NY CAP Research ALLIANCE

Advancing a Cooperative Translational Medicine Research Paradigm in the Capital Region

October 23 & 24, 2014

A Scientific Research Symposium sponsored by
Albany Medical College, Rensselaer Polytechnic Institute,
the University at Albany and Wadsworth Center

OCTOBER 23, 2014

UNIVERSITY AT ALBANY
UPTOWN CAMPUS, LIFE SCIENCES BUILDING
1400 WASHINGTON AVENUE, ALBANY, NY 12222

5:30 – 6:00 P.M.  REGISTRATION / LIGHT REFRESHMENTS

6:00 – 6:15 P.M.  WELCOME • INTRODUCTION

James A. Dias, Ph.D.
Vice President for Research, University at Albany

Jonathan S. Dordick, Ph.D.
Vice President of Research and Howard P. Isermann Professor,
Department of Chemical and Biological Engineering,
Rensselaer Polytechnic Institute

Erasmus Schneider, Ph.D.
Associate Director for Research and Technology, Wadsworth Center

Vincent Verdile, M.D.
The Lynne and Mark Groban, MD ’67, Distinguished Dean, Albany Medical College
and Executive Vice President for Health Affairs, Albany Medical Center

6:15 – 7:00 P.M.  KEYNOTE PRESENTATION ONE:
“Alzheimer’s Disease – Epidemiology and Big Data”

Lawrence S. Honig, M.D., Ph.D.
Professor of Neurology, Columbia University

7:00 – 8:00 P.M.  COCKTAIL RECEPTION / PROFESSIONAL NETWORKING

To register for the Symposium, email: events@albany.edu
with your name, title and institution by October 20, 2014

The NYCAP Research Alliance was established in 2011 as part of Gov. Andrew Cuomo’s regional economic development initiative.
The Alliance funds collaborative biomedical research projects that have potential for commercialization.
OCTOBER 24, 2014
ALBANY MOLECULAR RESEARCH, INC. (AMRI)
US HEADQUARTERS / WEST CAMPUS
26 CORPORATE CIRCLE, ALBANY, NY 12203

7:30 – 8:30 A.M.  REGISTRATION • BREAKFAST • WELCOME • INTRODUCTION
Drs. Dias, Dordick, Schneider and Verdile

8:30 – 9:15 A.M.  KEYNOTE PRESENTATION TWO:
“Small Molecule Intervention at miRNAs”
Matt Disney, Ph.D.
Professor, Scripps Institute

9:15 – 10:15 A.M.  NY CAP Research Alliance-Awarded Project Presentations
(15-minute project presentation and/or poster)
“Identify RNA Aptamers that Specifically Bind to AB1-42”
Paul F. Agris, Ph.D., Professor, Department of Biological Science and Chemistry, and Director, The RNA Institute, University at Albany

“Keratinocyte-Based Mechanisms of Neuropathic Pain: Development of an In Vitro Organotypic Human Skin Culture System for Use in Translational Research”
Phillip J. Albrecht, Ph.D., Assistant Professor, Center for Neuropharmacology and Neuroscience, Albany Medical College

“Alzheimer’s Disease Diagnostics Based on Raman Spectroscopy of Blood”
Igor Lednev, Ph.D., Associate Professor, Department of Chemistry, University at Albany

“Analysis of Novel Antibodies Specific for Toxic Aggregates of the Alzheimer’s Peptide”
Peter M. Tessier, Ph.D., Assistant Professor, Department of Chemical and Biological Engineering, Rensselaer Polytechnic Institute

10:15 – 10:30 A.M.  BREAK

10:30 – 11:30 A.M.  NY CAP Research Alliance-Awarded Project Presentations
(15-minute project presentation and/or poster)
“Receptor Oligomerization Using 3-D Tumor System-FRET Imaging”
Margarida Barroso, Ph.D., Associate Professor, Department of Cardiovascular Sciences, Albany Medical College

“Development of a Microbial Production Platform for Animal-Free Biosynthesis of Chondroitin Sulfate in Eschericia coli”
Mattheos Koffas, Ph.D., Associate Professor of Biology, Rensselaer Polytechnic Institute

“Smart Bandages for Wound Healing”
Shiva Kotha, Ph.D., Associate Professor, Department of Biomedical Engineering, Rensselaer Polytechnic Institute

