

The Curious Chemist

The Curious Chemist is the annual e-newsletter created by the New York Metro Section of the American Association of Clinical Chemists for its members. To comment or propose an article for the newsletter, please e-mail nym.aacc@gmail.com.

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2011 Van Slyke Award Presented to Imants Lauks, Ph.D

By: Danyal Syed, Ph.D., DABCC

It was October 20, 2011 - an unusually crisp and cold Fall evening - when the members of the **AACC** New York Metro Section and their guests gathered to a warm welcome, reception and dinner hosted by the Siemens Healthcare Diagnostics in Tarrytown, New York. This now established tradition was to attend the Annual prestigious Van Slyke Award Presentation and Lecture.

The Van Slyke Award is the highest Award presented by the AACC New York Metro Section and has been presented annually since 1957 to honor the memory of Dr. Donald Van Slyke whose contributions cut as wide a band through the scientific pastures from chemistry through biology and physiology to medicine as has been possible by very few men of science. He indeed laid the foundation of the modern Clinical Chemistry over three decades in the early 20th century - although he preferred to be called

a chemist rather than a biological or clinical chemist. This award acknowledges the outstanding contribution to science of Clinical Chemistry and Laboratory Medicine.

This year's recipient of the Van Slyke Award, is Dr. Imants Lauks, Inventor of the Silicone Chip Blood Analyzer, Founder of i-STAT, and President and CEO of Epocal, Inc. He is the recipient of the Prestigious "1994 commercialization Achievement Award" as Vice President, Research & Development & Chief Technology Officer of i-STAT Canada. Dr. Lauks has been granted over 85 patents and his work has led to the world's first commercial scale micro fabricated biosensors and the first general purpose handheld blood analyzer. He is also recognized for his research on the ion sensing phenomena in micro fabricated sensors, charge transport in membrane, surface

physics, and gas-solid chemical interactions.

Upon his nomination by Dr. Lakshmi Ramanathan, the Van Slyke Committee (comprised of Dr Arthur Karmen, Dr. Danyal Syed, and Dr. Martin Fleisher), recognized Dr. Imants (pictured on page 2) as the 2011 Van Slyke Award recipient for his seminal contributions to laboratory medicine electing to honor his contributions.

In his presentation, Dr. Lauks described his experiences in the development of technologies and design of products appropriate for use at the point of care. The presentation included work from the 1970's to the present.

The Executive Board of the **AACC** New York Metro Section and its members thank the staff and management of Siemens Healthcare Diagnostics for arranging such a beautiful evening and keeping up such a great tradition.

A Note from the 2012 Chair: Yvonne Smiley



I wish to express my gratitude to all my colleagues in the New York Metro Section of AACC for giving me the opportunity to lead this Great Section as the 2012 Chair. The Past Chair, Dr. Ramanathan, deserves a note of thanks for spearheading a successful 2011 educational program and providing a location that we can call home for our regularly

scheduled lectures. With your help and with the help of the executive board members, we anticipate a year filled with exciting educational and informative lectures. We have prepared an excellent schedule for the first half of the year and I encourage you to come forward with ideas for the rest of 2012.

I must emphasize our biggest challenge being the shortage of medical technologists and lack of involvement of the current workforce in the New York Metropolitan area in Continuing Education activities. In 2012, we will work on expanding our membership base and increasing attendance to our lectures by reaching out and/or

collaborating with other groups and developing strategies to alert others of our meetings.

Please note that corporate sponsorship is essential to our operations and helps to offset the expenses associated with providing quality educational programs. We are grateful to our current sponsors for all the assistance and support they have provided. In 2012, we plan to reach out to other corporations. If you or a colleague is interested in becoming a Corporate Sponsor of the New York Metro Section of AACC, please contact me at ysmiley@chpnet.org.



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2011 Morton Schwartz Awards Presentation

By
Danyal Syed, Ph.D., DABCC

It had been raining all day on an unexpectedly stormy Wednesday on November 16, 2011. As the wind channeled by the high-rise buildings of New York City gusted to 50 – 60 miles strong, especially around the corner of the 99th street and Madison Avenue, I walked into the Mount Sinai School of Medicine building. I walked straight into the Seminar room where Dr. Lakshmi Ramanathan, our NY Metro Section AACC President, had made the arrangements for the Morton Schwartz Awards Lecture and Presentation. It was quarter past five and I had been the first one to arrive. The wine bottles were nicely arranged on the white clothed tables for the reception and the food had been delivered with waiters ready to serve. A few minutes later, Ed Neren walked in with the plaque and handouts. As the clock ticked to 5: 35PM my stomach started churning with the fear of poor attendance because of the weather. Soon after, Dr. Ramanathan (her office and laboratory being in the same building) walked in, followed by Dr. Herbert Fritsche, our guest speaker and the 2011 Recipient of the award with his family. Finally, one by one, the guests began pouring in - members and non members alike. Before the reception hour, was over the seminar room was full of attendees including Dr. Gary Schwartz, son of Dr. Morton Schwartz and also one of the past recipients of the award. The evening turned to be amazingly successful with such a great turn out.

