



## Center for Clinical and Translational Science e-NEWSLETTER

### Center News

## Recent CTSA Clinical Scholar Graduate Dr. Marina Caskey Awarded a Mentored Patient-Oriented Research Career Development Award (K23)

By Angela Slattery

Dr. Marina Caskey, former Clinical Scholar and one of the inaugural class of 2009 graduates of the Master's degree in Clinical and Translational Science, was awarded five years support on a Mentored Patient-Oriented Research Career Development (K23) Award from the National Institutes of Health. The purpose of the K23 award is to support the career development of investigators who have made a commitment to focus their research endeavors on patient-oriented research.

Dr. Caskey's project, titled Characterization of the Immunity Induced by a DEC205-targeted HIV Vaccine, received funding in September 2009. This award will support Dr. Caskey's HIV vaccine research while she is still under the expert mentorship of Dr. Ralph Steinman, Dr. Sarah Schlesinger, and Dr. Martin Markowitz. The goal of Dr. Caskey's project is to evaluate the immune responses induced by a novel HIV vaccine. There are unprecedented challenges to the development of an effective HIV vaccine, such as the extraordinary viral diversity of HIV-1

and the lack of clear immune correlates of protection. To date, two vaccine strategies tested in efficacy trials have failed to induce protection. The vaccine strategy developed in Dr. Steinman's laboratory focuses on directly exploiting dendritic cells' potential to improve the magnitude and quality of immune responses, either alone or in combination with other strategies. HIV antigens are delivered within fusion monoclonal antibodies (mAb) directly to maturing dendritic cells via DEC-205, an endocytic dendritic cell receptor. Previous research has shown that prime-boost immunization with anti-DEC-205 HIV Gag p24 fusion mAb with poly IC as an adjuvant induces protective immunity in mice. In addition, there are preliminary data showing that targeting of HIV antigens via DEC-205 receptor, in Peripheral Blood Mononuclear Cells from HIV-infected individuals, induces both HIV-specific CD4+ and CD8+ T cell recall responses. The studies Dr. Caskey has proposed will investigate the primary immune responses generated by DEC-targeted



Photo Credit: Jennifer Spada

Dr. Marina Caskey

HIV vaccines in healthy volunteers. The proposed immunological assays may prove useful for the evaluation of future HIV vaccine candidates. These studies will also investigate optimal choices of HIV immunogens to achieve broader viral coverage without compromise of antigen processing and presentation. If successful, this vaccine approach will add to the current arsenal of HIV vaccine strategies.

Dr. Caskey stated, "At the end of the five-year award period, I will have a greater

(continued on page 2)

## Securing Sensitive Hospital Data on Portable Devices

By Marty Leidner, Antonia Martinez, and Angela Slattery

Protecting the university's sensitive data is an ongoing initiative at Rockefeller. Part of the process involves properly identifying sensitive data within the university labs and the Rockefeller Hospital and creating procedures to protect it. Sensitive data, such as patient records and social security numbers, may need to be accessed by hospital researchers and staff. With the increased focus in recent years of legally mandated compliance standards for the security of Personally Identifiable Information (PII) private data, implementing a systematic approach for securing this information is

a high priority. The pressing information security focus for the Hospital and its associated labs is on securing sensitive data stored on portable devices, such as laptops and USB flash drives.

Hospital researchers and staff commonly use laptops, as well as newer technologies such as Smartphones, PDAs and USB flash drives to store and access sensitive and records. Portable devices are a common weak spot in information security initiatives. They are a leading source of accidental data leaks because they are portable and are easily lost or stolen. Moreover, the sensitive data

on these devices are not commonly encrypted.

"Unintentionally exposed data due to lost or stolen portable devices containing unencrypted information has been the stuff of numerous news headlines for years," says Chief Information Security Officer, Marty Leidner. "Preventing such costly and damaging incidents is our main concern. The Hospital and its associated labs and departments can achieve this by following two simple guidelines for securing sensitive data on portable devices."

(continued on page 2)

# Integrated Research Information System (iRIS): Recording Adverse Events (AE) in iRIS

By Donna Brassil



The Center for Clinical and Translational Science (CCTS) utilizes the electronic Integrated Research Information System (iRIS), which offers many components that are advantageous to investigators, coordinators, other research staff, Institutional Review Board (IRB) members, and the members of Advisory Committee for Clinical and Translational Science (ACCTS). This issue highlights the advantages of recording adverse events in iRIS.

What is an adverse event?

