



A New Approach to Improving Cancer Therapy

WORKING TO MAXIMIZE THE DESTRUCTION OF CANCER CELLS

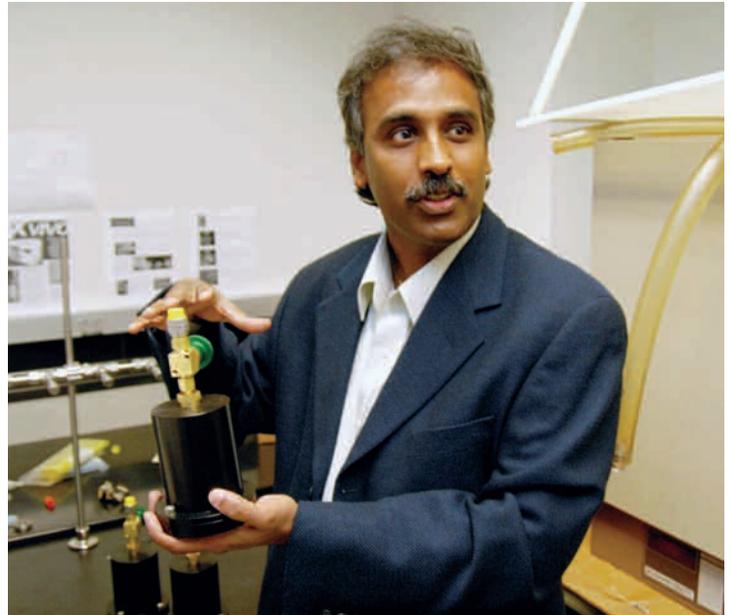
DNA strands making up our chromosomes encode genetic information that when altered can control cancer cell functions. Radiation and chemotherapy both work to destroy cancer cells in the body by damaging these altered DNA strands in solid tumors. Although these treatments are highly effective in patients, some cancer cells can survive and develop new ways to repair the DNA damage causing a recurrence of the disease. Additionally, if a tumor is in an environment where there are low levels of oxygen and glucose, the tumor can also be resistant to therapy.

LIMR Associate Professor, Dr. Iramoudi Ayene is working on several projects designed to improve the efficacy and selectivity of current cancer therapies. One approach involves the development of new drug like molecules that prevent cancer cells from repairing their DNA after radiation and chemotherapy. Additionally, he found that some therapy-resistant tumor cells had lower concentrations of glucose. He is using this finding to design new drugs that take advantage of the lower glucose environment.

Concurrently, his laboratory is testing a class of molecules called "small interfering RNAs" or siRNAs to prevent the production of DNA-repair proteins that can promote recurrence of the disease. The hope is that these two approaches will result in new compounds that can be used to maximize the destruction of cancer cells.

Another project involves the development of a metabolic biomarker that plays a major role in the survival of cancer cells. This particular biomarker is being developed for three major uses. The first is for use in the laboratory to help screen drugs for new cancer therapies. The second is in the clinic where it has the potential to predict chemotherapeutic response and toxicity in patients, as well as measure the effectiveness of new treatments for cardiovascular disease and other diseases. The third is to develop new medications that can be used to treat cancer patients.

Dr. Ayene has patents pending at the United States Patent and Trademark Office (USPTO) for various small molecule compounds that target therapy resistant cancer cells as well as for the metabolic biomarker. He is currently engaged in a collaboration with Dr. Paul Gilman, LIMR Clinical Professor and Chief of Oncology for Lankenau Hospital, to develop his biomarker as a blood based test for personalized medicine. Additionally, he is working to market additional uses of his discovery with a biotech company. ❁



Iramoudi Ayene, Ph.D.