The Dr. Morton Schwartz Lecture Award has been presented since 2004 in honor of Dr. Morton Schwartz, founding member of the New York Metro Section of AACC and the National American Association of Clinical Chemistry. His contributions in the field of Clinical Chemistry are numerous. His early research interests in the evaluation of metabolic abnormalities after Cancer surgery led to the development of nutritional and pharmacologic treatment of gastrectomy and intestinal resection malabsorption. For more than three decades he was deeply involved in studies of tumor markers and their use in predicting prognosis and in monitoring patients with cancer. It is this work of his that led AACC New York Metro Section to recognize him and establish the "Dr. Morton Schwartz Award and Lecture" in his honor and recognize an individual who also has contributed significantly in the field of tumor markers and their use both in diagnosis and monitoring cancer treatments. This year's

award was presented to Herbert Fritsche, Ph.D., Chief Scientific Officer Health Discovery Corporation, Savannah, Georgia.

Dr. Fritsche began his research work with measuring tyrosinase activity in patients with malignant melanoma and CEA in monitoringpartmen various cancers. After almost four decades it now, includes work on estrogen receptors assays for patients with breast cancers, squamous cell carcinoma Antigen, alpha fetoprotein and its fractions, carbohydrate Ag 19-9, Pancreatic, oncofetal Antigen, LDH isoenzyme 1, Interleukin 10, B2 microglobulin, urinary nuclear protein-10, Lipid bound scialic acid, PSA and its various forms and fractions, HCG, and human tissue kallikreins. Besides this voluminous research work on various tumor markers, Dr. Fritsche has been constantly involved in educating others in the field and setting up protocols and standards for better use of these tumor markers including use of neural network to the benefit of the cancer patients. Indeed his work and dedication to the science of tumor markers and their use in diagnosis and prognosis earned him this reward.

In his award lecture, Dr. Fritsche spoke about Tumor Markers in the Era of Personalized Treatments of Cancer. He emphasized the need for new mathematical tools for data integration and selection of the key features from various "omics" databases which are developed for each patient. Patient follow-up and clinical outcome analysis tools will also be needed to demonstrate the clinical and cost effectiveness of individualized cancer care resulting from the personalized medicine protocols.

This award lecture and presentation was made possible partially by a generous educational grant from Bendiner Medical Laboratory in Brooklyn, New York. Of course, the evening would have not been so successful without the dedication and help of our AACC New York Metro Section Chair, Dr Lakshmi Ramanathan. Thank you to all of our sponsors and participants.



Morton Schwartz Award Presented to Dr. Herbert Fritsche



Pictured from left: Danyal Syed, Martin Fleisher, Lakshmi Ramanathan, Herbert Fritsche, Greg Schwartz.

The 2011 recipient of the Award was *Dr Herbert Fritsche, Ph.D.*, Chief Scientific Officer Health Discovery Corporation, Savannah, Georgia. Prior to his present assignment *Dr Fritsche* had served at MD Anderson Cancer Center, Houston, Texas as the Chief Clinical Biochemist and Professor Department of Pathology and Laboratory Medicine for more than 40 years.

Van Slyke Award Presented to Dr. Imants Lauks



From left : Drs. Lakshmi Ramanathan, Imants Lauks, Arthur Karmen.

More pictures can be found at:
http://www.aacc.org/members/loc_sections/nymetro/Awards/Pages/vsf11dinner.aspx#

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2011 Ezra Levy High School Science Awards Dinner

By
Dalia Green

The following is a listing of the four award recipients for 2011, their project titles and a brief biography:

Ruchi Shah is a student at Sachem High School North. Her project, "Mosquitoes Be Gone!" was conducted entirely at her high school and she designed and built all of the equipment used in the study. In 2011, Ruchi's project was placed:

- 2nd at LISEF (Biochemistry)
- 1st (Biochemistry category) at NYSSEF
- An Intel ISEF finalist and placed 3rd (Behavioral and Social Sciences category) (awarded \$1000).

