryo and tissue preservation. The fact that doctors are even grappling with these issues is “a milestone,” said Dr. Charisee Lamar, program director of Reproductive Neuroendocrinology and Fertility Preservation Programs as well as meeting presenter on post-treatment fertility issues.

The better we understand the underlying cell biology in pathological conditions, the better researchers and doctors can predict these late effects for each individual. In the third talk of the Exchange meeting, Dr. Lorette C. Javois, health scientist administrator of the NICHD Developmental Biology and Structural Variation Branch, argued that information gleaned from studying the co-occurrence of birth defects and pediatric cancer will benefit the pediatric cancer community. Several lines of evidence, from clinical observations to registry linkage to case-controlled studies, show that some birth defects and pediatric cancers share common etiologies. For example, children who carry a chromosomal defect are ten times more likely to have acute lymphoblastic or myeloid leukemia.

Dr. Javois boils it down to the “embryonic toolkit,” a set of four signal transduction pathways that, in one way or another, control most of embryonic development. Cell movement and morphogenesis—a simplified view of development—are two activities tightly tied to cancer. Developmental biologists and oncologists have indeed found themselves studying the same genes, which begs the question: can

cancer treatments aid in the minimization of birth defect progression and vice versa?

Dr. Constantine Stratakis, scientific director of the NICHD Division of Intramural Research, is one to argue that a genetic component of pediatric cancer is prominent. Dr. Stratakis wrapped up the meeting with a review of case report examples showing that pediatric cancer, specifically associated with Cushing syndrome, is rooted in genetic disease. Sometimes the genetic component is not obvious and requires digging deep in family trees to identify affected relatives, or determining if improperly spliced proteins localize to the wrong compartment of cells. His lab has now identified several genes associated with Cushing syndrome, and he will likely identify more in the years to come.

The long-term remission for many pediatric cancers is not quite at 100 percent, but it's getting close. The chronic conditions from treatment are being identified and studied, but we still have a long way to go. NICHD fellows have the unique opportunity to think about these problems while examining the very basic biology of the cell. Perhaps recent advancements in cancer biology can shed light on questions in embryonic and fetal development. Or maybe a mutation in one of the genes involved in making the Zebrafish lateral line is a contributing culprit in a childhood cancer. At the NICHD and around the world, these conversations are ongoing. As one attendee put it: “This is a very exciting period of time that we're living in.”

Career Planning with myIDP: Setting Achievable Goals

By Stephanie Cologna, PhD

This month's "Career Planning with myIDP" column explains how to set achievable personal goals. Setting goals is an essential part of personal and professional development for an array of career paths. Regardless of your scientific and personal interests, it is important to establish a means of evaluating your progress. In the "Independent Development Plan" workshop presented by Dr. Philip Clifford, a significant amount of the workshop was focused on setting "SMART" goals.

Once you create a myIDP account (<http://myidp.sciencecareers.org>), you will find a "Set Goals" section. The goals section is divided into career development, skills goals, and projects goals. When setting a goal, there are three tasks to consider: 1) identify a skill/project that needs additional attention, 2) establish the approach you are going to use to overcome the deficiency identified, and 3) provide a reasonable timeline that

you can be accountable for.

Within the "Set Goals" section of the myIDP site, there is an entire tutorial on setting SMART goals, outlined below:

HOW TO SET A SMART GOAL

S – Specific – Is it focused and unambiguous?

M – Measureable – Could someone identify whether or not you achieved this goal?

A – Action-oriented – Is there an action required on your part?

R – Realistic – Considering difficulty and timeframe, is this goal attainable?

T – Time-bound – By when should you complete this goal?

Too often, we set lofty goals without a timeline or means to evaluate our progress. Using this approach will overcome this challenge and allow you to continue to develop professionally and personally!

Postbac Poster Workshop Recap

By Faith Summersett-Ringgold

On April 19, 2013, public speaking coach, Scott Morgan, presented a poster presentation workshop to help postbacs at the NICHD prepare an engaging poster for the 2013 NIH Postbaccalaureate Poster Day. In his presentation, he highlighted critical questions that all posters should include:

1. What is the main question?
2. Why is this important, relevant, logical, or worth funding?
3. Does data support the direction of research?
4. What is the most exciting aspect of your project?

In addition, Mr. Morgan suggested that presenters should exude excitement about their work—if you are excited those listening will be excited as well! Another way to get listeners engaged is to ask what their interest are. This will allow you to connect their interests to your work so that your project becomes relevant to them. Last, convey the take-home message of your poster and the future plans for your project.

Example of a well-designed poster

Deciphering the Zebrafish Genome
 B. Smith, A. Johnson, J. Swan, C. Sastry

Introduction

Just the Facts

Scientists love the Zebrafish

Let me answer for you: No.

Zebrafish

Just the Facts

Scientists love the Zebrafish

Let me answer for you: No.

Conclusion

Just the Facts

Scientists love the Zebrafish

Let me answer for you: No.

May Announcements

THE ANNUAL FELLOWS RETREAT IS ALMOST HERE!

The 9th Annual Meeting of Postdoctoral, Clinical and Visiting Fellows, and Graduate Students will take place on Tuesday, May 21 at the Smithsonian National Museum of the American Indian. Keynote speakers include Dr. Shirley Tilghman, president of Princeton University and Dr. John Bohannon, award-winning journalist and creator of "Dance Your PhD" contest. See you there!

DRS. MICAH HILL AND GARY LEVY RECEIVE THE BAILEY K. ASHFORD AWARD

Drs. Micah Hill and Gary Levy have won first and second place awards, respectively, in the annual Bailey K. Ashford Walter Reed clinical and basic research competition for 2013.