“Tensional Homeostasis-Dependent Control of Tissue Integrity”
Melinda Larsen, Ph.D., Associate Professor of Biological Sciences, University at Albany

www.nycapresearchalliance.org
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<td>11:30 A.M. – 12:45 P.M.</td>
<td>LUNCH</td>
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<td>12:45 – 1:30 P.M.</td>
<td>KEYNOTE PRESENTATION THREE:</td>
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<td>“Spectroscopic Methods for Disease Diagnostics”</td>
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<td>Max Diem, Ph.D.</td>
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<td>Professor, Northeastern University</td>
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<td>1:30 – 2:30 P.M.</td>
<td>NY CAP Research Alliance-Awarded Project Presentations</td>
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<td>(15-minute project presentation and/or poster)</td>
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<td>“Robust Implantable Sensor Technology for Musculoskeletal Medicine”</td>
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<td>Eric H. Ledet, Ph.D., Associate Professor, Department of Biological</td>
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<td>Engineering, Rensselaer Polytechnic Institute</td>
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<td>“Developing Sentinel miRNAs to Differentiate Between Indolent and</td>
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<td>Aggressive Prostate Cancer”</td>
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<td>Martin Tenniswood, Ph.D., Empire Innovations Professor,</td>
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<td>Department of Biomedical Sciences and Director, Cancer Research</td>
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<td>Center, University at Albany</td>
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<td>“Using Bio-Printing Technology to Generate a Perfused Microvasculature</td>
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<td>within a 3D Tissue Structure”</td>
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<td>Peter Vincent, Ph.D., Professor and Associate Director, Center for</td>
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<td>Cardiovascular Sciences, Albany Medical College</td>
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<td>“Control of Inflammation-Associated Cancer by Vitamin D and CD14”</td>
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<td>JoEllen Welsh, Ph.D., Empire Innovations Professor, Department of</td>
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<td>Environmental Health Sciences, School of Public Health, University at</td>
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<td>2:30 – 2:45 P.M.</td>
<td>BREAK</td>
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<td>2:45 – 3:05 P.M.</td>
<td>INDUSTRY LEADER AND PROJECT OPPORTUNITIES</td>
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<td>“Advancing a Cooperative Translational Medicine Research Paradigm</td>
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<td>in the Capital Region – Case Studies and AMRI’s Experience”</td>
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<td>Peter C. Michels, Ph.D., Senior Director, Discovery &amp; Development</td>
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<td>Solutions, DMPK, Fermentation and Biocatalysis, Albany Molecular</td>
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<td>Research, Inc. (AMRI)</td>
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<td>3:05 – 3:45 P.M.</td>
<td>PANEL DISCUSSION WITH INDUSTRY LEADER AND PROJECT PIs</td>
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<td>3:45 – 5:45 P.M.</td>
<td>ACADEMIC /PROFESSIONAL NETWORKING</td>
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NY CAP Research Alliance Symposium Keynote Speakers

Max Diem, Ph.D.
Professor, Northeastern University

Max Diem, Ph.D., is a professor in the Department of Chemistry and Chemical Biology at Northeastern University in Boston. His areas of expertise are physical and biophysical chemistry, bio-imaging and medical diagnostics.

As director of the Laboratory for Spectral Diagnosis, his work is centered on the development of optical methods for medical diagnosis. In contrast to standard pathology, where stained cells and tissues are examined visually under a microscope, his team measures changes in cellular composition using molecular fingerprint techniques, such as infrared and Raman micro-spectroscopy.

He previously was professor chemistry in the Department of Chemistry of the City University of New York, Hunter College, before joining the faculty at Northeastern in 2005.

Dr. Diem completed his undergraduate work at the Universität Karlsruhe, Germany, and earned his Ph.D. in 1976 from the University of Toledo in Ohio. He was a postdoctoral fellow at Syracuse University from 1976 to 1978.

He is the author and co-author of numerous publications, books and book chapters.

Matthew D. Disney, Ph.D.
Professor, Scripps Institute

Matthew D. Disney, Ph.D., is a professor in the Department of Chemistry at the Scripps Research Institute in Jupiter, Florida. Dr. Disney studies RNA and genome sequencing and its potential as a target for drug therapies, especially for rare genetic diseases that have no known cures, such as adult-onset muscular dystrophy, and more common disorders for which there is a poor prognosis, such as drug-resistant cancers.

With several active grants, including from the National Institutes of Health, his research is focused on using the technological advances he has developed to identify patient-specific therapy.