CANCER FACTS:

- In 2009 about 562,340 Americans were expected to die of cancer, more than 1,500 people a day.
- Cancer is the second most common cause of death in the United States, exceeded only by heart disease.
- In the United States, cancer accounts for nearly 1 of every 4 deaths.
- About 1.5 million new cancer cases were expected to be diagnosed in 2009 (excluding basal and squamous cell skin cancers).
- More than 1 million unreported cases of basal and squamous cell skin cancers were expected to be diagnosed in 2009.
- The National Institutes of Health estimates overall costs of cancer in 2008 at \$228.1 billion.

Figures courtesy of the American Cancer Society

CHECK OUT OUR NEW WEBSITE

If you happened to visit www.limr.org lately, you'll notice a lot of changes. In November 2009, the Lankenau Institute launched a newly redesigned web site that gives visitors an easier, more user-friendly way to find information about LIMR. The new site has a search engine, lay research descriptions for all of our resident faculty, downloadable PDF newsletters, annual reports and other publications, and a growing library of videos and podcasts. You can also find out about upcoming events at the Institute including art gallery openings, golf tournaments, scientific and medical seminars, and much more. Additionally, you can learn more about the many different ways you can support LIMR, through our research and educational programs, a planned gift, or perhaps a tribute to a friend or loved one. You can even make a gift online. Come visit us! ❁

To see what's new, visit: www.limr.org



Clinical Research Corner

APPOINTMENTS AND ACHIEVEMENTS



Michael Chernick, Ph.D.

Dr. Michael Chernick, Manager of Biostatistical Services at LIMR was appointed Associate Editor of the *Journal of Biopharmaceutical Statistics*. The journal discusses quality applications of statistics in biopharmaceutical research and development. It is published six times per year. ❁

After last year's announcement of the RE-LY trial results, which showed that a new drug, Dabigatran, was more effective and safer than Warfarin for preventing stroke in patients with atrial fibrillation (AF), Dr. Michael Ezekowitz has been invited around the world to talk about this and other new anticoagulant therapies currently being tested. These invitations included speeches at the Europe AF meeting in London; three Cardiac Conferences throughout China; the American Heart Association Scientific Sessions in Orlando, Florida; and Grand Rounds at Yale, Harvard, and the University of Pennsylvania. ❁

Additionally, Dr. Ezekowitz is now part of the newly formed Pharmacogenomics Advisory Group (PGx) for the Coriell Personalized Medicine Collaborative, an initiative organized by one of LIMR's peer Institutes in the region. The goal of CPMC is to research whether personalized genetic information can be used to improve people's health. To do this, participants are asked to give a saliva sample that is used to look for genetic variants associated with common diseases and medication response. Participants are also asked to provide information about their health, medication use, family history and lifestyle. This information is then used to create customized risk reports. The PGx's role will be to advise researchers about potentially actionable gene-drug combinations for inclusion in their projects. ❁

To learn more about the CPMC, visit: cpmc.coriell.org

ROUNDTABLE DISCUSSION FOCUSES ON ALZHEIMER'S DISEASE (AD)

On Wednesday, March 10, 2010, nine individuals gathered at LIMR to participate in a roundtable discussion: *Rationale and Design of a Clinical Trial to Test the Use of Antibiotics in the Treatment of Alzheimer's Disease*. This event provided a unique opportunity for individuals with diverse backgrounds from neurology to infectious diseases to discuss the general topic of infection and the development of AD in order to design a clinical trial that will test whether the use of antibiotics in AD patients results in a change in the disease.



Members of the Roundtable Discussion

This panel, organized by J. Todd Abrams, Ph.D. from LIMR, was moderated by John Schrogie, M.D., a past president of the American Society of Clinical Pharmacology and Therapeutics. The panel had a number of leaders in their fields, including: Robert Moir, Ph.D., Assistant Professor Neurology, Harvard University; Anthony Simon Lynch, Ph.D., Senior Research Fellow, Microbiology Team Leader, Infectious Diseases, Johnson & Johnson Pharmaceutical Research & Development; Maria Maccacchini, Ph.D., President and CEO, QR Pharma, Inc.; Rick Metz, Ph.D., Executive Director Research, NewLink Genetics; Jeffrey Joseph, Director, Statistics, Omnicare Clinical Research, Inc.; Brian Balin, Ph.D., Professor of Pathology, Microbiology, Immunology and Forensic Medicine, Director Center for Chronic Disorders of Aging, Philadelphia College of Osteopathic Medicine; and finally from LIMR, Marjorie Marenberg, M.D., Ph.D., Director of Clinical Geriatric Research, also participated in the panel. ❁