In 2010, it was placed:

- An Intel ISEF finalist and placed 4th (Biochemistry).

Additionally, Ruchi was recently accepted into the Simons Summer Research Program at Stony Brook University that selects less than 10% of applicants from around the U.S. to receive a \$1,000 scholarship to conduct research at SBU during the summer.

Christie Wang is a junior at Roslyn High School. Her project, "A Novel Role of Cold Shock Protein in Mediating Hypoxia-Induced Inflammation in Microglia Implications in Alzheimer's disease", was conducted at the Feinstein Institute for Medical Research in Manhasset. In 2011, the project received:

- 3rd Place at LISEF (Medicine and Health)
- Finalist in the MIT Techfair THINK national science competition.
- The Outstanding Achievement award for the Society for In Vitro Biology.
- Merit award at the Research Association Invitational Science Fair.

Abraham Killanin and Evan Schneider conducted the research for their project, "Gold and Platinum Nanoparticles' Effect on Dental Pulp Stem Cell Growth and Differentiation" at Stony Brook University under Dr. Miriam Rafailovich and Dr. Vladimir Jurukovski.

Evan is a junior at Roslyn High School.

Abraham is currently a senior at Lawrence High School and is planning to attend Yale University next year. He is also president of the senior class and has been since the 8th grade, president of the National Honor Society, as well as the lead roles in his school's drama productions.

Both Evan and Abraham received:

- 1st Place in LISEF Health and Medicine category
- 2nd Place in NYSSEF
- Semi finalists at SEIMENS and Intel Science Talent Search Fair Finalists
- ISEF (Intel International Science and Engineering) they won NAVS (national anti-vivisection organization) Award for Best Advancement in the Humane or Alternative to the Use of Animals in Research (\$2000).

Madona Gadalla, a junior attending Elmont Memorial High School, conducted her research project, entitled "The surface Decoration of Red Blood Cells: Masking Blood Group Antigens to Create Universal Blood Cells" at the Albert Einstein College of Medicine in the Bronx over the summer and throughout the school year. The project received:

- Honorable mention at LISEF
- 2nd at NYSSEF (New York Science and Engineering Fair) in the Medicine and Health category
- An Award at the Long Island Science Congress
- Invitation to present at the Long Island Junior Science and Humanities Symposium at Stony Brook University.

Madona plans to continue researching this summer and during her senior year of high school to further explore specific aspects of her current project.



2011 Ezra Levy High School Science Awards Winners



Pictured from left: Christie Wang, Evan Schneider, Abraham Killanin, Madonna Gadalla, Ruchi Shah, Dalia Green.

Congratulations to the most recent recipients of the Ezra Levy Awards, which recognizes high achievements for High School Students in Science.

- **Christie Wang, Roslyn High School:** A Novel Role of Cold Shock Protein in Mediating Hypoxia-Induced Inflammation in Microglia Implications in Alzheimer's disease.
- **Abraham Killanin (Lawrence HS) and Evan Schneider (Roslyn HS):** Gold and Platinum Nanoparticles' Effect on Dental Pulp Stem Cell Growth and Differentiation.
- **Madona Gadalla, Elmont Memorial High School:** The surface Decoration of Red Blood Cells: Masking Blood Group Antigens to Create Universal Blood Cells.
- **Ruchi Shah, Sachem High School North:** Mosquitoes Be Gone!



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Quest Advocates Federal Funding for Laboratory Workforce Training

Jon R. Cohen, Senior Vice President and Chief Medical Officer of Quest Diagnostics, urged the United States Department of Health and Human Services (HHS) Secretary Kathleen Sebelius to support funding to recruit and train clinical laboratory technologists to reduce the growing workforce shortage.

On December 12, 2011, Cohen told a panel of healthcare leaders at a public roundtable discussion hosted by HHS Secretary Sebelius in New York City that "[Quest] would like the administration to create a dedicated funding stream at the Department of Labor to attract and train Lab techs. Specific lab tech training grants will help create middle class jobs, and allow companies like Quest Diagnostics to continue to create medical innovations that also help promote economic growth nationwide." The objective of the roundtable was to promote President Obama's Council on Jobs and Competitiveness. (Source ASCP ePolicy News January 2012)

We, in the New York Metro section, should continue to encourage new members, promote students with internships and networking to help to fill the shortage of Clinical Laboratory staff.



