



Molecular Profile

A Newsletter of Molecular Diagnostics & Molecular Pathology

Volume 6, October 2013 A Nobel Laureate Lecture Concurrence with the 9th Annual DMP Symposium on Nov. 4th, 2013

Table of Contents

A Nobel Laureate Lecture Concurrence with the 9th Annual DMP Symposium on Nov. 4th, 2013. Please [register](#) now (Page 1)

Translational Genomics Laboratory Moved to Bressler Page 1

2013 DMP Travel Award Winner Xiaodong Lyu Page 1

Division of Molecular Pathology Faculty and Staff News Page 2.

A New Attendance Record set at the 8th Annual Symposium on Personalized Medicine, Page 2.

New Clinical Diagnostics Services at UMMC Page 2.



Nobel Prize Inspiration Initiative

Nobel Laureate Keynote Lecture:
Craig C. Mello, PhD

Monday, Nov. 4, 2013
9:30am to 5:00pm
MSTF Auditorium
685 W Baltimore Street,
Baltimore, MD 21201
Please [register](#)

Translational Research and Personal Genome in Medicine

Symposium Keynote Lecture:
Gregg L. Semenza, MD, PhD



The 9th Annual DMP Symposium on Translational Research will be held in conjunction with a Nobel Laureate Lecture at the MSTF Auditorium on November 4th (Monday), 2013.

The Nobel Laureate Lecture is part of the Nobel Prize Inspiration Initiative and supported by AstraZeneca. Dr. Craig C. Mello, a Distinguished Professor of the University of Massachusetts Medical School and recipient of 2006 Nobel Prize in Physiology and Medicine

will deliver this lecture starting at 9:30am.

Theme of the 9th Annual DMP Symposium is "Translational Research and Personal Genome in Medicine". The symposium keynote speaker is Dr. Gregg Semenza, who is a C. Michael Armstrong Professor of Pediatrics, Medicine, Oncology, Radiation Oncology, Biological Chemistry, and Genetic Medicine at the Johns Hopkins University School of Medicine, and a member of the National Academy of Sci-

ences, will deliver a keynote speech on "Role of Hypoxia-inducible Factor 1 in Cancer and Cardiovascular Disease".

Other invited speakers include Dr. Chi Dang of Univ of Pennsylvania, Dr. Allen Bale of Yale University, Dr. Kevin Strauss of Clinic for Special Children and Dr. Jennifer Shen of FDA.

This symposium is organized by the Division of Molecular Pathology with co-sponsorship from the Program in Personalized and Genomic Medicine at the UMSOM.

Translational Genomics Laboratory Moved to Bressler

The Translational Genomics Laboratory (TGL) has now moved from Howard Hall to the 7th floor of Bressler Research Tower. This newly renovated core facility, which was funded by an NIH construction grant of \$7.3 million, provides a superb and collaborative environment with a broad range of cutting-edge instrumentation for us to carry out the services.

Established in April, 2011 under the auspices of the Program for Personalized and Genomic Medicine (PPGM), UMSOM, TGL is a CLIA-accredited (ID#: 21D2027356; MD Permit#: 1768, Director: Dr. Richard Zhao) translational

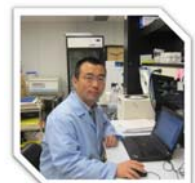
service laboratory. The function of TGL is to assist investigators within the UMSOM community and beyond for their translational research needs to translate bench-side findings to bed-side clinical applications in a CLIA-certified environment. Current clinically validated assays include DNA sequencing by Sanger-based methods for CYP2C19 and genotyping assays for APOB and CYP2C19, which are

being used for clinical studies and trials such as the Translational Pharmacogenetics Program (TPP) led by Dr. Alan Shuldiner. Additional validation studies in progress, which when completed, will allow profiling of a panel of cancer-related mutations by next generation sequencing (NGS) on the Ion Torrent's Personal Genome Machines (PGMs); a drug metabolism DMET array-based profiling test on the Affymetrix platform, and other Sanger-based sequencing and genotyping assays. For more information, contact Danielle Sewell, lab manager, Dr. Richard Zhao, director or Dr. Linda Jeng, medical director at Bressler Building, Room 7-036-040; Phone: 410-706-3339.



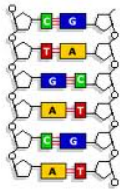
2013 DMP Travel Award Winner

Dr. Xiaodong Lyu, a visiting postdoctoral fellow in the Division of Molecular Pathology (DMP) from China, was selected to receive the 2013 DMP Travel Award for his presentation at the 2013 American Molecular Pathology meeting entitled "A Multiplex Real-Time PCR Assay for Detection of KRAS Mutations in Human Colorectal Carcinoma", which will be held in Phoenix, AZ on November 14-16, 2013.



Division of Molecular Pathology (DMP) Faculty and Staff News

Striving to meet the translational, genomic and molecular diagnostic needs of UMSOM scientists and physicians for their effort to translate new discoveries from bench-side to bed-side and for our ultimate goal to improve patient care at the UMMS community



Feng Jiang, MD, PhD, Associate Professor, was awarded a two-year \$400,000 (total cost) grant entitled "Sputum biomarkers for the early detection of lung cancer" from the LUNGEvity Foundation - Early Detection Award Research Project. Dr. Jiang has also received a \$50,000 seed grant with a project entitled "Biomarkers for screening lung cancer in smokers" from the University of Maryland Marlene and Stewart Greenebaum Cancer Center.