An adverse event (AE) is any untoward medical occurrence in a research subject which may or may not have a causal relationship with the study (ICH GCP 1.2). AEs include, for example, a change in a pre-existing condition; a new onset or worsening of a symptom, syndrome, or illness; or a new significant laboratory finding. All events are required to be reported regardless of whether they are judged to be associated with participation in the study.

A serious adverse event (SAE) is one that results in death, is life-threatening,

requires hospitalization or prolongation of existing hospitalization, results in a persistent or significant disability/incapacity, or results in a congenital anomaly/birth defect. (21CFR 312.32).

All investigators are required to collect, assess, and report all AEs that occur during a study. The following information is gathered for each event: description of the AE, onset (date/time), duration, grade of severity (mild, moderate, severe, life threatening, or fatal), attribution (related, probably related, possibly related, not likely related, or not related to the study), whether the event was anticipated or not, and whether or not it is an SAE. AEs need to be reported to the IRB, sponsor, and directly to the FDA if the Principal Investigator (PI) is holding the IND (Investigation New Drug) Application. Each of these three entities has different reporting time-frame requirements. Some investigators maintain paper logs of these AEs. One great advantage of the electronic study management component of iRIS is recording of adverse events. The branching logic of the program guides you through a pathway so that all of the reporting elements are addressed. It also includes definitions in “help bubbles” for details such as attribution and grading. Once completed, if an SAE or an AE

that is related to the study and greater than grade 2 is entered into iRIS, the system will automatically submit it to the IRB. If it is an AE that only requires annual reporting, it will prepopulate the iRIS Annual Progress Report Form in a tabular form.

The iRIS system is also an excellent resource to view all study AEs recorded. A running log of all AEs associated with a particular study can aid in determining if participants are experiencing a pattern or trend of specific AEs. Furthermore, if an initial report of an AE needs to be updated, the investigator or coordinator can enter the initial report and any subsequent information updates, rather than rewriting all of the previously submitted details. Finally, the AEs listed in the iRIS system do not contain any participant identifiers but rather the unique code assigned to subjects when enrolled. This additional measure helps to protect patient safety and confidentiality.

If you have questions about iRIS, please contact Ross Gillman; [rossg@rockefeller.edu](mailto:rossg@rockefeller.edu), (212) 327-8930; Ummey Johra; [ujohra@rockefeller.edu](mailto:ujohra@rockefeller.edu), (212) 327-7877; or Donna Brassil; [dbrassil@rockefeller.edu](mailto:dbrassil@rockefeller.edu), (212) 327-7886.

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## Recent CTSA Clinical Scholar Graduate Dr. Marina Caskey Awarded a Mentored Patient-Oriented Research Career Development Award (K23) (continued from page 1)

understanding of basic immunology and the immune responses induced after vaccination. I will also have gained experience from the design and execution of an early phase clinical trial of a novel compound. I believe that I will be able to use this knowledge in immunology

and immunological methods in the evaluation and development of future HIV vaccine candidates.” Dr. Caskey went on to explain how the Clinical Scholars Program prepared her for the research project proposed in her K-award, “The program taught me

invaluable insights into translational research, biostatistics, and the conduct of ethical research. Since graduating from the Clinical Scholars Program, I have continued to acquire the skills necessary for a successful independent research career.”

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## Securing Sensitive Hospital Data on Portable Devices (continued from page 1)

1. Avoid storing sensitive data on portable devices.

While it may be convenient to save patient or other sensitive data records onto a laptop or USB flash drive, given the legal and financial risk of transporting these data, it's important to consider the necessity of working in such a manner. It is best to leave such data in one central and more secure location on campus, and access it over a secure connection only if and when it is needed.

2. Encrypt any portable device containing sensitive data.

If there is a need to store sensitive information on a portable device, encrypt the entire device, not just the sensitive data files. In the case of USB flash drives, consider using a fully encrypted model, such as IronKey, that encrypts data automatically. In the case of laptops, Information Technology recommends “Full Disk Encryption” which safeguards the whole laptop at

once. For encryption assistance, visit the Information Security section on the Rockefeller University IT web site ([www.rockefeller.edu/InfoSec](http://www.rockefeller.edu/InfoSec)) or contact the Help Desk at ext. 8940.

Following these critically important guidelines will help significantly in our efforts to meet legally mandated compliance standards and protect our research participants' sensitive data.