AACC Government Affairs Update

By Lauria Lindesay,
NYMS Government Affairs Liaison

The joint Commission revised several elements of performance (EP's) to meet the Clinical Laboratory Improvement Amendments of 1988 (CLIA). Changes were made to:

LD.04.05.09, EP 2: The laboratory director is responsible for developing, implementing, and maintaining policies and procedures that guide and support the provision of services.

QSA.0201.01, EP 2: The laboratory verifies tests, methods, and instruments in order to establish quality control procedures. This standard also applies to instruments on loan when the original instrument is under repair.

LD.03.0.01: Leaders create and maintain a culture of safety and quality throughout the laboratory.

For more details go to www.jointcommission.org prepublication standards-effective 2/1/2012

2012 Laboratory National Patient Safety Goals:

- NPSG.01.01.01 Identify patients correctly
- NPSG.02.03.01 Improve staff communication
- NPSG.07.01.01 Prevent infection

For the entire document, please visit: www.jointcommission.org

The Curious Chemist Questions:

Question #1

The pathology of multiple myeloma includes which of the following?

- a) Expanding plasma cell mass
- b) Overproduction of monoclonal immunoglobulins
- c) Production of osteoclast activating factor and other cytokines
- d) All of the above

Question #2

Vitamin D, a cholecalciferol, is obtained from the diet or exposure of skin to sunlight. What is the biologically active form of Vitamin D?

- a) 25-hydroxycholecalciferol (25-OH-D₃)
- b) 1,25-dihydroxycholecalciferol (1,25-[OH]₂-D₃)
- c) Calcitonin
- d) Parathyroid Hormone (PTH)

For the answer to this question and an explanation of the result, please visit the AACC website: http://www.aacc.org/members/loc_sections/nymetro/ccquestions

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AACC New York Metro Section Annual Report 2011

The New York Metro Section held eight well-attended educational meetings last year. Awards were presented at the May, October and November meetings. The Ezra Levy award is given to selected students who deserve special recognition for projects presented at the Local Science Fairs (New York Science & Mathematics and the Long Island Science & Engineering Fair). The Van Slyke award acknowledges outstanding contributions to the field of Clinical Chemistry. The Morton Schwartz award is given for outstanding contribution in the field of Cancer and Laboratory Medicine.

Many of the events were held at the Mount Sinai Hospital Medical Center, with the exception of the Van Slyke Award, which was held at Siemens Healthcare Diagnostics, the event's sponsor. We have also held meetings at the Flushing Hospital.

The 2011 lectures were as follows:

February 9, 2011

"Lab measurement in the detection, stratification and progress of chronic kidney disease."
~ Joseph Vassolotti, M.D.

March 16, 2011

"Effect of preanalytical variables in laboratory testing and challenges"
~ Lakshmi V. Ramanathan, PhD.

April 27, 2011

"C. Diff; Much Adieu about do"
~ Denise Uttewiller-Geiger, M.D.

May 17, 2011

The Ezra Levy High School Science Awards
"Mistakes in diagnostic coagulation made by others that you will not make yourself"
~ Michael LaPosata, M.D.

June 15, 2011

" Lab Management Review"
~ Peter Jackson, MS.

September 14, 2011

"Chronic Opioid Therapy; the role of diagnostic monitoring"
~ Harry Leider, M.D.

October 20, 2011

The Van Slyke Award Lecture
"34 years if acute care testing"
~ I. Lauks, PhD.

November 16, 2011

The Morton Schwartz Award Lecture
"Tumor Markers in the era of personalized treatment for cancer"
~ H. Fritsche, PhD.

NY Metro Section 2012 Schedule

Date	Organizer/ Sponsor	Topic
<i>January 19</i>	L.Ramanathan, PhD./Abbott	Acute HIV: Diagnostic Trends
<i>March 21</i>	Y. Smiley/ Steve Marionneaux	Diagnosis and Monitoring of Plasma Cell Myeloma
<i>April 26</i>	J.Lashley/ N.Lafontant	Vitamin D
<i>May 16</i>	Y. Smiley	To be announced
<i>June 14</i>	D. Green, Ph.D.	Ezra Levy High School Science Awards
<i>July 15 to 19</i>	AACC Annual Meeting Los Angeles, CA	
<i>September</i>	D. Syed, Ph.D.	Morton Swartz Award Presentation
<i>October</i>	S. Levy/Siemens	Van Slyke Award Presentation
<i>November</i>	L. Lindsay	HIV Vaccine



*Do you have an idea for a newsletter article ?
Questions? Comments? Things you would like to add?*

Send your comments to nym.aacc@gmail.com

AACC National Meeting –
Get ready!