Amy Fulton, PhD, Professor, received a one-year, CRF Pilot grant award of \$75,000 for "Prostaglandin E Receptor EP4 as a Novel Therapeutic Target in Malignancy."



Richard Zhao, PhD, Professor and Division Head, delivered a keynote lecture on "Marching Toward Individualized Molecular Testing for Personalized Patient Care" at the 2nd International Conference and Exhibition on Pathology (Pathology-2013), in Las Vegas, NV, August 5-7, 2013. Dr. Zhao was also featured in a video recording entitled "Personalized medicine a reality at the University of Maryland School of Medicine" (<http://youtu.be/n4BX9Ph5hQ>).



A New Attendance Record Set at The 8th Annual DMP Symposium (2012)

Over 450 people representing more than twenty-four different universities, biotech companies and government agencies from the State of Maryland and six neighboring states attended the 2012 Eighth Annual Symposium on Translational Research in Molecular Pathology. The theme of the symposium was "Translational Genomes, Biopharmaceuticals and Personalized Medicine".

Held at MSTF Auditorium, the symposium presented the most recent advances in molecular pathology and how these advances could be applied to new drug discovery and personalizing health care. Dr. E. Albert Reece, MD, PhD, MBA, Vice President for

Medical Affairs, University of Maryland John Z. and Akiko K. Bowers Distinguished Professor and Dean of School of Medicine made the opening remarks. Dr. Peter Agre, MD, a recipient of 2003 Nobel Prize and a University Professor and Director at the Johns Hopkins Malaria Research Institute delivered the keynote lecture on "Aquaporin Water Channels: from Atomic Structure to Malaria". Seven other internationally renowned scientists, Dr. Suzanne Cheng of Roche Diagnostics, Dr. Paul Meltzer of NCI, Dr. Mridula Iyer of Qiagen, Dr. James Uzgiris of Siemens Healthcare, Dr. Euan Ashley of Stanford Univ., Dr. Laura Richman of MedImmune and Dr. Richard Bendis of Maryland

BioHealth Innovation (BHI), presented various topics ranging from personalizing oncology to developing a test panel for the detection of gene mutations. This symposium was co-organized by the Division of Molecular Pathology, the Program in Personalized Medicine and Genomic Medicine, the Translational Genomics Laboratory at UMSOM, and the Chinese Biopharmaceutical Association (CBA-USA).



Dr. Peter Agre, the keynote speaker

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New Tests Offered at the UMMC Molecular Diagnostics Laboratory

A number of new molecular diagnostic tests were slated at the Molecular Diagnostics Laboratory (MDL) at the University of Maryland Medical Center (UMMC). They include a bRAF mutational analysis test, which is used in conjunction with the existing KRAS mutational analysis test for personalized healthcare of patients with colorectal cancers or non-small cell lung cancers; a newly FDA-approved Roche AmpliPrep COBAS CMV viral load quantification test for blood sample. In addition, 3 laboratory-developed tests (LDTs) were also validated using the same CMV testing platform to accommodate the needs of testing other sample types such as cerebral spinal fluid (CSF), urine and bronchoalveolar Lavages (BAL).

The MDL at UMMC offers a wide variety of molecular diagnostic testing for patient

care in all area of molecular pathology, including infectious diseases, genetic disorders and cancer detections. MDL is accredited by CLIA and CAP (CLIA ID#: 2100923512; CAP ID#: 1351414; Director: Dr. Sanford Stass) and the Maryland Department of Health and Mental Hygiene (Permit Number 837).

Testing of infectious diseases include the HIV-1 viral load measurement, HIV-1 drug resistant genotyping and virtual phenotyping; HCV qualitative PCR (HCV viral load measurement is coming soon) and HCV genotyping; HSV1/2 qualitative PCR; CMV quantitative PCR, BK quantitative PCR and Toxoplasma gondii qualitative PCR. Tests for genetic and familiar diseases include the Factor II and Factor V (Leiden) mutational analyses.

The MDL also offers hematologic and

oncologic tests including the T-cell receptor (TCR) gene arrangement and B-cell immunoglobulin gene arrangement by PCR, the short tandem repeat (STR) assay for bone marrow transplant and the KRAS test as well as the bRAF mutational analyses for personalized treatment of cancers.

The MDL is located in the UMMC, Rm P2601H (nearby Shock Trauma), 22 South Greene Street, Baltimore, MD 21201. To request a clinical diagnostic test, please contact Cynthia Hildenbrand, Lab Supervisor (8-8539) or Dr. Richard Y. Zhao, Lab Director at 8-0054.



This newsletter is a joint publication of the Molecular Diagnostics Laboratory at the University of Maryland Medical Center (UMMC), the Translational Genomics Laboratory (TGL) and the Division of Molecular Pathology (DMP), Department of Pathology, the University of Maryland School of Medicine

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<http://medschool.umaryland.edu/molecularpath/>