## New Clinical Scholars Join the Center for Clinical and Translational Science (CCTS)

By Angela Slattery

On July 1, 2009, five new Clinical Scholars joined the Rockefeller University Clinical Scholars Program. They are: Drs. Niroshana Anandasabapathy, Jennifer Belasco, Iddo Ben-Dov, Dana Orange, and Hien Tran. Additionally, with support from the CCTS, two medical students have joined the Year-Off Training Program for Graduate or Medical Students in Clinical and Translational Science. Ms. Nakesha King will spend one year in the laboratory of Dr. Jan Breslow and Mr. Austin Pantel will spend one year in the laboratory of Dr. Ralph Steinman conducting translational research. Below are brief biographies and research interests of each new Scholar and medical student.

Please join us in welcoming them.

**Niroshana Anandasabapathy, MD, PhD**  
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Mentor: Dr. Ralph Steinman

Dr. Niroshana (Niro) Anandasabapathy received her MD and PhD from Stanford University School of Medicine. After completing her training, Dr. Anandasabapathy specialized in Dermatology, focusing on the intersection between autoimmune disease, cancer, and infectious disease. She completed her dermatology residency at New York University. As a Clinical Scholar, Dr. Anandasabapathy is studying the immune basis of connective tissue diseases in Dr. Steinman's laboratory.

**Jennifer Belasco, MD**

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Mentor: Dr. James Krueger

Dr. Jennifer Belasco received her MD from the University of Texas School of Medicine at San Antonio. She went on to complete a Pediatric internship and residency program at St. Christopher's Hospital for Children in Philadelphia, PA and a Pediatric Rheumatology fellowship at the Hospital for Special Surgery in New York. As a Clinical Scholar, Dr. Belasco will investigate the role the Th17 pathway plays in juvenile psoriatic arthritis in Dr. Krueger's laboratory.

(continued on page 4)

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## New Staff Member Biographies

By Angela Slattery

We would like to welcome the following new staff members at the Center for Clinical and Translational Science:

Ms. Suzanne Ouyang  
Ms. Caroline Melendez  
Mr. Ross Gillman  
Ms. Patricia Balacich

Suzanne Ouyang joined the Clinical Research Support Office as a Recruitment Assistant on October 28, 2008. She graduated from the University of Notre Dame with a BS in Biological Sciences. Ms. Ouyang is responsible for facilitating recruitment efforts for investigators in the Clinical Research Support Office in various ways, including conducting phone screens and scheduling potential volunteers. She is also responsible for maintaining the repository database (as detailed in protocol RKO-0648), which is an IRB-approved database of the contact information for over 1,700 healthy volunteers who are interested in being contacted for research studies. Her contact information is [souyang@rockefeller.edu](mailto:souyang@rockefeller.edu), 212-327-7709.

Ms. Caroline Melendez joined the Clinical Research Support Office as a Recruitment Specialist on September 1, 2009. Ms. Melendez earned her BA in Psychology from the University of Texas at Austin and has extensive experience with participant recruitment and promoting awareness and

educational opportunities through her previous employment as an Associate Director of Client Services and Manager of Clinical Trial Information Services at EmergingMed, a clinical trial education and navigation service for cancer patients based in New York City. She has also worked as a Victim / Witness Coordinator through the Bastrop District Attorney Office, a Care Manager in the Guardianship Program of Family Eldercare, a Qualified Mental Retardation Professional at Austin Children's Center, and a Volunteer Specialist at SafePlace, a domestic violence/sexual assault survival center in Austin, Texas. As a Recruitment Specialist, Ms. Melendez is responsible for providing recruitment services to all Rockefeller University Hospital investigators, including personalized consultations, tailored recruitment plans, and creation and placement of ad copy. Her contact information is [cmelendez@rockefeller.edu](mailto:cmelendez@rockefeller.edu); 212-327-8409.

Mr. Ross Gillman joined the Biomedical Informatics Core in the Center for Clinical and Translational Sciences on September 27, 2009. Mr. Gillman graduated from the University at Buffalo with a BS in Business Administration and a concentration in Management Information System. His previous work experience includes the implementation, support, and training of various computer systems as a Project Coordinator at The Great Atlantic and Pacific Tea Company

and as an Associate Project Manager at The Rockefeller University. He was one of the Project Managers on the successful implementation of the Integrated Administrative Systems Project (Oracle IAS system) at Rockefeller. Within the Biomedical Informatics Core, Mr. Gillman is responsible for configuring and supporting the Center's research protocol management tool, Integrated Research Information System (iRIS). His contact information is: [rossg@rockefeller.edu](mailto:rossg@rockefeller.edu); 212-327-8930.