BECOME A FAN OF LIMR AT FACEBOOK.COM

LIMR now has a fan page on Facebook! Get news about the latest developments at LIMR including publicity, events, and photos. Also feel free to ask us questions or comment on any of our content.

Becoming a fan is easy. First you must already have a Facebook account set-up. To find us, type "Lankenau Institute for Medical Research" in the search bar.

If you choose to become a fan, we cannot see or access your profile, we can only see your profile photo and name. Additionally, we do not receive a News Feed with information about what you are doing. We are able to communicate with all fans through updates in your Inbox, but we have no additional access to your personal information.



So what are you waiting for? Become a fan today!



To learn more about ongoing celebrations and Lankenau Hospital's commitment to Patient Care Excellence, Academic Achievement, and Innovative Research, visit: www.mainlinehealth.org/lankenau

Clinical Research Corner

LATE BREAKING CLINICAL TRIAL RESULTS PRESENTED AT AMERICAN COLLEGE OF CARDIOLOGY (ACC)

Dr. Michael D. Ezekowitz, Vice President of LIMR and Vice President of Clinical Research for Main Line Hospitals, presented late breaking clinical trial results at the 59th Annual American College of Cardiology Scientific Sessions in Atlanta, GA. His presentation entitled: *A Randomized Clinical Trial of Three Doses of a Long-Acting Oral Direct Factor Xa Inhibitor Betrixaban in Patients with Atrial Fibrillation*, shared results of a Phase II trial that was evaluating the preliminary safety and best dosing of the drug, Betrixaban sponsored by Portola Pharmaceuticals and Merck.



Michael D. Ezekowitz, M.D., Ph.D.

Betrixaban is an oral, blood thinner drug that is being tested to prevent strokes in patients with atrial fibrillation (AF), the most common type of heart beat disorder. The drug prevents blood clots by blocking a clotting substance called Factor Xa. Betrixaban has a rapid onset of action that requires only once daily dosing. Unlike Warfarin, the presently used blood thinner, Betrixaban does not require constant monitoring. Additionally, unlike other novel anticoagulants, it is not cleared significantly by the kidneys, so it may be safer to use in individuals who have severe renal disease.

This current Phase II study, EXPLORE-Xa showed that this new drug appears to act as an active anticoagulant for all the doses studied. "Moreover," stated Dr. Ezekowitz, "it showed that Betrixaban was well tolerated in a real life, diverse atrial fibrillation population." Although it is too early to tell whether Betrixaban will be more effective for stroke prevention in AF patients, it does provide helpful indicators that will help in the development of Phase III studies for this drug.

Betrixaban could potentially be further developed for other indications including, but not limited to, the treatment or prevention of life-threatening blood clots in patients undergoing high-risk orthopedic and general surgery, those with acute and chronic medical illness, and those with acute coronary syndrome. ❁

ADDITIONAL DATA FROM RE-LY STUDY ALSO PRESENTED AT ACC

In addition to the late breaking clinical trial results Dr. Ezekowitz presented at the ACC, he also was part of three presentations that provided additional analysis of data collected from the RE-LY study, a phase III clinical trial that compared a new drug, Dabigatran, to the current standard Warfarin, for the prevention of stroke in patients with atrial fibrillation (AF). The trial results showed that Dabigatran was potentially more effective and safer than Warfarin at two different doses. Dr. Ezekowitz was involved in the trial design and served as lead U.S. researcher for the study.