Dr. Disney previously worked as an assistant professor at the University at Buffalo where he earned the Camille & Henry Dreyfus New Faculty Award and the NYSTAR JD Watson Young Investigator Award.

Dr. Disney earned his Ph.D. in biophysical chemistry at the University of Rochester in 2003. He holds a master's degree in chemistry from the University of Rochester and a bachelor's degree in Chemistry from the University of Maryland, College Park. He is the recipient of numerous awards, including the Eli Lilly Award in Biological Chemistry from the American Chemical Society, and the David Gin Award in Carbohydrate Chemistry from the American Chemical Society.

Lawrence S. Honig, M.D., Ph.D.
Professor of Neurology, Columbia University

Lawrence S. Honig, M.D., Ph.D., is an associate professor of Clinical Neurology in the Gertrude H. Sergievsky Center, the Taub Institute for Research on Alzheimer’s Disease and the Aging Brain, and in the Department of Neurology, Division of Aging and Dementia at Columbia University. He also is an associate attending physician in neurology at New York Presbyterian Hospital.

Dr. Honig's professional interests are in dementia and neurodegenerative disease, including the molecular, genetic, geriatric, epidemiologic and behavioral aspects of neurology. His clinical research activities include directing the efforts of the clinical core of the Alzheimer’s Disease Research Center at Columbia University, and various clinical research projects involving Alzheimer’s disease, Parkinson’s disease, cerebrovascular effects on cognition, frontotemporal and corticobasal degeneration, and essential tremor.

His laboratory research concerns developing biomarkers for neurodegenerative disease, and using molecular biological tools to analyze gene expression and tissue changes in aging and human brain diseases.

Dr. Honig received his A.B. in biological sciences from Cornell University, and his Ph.D. in Molecular Biology from the University of California, Berkeley. He earned his M.D. from the University of Miami, Florida. He has received a number of grants and honors, including the Ornish Award in Alzheimer’s Disease Research. He serves as an associate editor of the Archives of Neurology.
NY CAP Research Alliance Scientific Leadership Team

James A. Dias, Ph.D.
Vice President for Research, University At Albany

James Dias, Ph.D., serves as vice president for research at the University at Albany. His academic affiliation is with the Department of Biomedical Sciences in the School of Public Health, where he served as chair. His previous work experience includes being a member of the Department of Biochemistry in the Albany Medical College from 1981-1988; a research scientist with the Wadsworth Center of the New York State Department of Health; scientific director of the Wadsworth Center’s scientific core facilities; and service on national trade journals, study sections and external advisory panels. Dr. Dias received his B.S degree in biology from the Gonzaga University and his M.S. and Ph.D. degrees in reproductive physiology, with the subspecialty of animal science, from Washington State University. He was the recipient of several NIH career development awards, including an individual National Research Service Award, a New Investigator Award and a Research Career Development Award (1985). He has published more than 100 research articles on the reproductive hormones which control high quality gametogenesis and has been funded by the National Institutes of Health for 20 years.

Jonathan S. Dordick, Ph.D.
Vice President for Research, Rensselaer Polytechnic Institute

Jonathan S. Dordick, Ph.D., is the vice president for research at Rensselaer Polytechnic Institute, where he is also the Howard P. Isermann Professor of Chemical and Biological Engineering. He served as director of the Center for Biotechnology and Interdisciplinary Studies from 2008-2012. In addition to his primary appointment in Chemical and Biological Engineering. Dr. Dordick holds joint appointments in the departments of Biomedical Engineering, Materials Science and Engineering, and Biology. As a leading researcher, Dr. Dordick has published 300 peer-reviewed papers and has delivered over 200 invited lectures worldwide, including seminars at more than 70 universities. As an entrepreneur, Dr. Dordick has founded three companies providing products and services that impact industries as diverse as health care and energy, and has served on the scientific advisory boards of five others companies. He is an elected fellow of the American Chemical Society, the American Association for the Advancement of Science and the American Institute of Medical and Biological Engineers. He has received numerous awards, including the Marvin Johnson and Elmer Gaden awards of the American Chemical Society, the International Enzyme Engineering Award from the Engineering Foundation and a Presidential Young Investigator Award from the National Science Foundation. Dr. Dordick received his Ph.D. and M.S. degrees in biochemical engineering from the Massachusetts Institute of Technology and his B.A. degree in biochemistry and chemistry from Brandeis University.