Ms. Patricia Balacich joined the Office of Regulatory Affairs in the Rockefeller University Hospital on September 28, 2009. Ms. Balacich has a Master's Degree in Italian from New York University, a Master's Degree in teaching Italian grades 7-12 from Pace University, and a BA in Journalism from New York University. Prior to joining Rockefeller University, Ms. Balacich taught Italian language at the college and high school level. She also has experience in the nonprofit sector as a grant writer and fundraiser working for various arts and children's organizations in New York City. As the new Medical Staff Services Coordinator, Ms. Balacich will be responsible for credentialing all of the medical staff at Rockefeller University Hospital by obtaining, verifying and assessing each practitioner's qualifications to practice. Her contact information is: [pbalacich@rockefeller.edu](mailto:pbalacich@rockefeller.edu); 212-327-8813.

## Meet the Scholar: Kristine Nograles, M.D.

By Jennifer Spada

Dr. Kristine Nograles completed her undergraduate studies with honors at the University of the Philippines where she obtained a Bachelor of Science degree in Molecular Biology and Biotechnology. She attended medical school at the same institution and then specialized in Dermatology and Dermatologic Surgery at the Skin and Cancer Foundation, Manila, Philippines. Her strong interest in immunology led her to pursue a post-doctoral fellowship at the National Cancer Institute, NIH, working with mouse models of autoimmunity and tolerance with Dr. Stephen I. Katz as her mentor. During this time she learned the fundamentals of immunology research; she aspired, however, to pursue more patient focused, translational research. She joined the Laboratory of Investigative Dermatology, under the mentorship of Dr. James Krueger, as a Clinical Scholar to further study skin immunology, with particular focus on the mechanisms that lead to severe psoriasis.

During her time as a Clinical Scholar, Dr. Nograles, who is known to her friends as Tinky, has focused her studies around the role of Th17 cells in psoriasis and other

inflammatory skin diseases. She has identified several cells that may potentially respond to Th17 cells in the psoriatic lesion and hopes to take those discoveries even further. “What I hope to find out is how each individual cell type responds to the messages that Th17 cells send out, and how all of this fits into psoriasis pathogenesis.”

When asked about her experience in the Clinical Scholars program, Dr. Nograles stated, “What I really love about the program is the supportive environment, and not just from Dr. Krueger but also from Dr. (Sarah) Schlesinger and Dr. (Barry) Collier. You can feel that they are all behind you and that they want you to succeed. Finding my way as an investigator would be much more difficult if I felt as if I had to carve out my own path and face resistance. Here it is different; there is encouragement and support, as well as guidance.”

Dr. Nograles explained that her long term plan is to remain in academic dermatology. “It can be a little bit

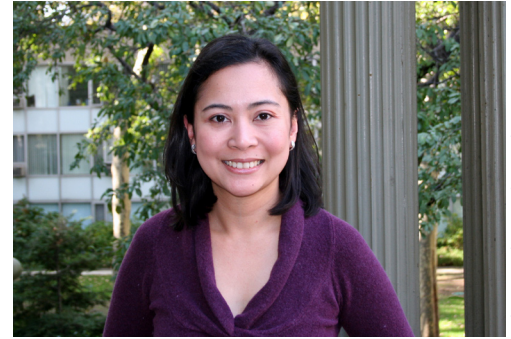


Photo Credit: Jennifer Spada

Dr. Kristine “Tinky” Nograles

intimidating because my future research will, of course, depend on funding. But I prefer to remain in the discovery front rather than on the receiving end of clinical practice guidelines. When I first began clinical training in dermatology, the most frustrating part was the term, ‘etiology unknown’ because the causes of many skin diseases remain unknown. I hope to take a more proactive role in discovering the mechanisms of these diseases.” Her next step is to obtain a doctorate, which she hopes to do at The Rockefeller University, while continuing her studies in investigative dermatology.

## New Clinical Scholars Join the Center for Clinical and Translational Science

(continued from page 3)

### Iddo Ben-Dov, MD, PhD

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Mentor: Dr. Thomas Tuschl

Dr. Iddo Ben-Dov received his MD and PhD from Hadassah – Hebrew University Medical Center in Jerusalem, Israel. His desire to both further understand basic molecular biology in nephrology and hone his clinical research skills made the Clinical Scholars Program an ideal fit. As a Clinical Scholar, under the mentorship of Dr. Thomas Tuschl, Dr. Ben-Dov’s research is focusing on the role of microRNA in kidney disease.

### Dana Orange, MD

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Mentor: Dr. Robert Darnell

Dr. Dana Orange received her MD from Weill Medical College of Cornell University. She completed her Internal Medicine residency at New

York Presbyterian Hospital and her Rheumatology fellowship at Hospital for Special Surgery in New York. As a Clinical Scholar, Dr. Orange will study T cell activation by dendritic cells in patients with paraneoplastic neurologic disease in Dr. Darnell’s laboratory.