The first presentation was a subgroup analysis of AF patients with low, moderate, and high CHADS2 score. The CHADS2 score is the best validated clinical prediction rule for determining the risk of stroke and who should receive anticoagulation medication. For example, in patients with a score of 1 or low risk, aspirin is often used instead of Warfarin as the bleeding risk can outweigh the benefits. These results showed that in low risk patients, Dabigatran has a favorable risk benefit profile compared to Warfarin, with lower rates of stroke, systemic embolism and major bleeding.

A second presentation shared results of AF patients undergoing cardioversion, a procedure where an electrical shock is delivered to the heart to convert an abnormal heart rhythm back to a normal rhythm. This showed that Dabigatran may be a safe alternative to Warfarin for stroke prevention at cardioversion.

In the final presentation, they examined the effect of age and renal function on the risks of stroke and major bleeding. They found that the benefit of Dabigatran versus Warfarin for stroke prevention is independent of age and renal function and that reducing extracranial bleeding is significantly less with increasing age but the reduction in hemorrhagic stroke is not. ❁

LIMR WELCOMES NEW CLINICAL FACULTY AND STAFF

Marjorie Marenberg, M.D., Ph.D. joined the LIMR Clinical Research Center (CRC) as a Director of Clinical Geriatric Research in July 2009. She received both her M.D. and Ph.D. from Yale University, and trained in Internal Medicine and Geriatrics at both Yale-New-Haven Hospital and the University of Pennsylvania Health System, respectively. Her research area has focused on the detection and prevention of early Alzheimer's disease, and specifically on the role of cardiovascular risk factors on the pathogenesis of Alzheimer's disease. She recently completed an NIH Career Development Award to examine the role of vascular risk and cognitive impairment, and is involved in several other research protocols in the CRC at LIMR. Dr. Marenberg served as an Assistant Professor of Geriatric Medicine at Thomas Jefferson University before joining LIMR. She currently is the Principal Investigator of a clinical study sponsored by Siemens Molecular Imaging, Inc. The goal of this study is to investigate a new molecular brain imaging agent that binds to amyloid protein in the brain that may play a role in detecting early Alzheimer's disease in the future.



Marjorie Marenberg, M.D., Ph.D.

In strengthening our ties with cardiovascular programs at Main Line Health (MLH), LIMR appointed two new resident faculty members, Peter Kowey, M.D. as Professor and Donglin Guo, M.D., Ph.D. as Assistant Professor.



Peter Kowey, M.D.

Dr. Kowey has been a part of MLH since 1999 serving as the Chief, Division of Cardiovascular Diseases. He also currently serves as President of the Heart Center at Lankenau, Bryn Mawr and Paoli Hospital, is the William

Wikoff Smith Chair in Cardiovascular Research, and Professor of Medicine and Clinical Pharmacology at Thomas Jefferson University. He is actively engaged in various cardiovascular clinical trials with a main focus on heart arrhythmias.

Dr. Guo is investigating the mechanisms of cardiac arrhythmias, the disorganized electrical rhythms of the human heart that can be commonly seen in various cardiovascular diseases, including heart failure. The hope is to use the data from their studies to develop more useful medications to prevent and treat lethal cardiac arrhythmias. ❁



Donglin Guo, M.D., Ph.D.

LIMR WELCOMES NEW COMPANY TO INCUBATOR

In February of this year, Aviana Molecular Technologies (AMT), joined the LIMR Biotech Incubator and is currently housed within one of our laboratories. AMT is a development stage device company focused on marketing a new generation of innovative, highly sensitive and specific, State-of-the-Art Biosensors. These biosensors are specifically targeting point-of-care (POC) diagnostic products for human healthcare and veterinary medicine.



AMT's focus is to identify areas in POC with high unmet needs in the United States and around the world, where POC diagnosis can make a difference in human health.

AMT's biosensor technology is based on an innovative and proprietary adaptation of the commonly used surface acoustic wave sensors with critical changes that make this technology applicable as a biosensor. Further innovation allows AMT's biosensor to be used to diagnose multiple diseases and biomarkers in one chip using an entirely electronics-based system for readouts. LIMR researcher Scott Dessain, M.D., Ph.D. is collaborating with Aviana in the performance of their critical proof of concept experiments.