The Bailey K. Ashford (BKA) Award is an annual hospital-wide competition for all trainees of all services at Walter Reed and competition is keen. This is the first time an NICHD-associated fellow has won the competition since 1986, although several RE&I fellows have been finalists. The BKA awards are presented annually to the graduating trainees who have contributed the most significant research to the clinical investigation program during their years of training at WRNMMC. An award for clinical research, as well as an award for laboratory research, is presented.

CHECK OUT THE NIH CAREER SYMPOSIUM

The 6th Annual NIH Career Symposium on May 14, 2013 is open for registration. Over 60 speakers will join us to talk about their career experiences in academics, industry, government and nonprofit. Alan Leshner, PhD (CEO of AAAS) is the keynote speaker. Just added: two sessions on becoming a manager (one basic and one specific to managing a research group). The current agenda (and speakers) is online as well as a link to registration. <https://www.training.nih.gov/events/view/2/939>

Stop by at some point during the day (many of you will see familiar names of alumni from your IC). Non-IRP folks are more than welcome to attend. so spread the word.

Kind regards,

Lori M. Conlan, PhD
Director, Office of Postdoctoral Services
Office of Intramural Training & Education
National Institutes of Health
www.training.nih.gov

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May Announcements

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PLEASE SAVE THESE JUNE DATES

Join Us for the PI Retreat, June 5 & 6: The annual NICHD PI retreat will be held in Lipsett amphitheater on Wednesday and Thursday, June 5 and 6, with agenda information coming soon.

Town Hall Meeting, June 10, 11:30 AM: A Town Hall meeting will be held Monday, June 10 at 11:30 a.m. in building 31 room 6C6. Attend to receive key updates about budget planning for fiscal year '14.

Annual Grantsmanship Workshop, June 26: Please register soon for the annual Grantsmanship Workshop to be held on Wednesday, June 26. Only a few spots left! For more information or to register, contact Dr. Yvette Pittman at Yvette.Pittman@nih.gov.

WELCOME, SUMMER INTERNS

The NICHD Connection would like to extend a warm welcome to our incoming summer interns. Summer student orientations will begin on Tuesday, May 28 and successive Mondays after that. If you have any topics you'd like covered in the newsletter during your summer visit, please feel free to contact Brenda Hanning at hanningb@mail.nih.gov or the newsletter editor, Shana Spindler, at Shana.Spindler@gmail.com. Welcome!

May Events

TUESDAY, MAY 14, 8 AM – 5 PM

Annual NIH Career Symposium

Natcher Conference Center, Building 45

Register at <https://www.training.nih.gov/events/view/2/939>

TUESDAY, MAY 21

The 9th Annual Meeting of Postdoctoral, Clinical and Visiting
Fellows, & Graduate Students

Smithsonian National Museum of the American Indian

Registration is closed

TUESDAY, MAY 28 8:30 A.M

First summer intern orientation

Building 31, room 2A48

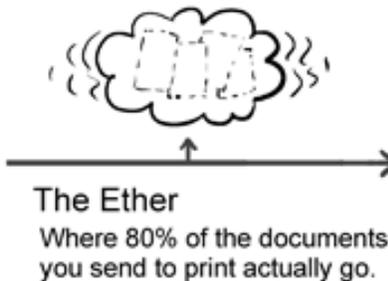
The Shared Office Printer Instruction Manual

WWW.PHDCOMICS.COM

Quick Guide:

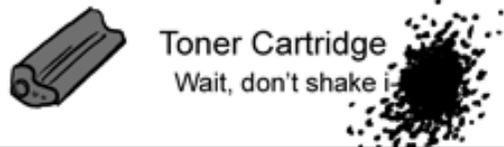
The Graveyard of Abandoned Documents

- Test Pages
- Computer Gibberish ↓ ↵ ⇨ ⇩ ⇧ ⇪
- A 200-page document somebody printed but never used (treekiller!)
- Your co-workers' personal correspondence you can use to extort them in the future



Troubleshooting Guide:

Error Message	Action
'Low Ink'	Ignore. Just keep on printing...
'Out of Paper'	Default mode. Put in just enough paper to print your documents.
'Paper Jam'	Non-existent. Open and close the hatch, that usually works.
'Warming Up'	Count as precious minutes of your life are wasted.



Driver Installation

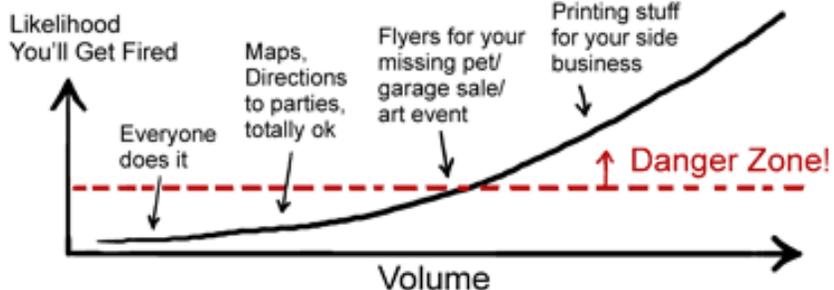
Choose from several frustratingly similar model numbers:

- Laserjet 4000dn
- Laserjet 4000ex 7
- Laserdesk 4000dnA
- Laserprint 4000 Series 7

Caution: choosing the wrong one will permanently damage your computer.

Personal Use

Is it appropriate to use this printer for personal use? Use this chart to find out:



How to Load Special Paper (a.k.a. the "Print Sprint")



Step 1. Load your special paper



Step 2. Run as fast as you can to your desk!!



Step 3. Hit "Print"!



Step 4. Run back to the printer!!



Step 5. Watch someone else beat you to it.

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