### Hien Tran, MD, PhD

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Mentor: Dr. Sohail Tavazoie

Dr. Hien Tran received his MD from Harvard Medical School and his PhD from Harvard Graduate School of Arts and Science in Boston, MA. He went on to complete his Dermatology residency at New York University Medical Center and a Research Fellowship at Memorial Sloan Kettering Cancer Center in New York. As a Clinical Scholar, Dr. Tran will investigate microRNA involvement in metastases development from primary breast tumors in Dr. Tavazoie’s laboratory.

### Ms. Nakesha King

Mentor: Dr. Jan Breslow

Ms. Williams is currently a third year student at the Weill Cornell Medical College. Ms. King will spend a year investigating the involvement of several important genetic pathways in the development of atherosclerosis in the laboratory of Dr. Jan Breslow.

### Mr. Austin Pantel

Mentor: Dr. Ralph Steinman

Mr. Pantel is currently a fourth year medical student at New York University School of Medicine. Mr. Pantel will spend a year investigating the response of dendritic cells to vaccine adjuvants in the laboratory of Dr. Ralph Steinman.

# Documenting, Reporting, and Avoiding Protocol Deviations and Violations

By Kimberly Bayzlewicz and Rhonda G. Kost, MD

Since the inception of the Clinical Research Support Office's program of post-approval auditing and monitoring of study conduct, one of the core goals of the program has been to minimize the number of protocol deviations and violations. Any departure from the specific Institutional Review Board (IRB)-approved written procedures in a research protocol, is a protocol deviation. Some deviations are beyond the control of the research team (such as a participant failing to appear for a scheduled visit), but many common deviations can be prevented by designing and writing a protocol that accomplishes the scientific aims, while not imposing unnecessary rigidity or collecting unnecessary data.

This article will review the definition of protocol deviations and violations, and the procedures for documenting and reporting deviations and violations. It will also explore strategies in protocol design that minimize these types of errors.

## Distinguishing Between a Protocol Deviation and Violation

All departures from the approved written protocol procedures are deviations; deviations that meet additional criteria are defined as 'violations.'

A protocol deviation occurs when the activities during a study differ from the IRB-approved protocol, but there is no additional risk or consequence for the subject. An example of a protocol deviation is a missed visit due to the specified date of the visit (e.g., day 20) falling on a holiday when the outpatient/research center is closed.

A protocol violation is defined as a departure from the IRB-approved protocol that results in one or more of the following:

- Reduces the quality or completeness of the data.
- Involves protocol procedures different from those described in the informed consent form.
- Impacts a subject's safety, rights, or welfare.

Some examples of protocol violations

include enrolling subjects who do not meet inclusion/exclusion criteria, conducting tests not described in the protocol, missing tests that are described in the protocol, and conducting an inadequate informed consent process.

## Reporting and Documenting Deviations and Violations

The reporting requirements for reporting deviations and violations are set by the IRB, and must be followed for all research studies conducted at Rockefeller. Deviations must be reported to the IRB annually at the time of continuing review. Protocol violations must be reported to the IRB in writing within 5 working days of detecting the event.

The IRB requires all deviations and violations to be reported through the iRIS electronic submission system. For access to iRIS, to obtain a User ID, password, or training, please contact Ross Gillman at [rossg@mail.rockefeller.edu](mailto:rossg@mail.rockefeller.edu).

## Consequences of Protocol Deviations and Violations

The IRB evaluates all deviations and violations for their frequency and severity, the circumstances of their occurrence, and their potential impact on participant safety and scientific integrity. It is expected that research teams will evaluate each deviation or violation with an eye toward improving process and avoiding repeated errors. Numerous or repeated deviations may result in the IRB requesting a for-cause audit, additional training, and/or more frequent oversight. Repeated violations may prompt a formal review by the IRB and may be cause for suspension of the research protocol.

## Avoiding Protocol Deviations and Violations

The Center for Clinical and Translational Science (CCTS) Navigation process is designed to insure that the written protocol has input from all of the relevant departments so as to avoid errors that will lead to deviations and violations, such as inadvertently scheduling appointments when the facilities are closed. Such reviews provide an opportunity for professionals

familiar with protocol implementation to make sure the study requirements are realistic. A common source of deviations uncovered in audits is the omission of procedures or collections described in the protocol. Such omissions are often due to logistical or practical obstacles. Investigators can minimize deviations by ensuring that study requirements are realistic from the staff and participant perspectives. For example, a protocol may specify that nutritional supplements be given at noon every day under observation, when in fact participants are often out on pass at lunchtime. As written, this protocol plan would lead to deviations due to missed pills and missed observations if the participants were out on pass. If the supplements could be given at breakfast without compromising the science, the potential for deviations could be easily avoided. Since missed visits are another source of avoidable deviations, it is important to insure that each visit is absolutely required to conduct the study.