For more information, visit: www.avianamolecular.com

NEW DIABETES TREATMENT ENHANCED BY PARTNERSHIPS

CureDM, LLC, a biopharmaceutical company with collaborative ties to LIMR, announced that they have signed an agreement with Sanofi-Aventis for the exclusive worldwide license of Pancreate™, a novel islet neogenesis agent for the treatment of type 1 and type 2 diabetes.

In a collaborative research partnership, LIMR Associate Professor, Lisa-Laury Kleintop, Ph.D., provided valuable information to CureDM regarding how Pancreate works. The results of this and other work was published in the December 2008 issue of *Endocrine Practice*, the leading peer-reviewed journal for practicing endocrinologists.

Preclinical studies of Pancreate were shown to stimulate the growth of new insulin producing islets in the pancreas. This results in the restoration of normal metabolic function and glucose control, hence having the potential to reverse diabetes. CureDM hopes to initiate phase I clinical studies later this year.

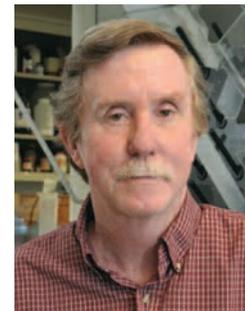
This new partnership with Sanofi-Aventis gives the company worldwide rights to manufacture, develop, and market CureDM's Pancreate for the treatment of diabetes in both humans and animals. Under the agreement, CureDM will receive an upfront cash payment and success based development, regulatory, and sales milestones totalling \$335 million. Additionally, they will be eligible to receive increasing royalties on worldwide product sales.

"CureDM's success was made possible in part by the collaborative and cooperative environment at LIMR. All of us at CureDM are grateful for the opportunity to have access to both research and clinical resources provided by the Institute and are indebted to them for all the efforts made on our behalf," stated H. Joseph Reiser Ph.D., President and CEO of CureDM.

CureDM's founding physicians, Drs. Claresa Levetan and Rita El-Hajj are both Clinical Assistant Professors at LIMR.

PARTNERSHIP HELPS DEVELOP TREATMENT FOR ANIMAL CANCERS

In September 2009, MBF Therapeutics Inc. (MBFT), a development stage veterinary oncology company in Ambler, PA, formed a strategic relationship with LIMR to support the development of MBFT-101, a treatment for common and aggressive cancers in dogs and cats. MBFT-101 is a novel combination of two drug molecules that act in concert to kill cancer cells by starving them of nutrients essential for cell growth and survival, with no effect on normal cells.



Thomas O'Brien, Ph.D.

"This partnership embodies the true value of translational medicine. Together we are able to evaluate MBFT-101 in cats and dogs with natural disease, concurrently with crucial preclinical studies in laboratory animal models," said Thomas Tillett, MBFT President and CEO. "At the same time we are developing these treatments for companion animals, we will advance our understanding of how to effectively treat human cancers", he added, noting that dogs, in particular, are the best animal models for emerging treatments of certain types of human cancers.

The agreement provides MBFT with exclusive access to preclinical data from research being conducted by LIMR Professor, Dr. Thomas O'Brien. Dr. O'Brien, a member of MBFT's Clinical Advisory Board, is widely recognized for his extensive study of the role of polyamine transport inhibitors and their ability to significantly enhance the activity of difluoromethylornithine (DFMO), a widely studied experimental drug.

A pilot clinical study using MBFT-101 in cats with oral squamous cell carcinoma, the most common feline oral cancer, is currently underway at the School of Veterinary Medicine at the University of Pennsylvania's Veterinary Clinical Investigation Center, with the help of a grant from Ben Franklin Partners Technology Concept Network to MBFT and Dr. O'Brien.