Peter C. Michels, Ph.D.
Senior Director, Discovery & Development Solutions, DMPK, Fermentation and Biocatalysis, Albany Molecular Research, Inc. (AMRI)

Pete Michels, Ph.D., is the senior director of Discovery and Development Solutions, DMPK, Fermentation and Biocatalysis at Albany Molecular Research Inc. (AMRI). Dr. Michels has a 17-year industrial record, primarily focusing on applications of synthetic biocatalysis to pharmaceutical discovery and development. He received his B.S. degree (Summa Cum Laude) in Chemical Engineering from Rensselaer Polytechnic Institute where he received the Ricketts Prize. He completed his Ph.D. in Biochemical Engineering with Douglas Clark at the University of California, Berkeley, where he received numerous honors, including multiple fellowships from the National Science Foundation and from Tau Beta Pi. Professionally, Dr. Michels helped to build EnzyMed Inc., a company that introduced new applications of biocatalysis to pharmaceutical discovery. EnzyMed was subsequently acquired in 1999 by AMRI, where he has led the Synthetic Biocatalysis, Fermentation, ADMET/DMPK, and Metabolite Synthesis and Preclinical Development efforts for numerous drug candidates. Dr. Michels has contributed to more than 18 patents and applications, and more than 55 publications and invited presentations, including most recently, a seminal commentary on the regulatory and safety aspects of the use of biocatalysts for API production.
Erasmus Schneider, Ph.D.
Associate Director for Research and Technology, Wadsworth Center

Erasmus Schneider, Ph.D., is the associate director for research and technology at the Wadsworth Center; a faculty member at the Wadsworth School of Laboratory Sciences; an associate professor at the University at Albany School of Public Health, Biomedical Sciences; and adjunct associate professor at Albany Medical College, Pathology and Laboratory Medicine.

Dr. Schneider joined the Wadsworth Center in 1995 as a research scientist when he established an externally funded research program to investigate multidrug resistance of cancer cells. This research resulted in numerous peer-reviewed publications and presentations at major conferences. Over the years he has continued to work in the area of cancer cell drug resistance, expanding into drugs targeting the folate pathway and DNA precursor synthesis. He was a grant reviewer for the American Cancer Society and currently is a member of its Council for Extramural Research.

From 2007 to 2013, Dr. Schneider was the director of the Center's Division of Translational Medicine, and in 2013 assumed his current role as the Center's associate director for research and technology. In that role he is, among other things, overseeing the Center’s scientific core facilities and internal research funding programs.

Dr. Schneider is also the section head for oncology in the Clinical Laboratory Reference System. In that position, he is responsible for the review of laboratory developed tests submitted by New York State-permitted laboratories in the area of oncology, and for conducting proficiency testing for serum tumor markers, human papilloma virus, molecular oncology and fetal defect markers. He is particularly interested in the technical and quality control challenges posed by the advanced molecular techniques used for the diagnosis, prognosis and prediction of therapeutic response of cancer.

He holds a Ph.D. from the University of Bern, Switzerland and has done postdoctoral training at the University of Auckland, New Zealand, Johns Hopkins University and the National Cancer Institute.

Vincent Verdile, M.D.
The Lynne and Mark Groban, MD '67 Distinguished Dean, Albany Medical College
and Executive Vice President for Health Affairs, Albany Medical Center

Vincent Verdile, M.D., is the dean of Albany Medical College and executive vice president for health affairs of Albany Medical Center, positions he has held since 2001. He is also a professor of Emergency Medicine in the Department of Emergency Medicine at the College. As dean, Dr. Verdile oversees the operations of Albany Medical College, one of the nation's oldest private medical schools. Under his leadership, the College has expanded its academic programs. Approximately 40 percent of the region's practicing physicians are alumni of the College. He is responsible for four interdisciplinary biomedical research centers, which are bringing the latest medical treatments to patients, while advancing the knowledge of various diseases. With his direction, these research facilities have received more funding from the prestigious National Institutes of Health than any other university or college in northeastern New York. He also manages the college's more than 450-member physician practice, one of the largest groups of multi-specialty physicians in the Northeast. Before coming to Albany Medical Center in 1993, Dr. Verdile held a number of academic and clinical appointments at the University of Pittsburgh School of Medicine where he completed his residency training in emergency medicine. Dr. Verdile is the author of more than 60 academic publications and has served on several editorial boards. He has served on numerous state and national committees, and is a past president of the New York Chapter of the American College of Emergency Physicians. He currently serves on the board of directors of Union Graduate College, the University Heights Association and the Fort Orange Club.