Another common cause of deviations is the creation of a new protocol by cutting and pasting from other protocols. During this process, investigators may include lab data from the prior study that are irrelevant to the current protocol. If these unnecessary labs are then not collected, deviations occur. Careful review of the intended data should insure that the protocol contains only data collection relevant to the current scientific question.

When consistent with the science of the study, protocol visits should have 'windows' to allow for flexibility in clinic scheduling. A 'window' is a range of days within which the data collection is still valid. For example, in a pharmacokinetic study, the scientific rationale may require that a subject come to clinic on a specific day, hence the window would be very narrow: "Visit 3 on Day 3". In contrast, in another study completion of a survey anytime within a given week would allow for this schedule: "Visit 6, on Day 31 ± 4 days." Building in visit windows also helps to avoid

(continued on page 6)

# PubMed Central Reference Identification (PMCID) Number Required for All Publications from NIH Funded Research

By Angela Slattery

PubMed Central is the National Institutes of Health (NIH) free digital archive of biomedical and life sciences journal literature. PubMed Central Reference Identification (PMCID) numbers are required for all publications from NIH funded research. Much of the full-text content in PubMed Central is added directly by authors or journal publishers. PubMed, a different system from PubMed Central, is the database of citations and abstracts to the biomedical and life sciences journal literature. The links in PubMed to the full-text literature are added by University library staff and the full-text content is provided by subscriptions paid for by a university's library system. **It is important to emphasize that the PMCID is not the same as the PubMed Identifier number (PMID).**

On May 25, 2008, the NIH adopted a new Public Access Policy which addressed public access to findings from federally supported research. Any publication that results from research supported by federal funds must be made freely accessible to the public. The NIH now mandates that upon acceptance for publication, the article must also be submitted to PubMed Central and must also cite all federal grants that supported this research.

The policy requires that scientists submit accepted, peer-reviewed manuscripts that arose from studies performed with NIH funds to the digital archive PubMed Central. A PMCID number will then be assigned to the publication. To help advance science and improve

human health, the policy requires that these journal papers are accessible to the public on PubMed Central no later than 12 months after publication. The investigator is also responsible for selecting the specific (one or more) grants that supported the research described in the publication.

The Public Access Policy states that all NIH applications, proposals, and progress reports must include the PubMed Central reference number (PMCID) when citing an article that falls under the NIH Public Access policy or arose from an NIH award. The PMCID will need to be included on documents such as the Literature Cited section and the Publications List that are included as part of NIH applications, proposals, and progress reports.

All final peer-reviewed manuscripts must be submitted to PMCID through the NIH Manuscript Submission (NIHMS) system. NIHMS currently accepts submissions from one of the following routes: 1) eRA Commons; 2) NIH Login; 3) HHMI Login; 4) My NCBI (for third party submitters); and 5) publishers that have registered for an NIHMS Publisher Login account.

The scientist must:

- Deposit the final peer-reviewed manuscript files (e.g., Microsoft Word document and figures) in the NIHMS system;
- Indicate the NIH award(s), including the specific year(s) of support, to which the final peer-reviewed manuscript is related;

- Review and approve the release of the PMC-formatted final peer-reviewed manuscript after the NIHMS converts the deposited files to a standard PubMed Central (PMC) format.
- Record the PMCID number after it is assigned for future use in grant proposals and reports.

Some journals will deposit the final, peer-reviewed manuscript files into the NIHMS system automatically. In that case, the scientist will still have to provide the associated award information, and review and approve the final peer-reviewed manuscript. The NIHMS system will send notifications via email when these actions are needed and include a link to the NIH Manuscript Submission system web site. For more information about the NIHMS system, go to <http://www.nihms.nih.gov/>. An online tutorial is available at <http://www.nihms.nih.gov/web-help/index.html>.

This Public Access Policy applies to any manuscript that: (1) is peer-reviewed; (2) is accepted for publication in a journal on or after April 7, 2008; (3) arises from any direct funding from an NIH grant or cooperative agreement active in fiscal year 2008; (4) arises from any direct funding from an NIH contract signed on or after April 7, 2008; (5) arises from any direct funding from the NIH Intramural Program or an NIH employee. For more information on this policy please visit <http://www.rockefeller.edu/library/PMCID.php>.