For more information about MBFT, visit: www.mbftherapeutics.com

RESEARCHER ELECTED TO BOARD OF THE SOCIETY FOR BIOMOLECULAR SCIENCES

Melvin Reichman, Ph.D., Director of the LIMR Chemical Genomics Center (LCGC), a biotech company that was created to fill a major gap in drug discovery technology by providing access to large compound libraries for high-throughput screening, was elected by members worldwide to serve a three-year term on the Board of Directors of the Society for Biomolecular Sciences (SBS). His service began on April 12, 2010.



Melvin Reichman, Ph.D.

SBS is the only non-profit international scientific society in the world that is dedicated to drug discovery and its associated disciplines. Dr. Reichman was an early founder of SBS while Head of Drug Discovery at Berlex/Schering AG.

In his new role as director, he will provide vision and leadership for drug discovery sciences and practices as a delegate representing academic research communities, providing a unique perspective that includes an 18-year tenure in the pharmaceutical industry. With early drug discovery activities becoming increasingly significant in academia in recent years, Dr. Reichman's election will engender new opportunities in the field from a platform highly visible in both academia and industry.

To learn more about the SBS, visit: www.sbsonline.org

Scientific Publications



Mindy George-Weinstein, Ph.D.

RESEARCH RESULTS SHOW SPECIFIC CELLS ARE CRUCIAL FOR EYE DEVELOPMENT

The lab of Dr. Mindy George-Weinstein published a paper in *Developmental Biology* in September 2009 entitled *Noggin Producing, MyoD-Positive Cells are Crucial for Eye Development*. MyoD is a protein with a key role in regulating muscle differentiation. Noggin blocks the actions of potent molecules called Bone Morphogenetic Proteins. This paper reported that MyoD-positive cells release Noggin in the tissues of the developing eye. Elimination of Noggin-producing, MyoD-positive cells in the early embryo results in malformations of the lens and retina. These experiments were supported through funding from the National Institutes of Health and the March of Dimes. ❁

ANTI-INFLAMMATORY AGENT MAY BE USEFUL IN FIGHT AGAINST CANCER

Dr. Alexander Muller, LIMR Associate Professor, along with colleagues, has reported new preclinical evidence that the simple anti-inflammatory agent ethyl pyruvate causes an antitumor response through obstruction of indoleamine 2,3-dioxygenase (IDO), a key immune-shielding enzyme found

in many human tumors. Although ethyl pyruvate has undergone early-phase clinical testing, this was done without consideration of its applicability to cancer. These new findings deepen emerging links between IDO and inflammatory processes, opening the door to explore ethyl pyruvate as a new, low cost immunochemotherapy for cancer patients. These research results were published in the March 2010 issue of *Cancer Research*, the field's most cited journal. This article was also featured on MDlinx.com, the world's most up-to-date index of articles that matter in the daily lives of physicians and other healthcare professionals. ❁



Alexander Muller, Ph.D.

INVESTIGATORS DISCOVER A POTENTIAL NEW ANTIBODY THERAPY TO TREAT ALZHEIMER'S DISEASE

Alzheimer's disease (AD), which afflicts over 5.3 million people in the United States alone, is the most common of over 25 incurable protein misfolding diseases termed amyloidoses. In a paper published in *The Journal of Biological Chemistry*, Sharad P. Adekar, M.D., Scientist at LIMR and Scott Dessain, M.D., Ph.D. Associate Professor at LIMR, along with their colleagues, have discovered a potential new antibody therapy that can be used to treat individuals suffering with AD and other amyloid illnesses.

The paper entitled: *Inherent Anti-Amyloidogenic Activity of Human Ig Heavy Chains*, showed that certain types of immunoglobulin molecules can prevent amyloid fibril growth, protecting rodent brain cells involved in learning and memory from the toxic effects of amyloid beta aggregates. These features may form the basis for novel therapeutics and diagnostics for AD and other amyloidoses. ❁



Sharad P. Adekar, M.D.



Scott Dessain, M.D., Ph.D.