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## Documenting, Reporting, and Avoiding Protocol Deviations and Violations

(continued from page 5)

deviations due to scheduling conflicts. In summary, protocol deviations and violations occur when the IRB-approved protocol is not adhered to. Most, but not all, deviations and violations can be avoided. Deviations and violations must be reported to the IRB. Careful

adherence to protocol procedures is one key in avoiding deviations. Deviations and violations can further be avoided by care in writing or amending protocols to accurately reflect the research plan, building flexibility into timelines when appropriate, avoiding extraneous tests

or visits, and consulting with research support resources to make sure research plans are realistic.

If you would like a Navigation meeting, please contact Donna Brassil at [dbrasil@rockefeller.edu](mailto:dbrasil@rockefeller.edu) or ext 7886 to discuss your protocol.

# ~ Rockefeller University Hospital Centennial Celebration ~ Discoveries Advancing Medicine

## Rebecca Lancefield: Masterminding Bacterial Classification

By Elizabeth Hanson, PhD

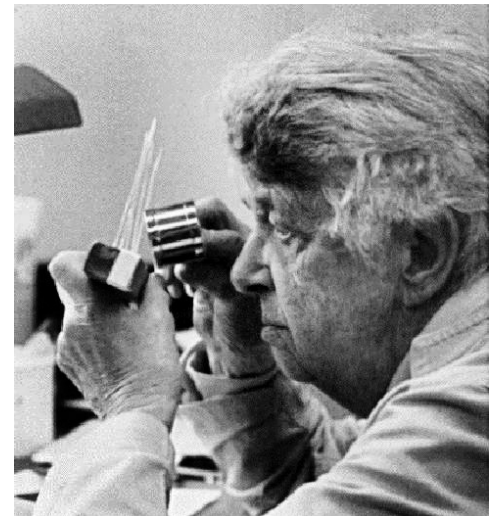
When Rebecca Lancefield (1895-1981) began studying the bacteria known as hemolytic streptococci, no one recognized that these microbes caused common - and dangerous - human diseases such as “strep throat,” scarlet fever, rheumatic fever, acute kidney disease, and impetigo. Beginning in 1918, and continuing over the course of six decades, Lancefield devised a system for classifying the dozens of types of streptococcal bacteria. This system, still in use today, laid the groundwork for understanding the clinical course of these diseases and how they are transmitted.

A turning point came in the mid-1920s when Lancefield recognized that streptococci carry a protein on their cell surface that is correlated with virulence. Lancefield called this the M protein, and classified types of streptococci based on variations in this protein, as determined by their reactions with different antisera. She also found that the M protein prevents human white blood cells from engulfing and destroying streptococci unless an antibody is present to neutralize this effect. This explained why repeated strep throats, for example, are so common in childhood—immunity to one streptococcus does not prevent infection with another type.

During World War II, Lancefield’s laboratory became known as the

“Scotland Yard of streptococcal mysteries,” as she worked with the Naval Medical Center, the Army’s Board for Investigation of Epidemic Diseases, and others to type bacterial cultures isolated from patients in military hospitals. The evidence from the thousands of cultures that she typed informed later studies on streptococcal epidemiology and the mechanism by which rheumatic fever develops after a streptococcal infection with scarlet fever. The data also led to a practical immediate recommendation for less crowded barracks to reduce the chance of infectious outbreaks.

Rebecca Lancefield received the BA from Wellesley College (1916) and the PhD from Columbia University (1925). She began her work on hemolytic streptococci in the laboratory of Oswald T. Avery in 1918. She left the next year, after Avery’s project was completed, but returned to the Rockefeller Hospital in 1922 as an assistant in the laboratory of Homer Swift. She remained at Rockefeller for the rest of her career, rising to the title of professor in 1958. Lancefield served as president of the Society of American Bacteriologists and of the American Association of Immunologists. She was elected to the U.S. National Academy of Sciences, and her work was recognized by, among other awards and honorary degrees, the American Heart Association Achievement Award.



### Selected Publications

Pearce L. Tryparsamide treatment of African Sleeping Sickness. *Science*, 1925, 61:90-92

Pearce L and Rivers TM. Effect of a filterable virus (Virus III) on the growth and malignancy of a transplantable neoplasm of the rabbit. *J Exp Med*, 1927, 46: 81-99  
<http://www.jem.org/cgi/reprint/46/1/81>

Pearce L. The Treatment of Human Trypanosomiasis with Tryparsamide. A Critical Review. Monograph no. 23. New York: Rockefeller Institute for Medical Research, 1930

Casey AE, Rosahn PD, and Pearce L. The association of blood cell factors with the transplantability of the Brown-Pearce tumor. *Cancer Res*, 1942, 2: 284-289

### Further Reading

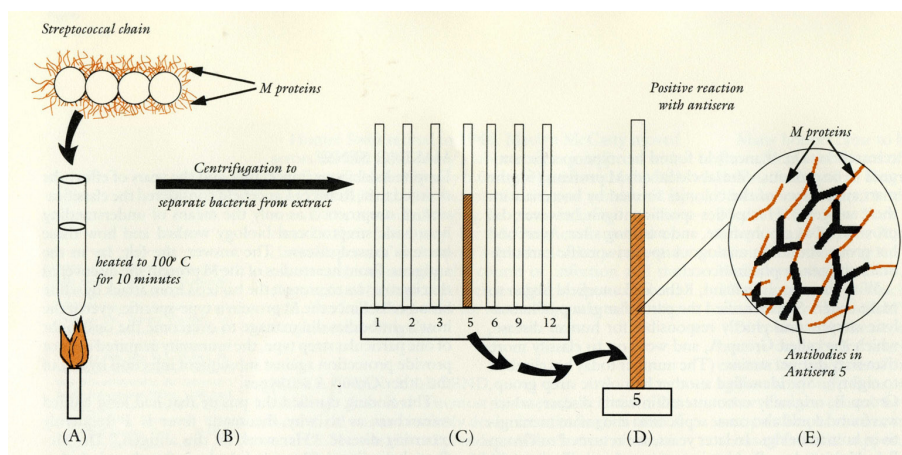
McCarty M. Rebecca Craighill Lancefield (1895-1981): A Biographical Memoir. Washington, DC: National Academy of Sciences, 57: 226-246

Rebecca Craighill Lancefield (1895-1981)  
<http://www.rockefeller.edu/vaf/rclbio.htm>

### Links

The Lancefield Collection of Streptococcus Strains

<http://www.rockefeller.edu/vaf/lanceindex.php>



# The Rockefeller University Rallies for Multiple Sclerosis

By Caroline Melendez

Research Nurse Brian Millan recruited fourteen members of the Rockefeller Community to team up and bike for a good cause: Research in Multiple Sclerosis. The National MS Society's 25th Anniversary ride was on Sunday, October 4, 2009. The Clinical Research Support Office's Recruitment Staff helped to promote the event locally, and

provided specially designed Rockefeller University event T-shirts for the ride. The Rockefeller University team gathered at dawn on Manhattan's westside to join 5,000 others for an unforgettable ride that coursed over more than 30 miles of NYC streets. Over \$3,000 was raised by the Rockefeller University team to fight Multiple Sclerosis.

For more pictures of the event visit: <http://rucares.blogspot.com/>

Rockefeller University researcher Dr. Knut Wittkowski recently published an exciting study on MS: <http://newswire.rockefeller.edu/?page=engine&id=883>.



## The Rockefeller University Team:

- Cynthia de la Fuente, Rice Laboratory
- James Doyle, Plant Operations HVAC Shop
- Pat Gilledeau (virtual rider), Krueger Laboratory
- Markus Grammel, Hang Laboratory
- Bregtje Hartendorf-Wallach, Occupational Health Services
- Sachin Kadam, Laboratory Safety and Environment Health
- Marina Maiuri, MacKinnon Laboratory
- Brian Millan, Hospital Nursing Inpatient
- Deena Oren and her relatives Avi and Yogal, Structural Biology Resource Center
- Peter Selestrin, Plant Operations Power House
- John Ulmer, Housing Scholars Residence
- Isaul Vargas, Information Technology

## Seminars in Clinical Research

Wednesday, January 27, 2010  
12:00 p.m.-2:00 p.m.  
110B Nurses Residence

### From Niche to Niche: Borrowing Bone Marrow Stem Cells to Heal Blisters

Angela Christiano, Ph.D., Prof. of Dermatology, Genetics & Development, Columbia University Medical Center

Wednesday, February 3, 2010  
12:00 p.m.-2:00 p.m.  
110B Nurses Residence

### System Biology to Study Innate and Adaptive Immunity

Elias Haddad, Ph.D., Associate Scientist, Vaccine and Gene Therapy Institute-Florida, Centre De Recherche Du CHUM

Wednesday, February 17, 2010  
12:00 p.m.-2:00 p.m.  
110B Nurses Residence

### Olfactory Dysfunction in Schizophrenia: A model system to investigate developmental neuropathology

Bruce Turetsky, M.D., Assoc. Professor of Psychiatry, University of Pennsylvania