Grants

FUNDING LIFESAVING RESEARCH AND EQUIPMENT

LIMR received a \$22,000 grant from the Scholler Foundation towards the upgrading of our cell sorting instrument. Our researchers were able to purchase new software and an automated sample loader that will be used in basic and translational research to develop improved diagnostic tools and treatments for cancer, arthritis, diabetes, and cardiovascular disease. ❁

Breast cancer research conducted by Dr. Maggie Wallon will continue at LIMR thanks to a \$20,000 grant award from the Martha W. Rogers Trust in



U. Margaretha Wallon, Ph.D.

memory of her husband, F. Cooper Rogers. This grant provides support toward a prospective study to show that elevated TIMP-4 levels in early-stage breast tumors predict a poor clinical course, as well as a sub-study to determine whether TIMP-4 is an equally effective prognostic marker for “triple negative” tumors, which are particularly aggressive. These funds will also be used in preclinical animal studies to determine whether blocking TIMP-4 can stop or reverse breast malignancies. The hope is that results of these studies will show whether TIMP-4 antibodies could be used as a therapeutic agent for breast cancer treatment. ❁

LIMR FACULTY RECEIVE PENNSYLVANIA BREAST CANCER COALITION GRANT

LIMR Assistant Clinical Professor, Radhika Gogoi, M.D., Ph.D. in collaboration with LIMR Professor, Janet Sawicki, Ph.D., received a \$50,000 grant from the Pennsylvania Breast Cancer Coalition for their project entitled, *Targeted DNA-based Nanotherapy for Cervical Cancer*.



Radhika Gogoi, M.D., Ph.D.

Cervical cancer is a disease that will affect approximately 11,000 women in the United States this year and will cause 4000 deaths. Worldwide, it is the third most common cause of cancer related death in women. This project is aimed at developing a new therapy for cervical-based cancers based on the established

association between HPV16 infection and this cancer type. This therapy will use nanoparticles to deliver a therapeutic DNA to HPV16-infected cells that will kill tumor cells, but not healthy, non-infected cells. This will help limit the risks and complications of surgical therapy. The hope is that this award will generate the necessary data to allow for the submission of a National Institutes of Health (NIH) grant application for a Phase I clinical trial in humans. ❁



Lisa Laury-Kleintop, Ph.D.

Dr. Lisa Laury-Kleintop received a renewal grant in the amount of \$11,441 from the Lawrence C. Fuller, Jr. Memorial Diabetic Trust to support her project entitled: *The Role of RhoB in Type I Diabetes Mellitus*. These funds will be used to explain the specific role played by the RhoB gene in pancreatic islet beta cell destruction. The knowledge gained from this work may lead to the targeted design of future therapies and medical interventions for Type 1 diabetes. ❁

The R&R Mellinger Medical Research Memorial Fund and the Alice Livingston Trout Family Memorial Fund made grants totaling almost \$6,400 to Dr. Laury-Kleintop for continued

work on an anti-cancer therapeutic called 1-MT to determine whether, and to what extent, it can inhibit the enzyme IDO, to reduce atherosclerotic plaque formation. Over the next year, the goal is to determine whether other forms of IDO might be targeted to develop novel treatments for individuals with cardiovascular disease. ❁

LIMR received a \$35,000 grant from the Arcadia Foundation for scientific equipment that is crucial to Dr. Janet Sawicki's prostate and ovarian cancer research. The new GelCount cell colony counter will help her to identify stem cells in tumor samples. These studies are part of preclinical testing that is paving the way for Phase I clinical trials that we hope will begin in 2011. Additionally, it will also allow other LIMR investigators to conduct automated colony counting in a wide range of applications for various cancer research projects. ❁



Janet Sawicki, Ph.D.

The Louise A. Havens Foundation for Diabetes Research and Treatment provided LIMR with a \$27,500 grant for the purchase of a new Plate Reader and Fluid Dispensing System that will be used to determine the presence and concentrations of various biomolecules in tissue samples. This instrument is a core instrument that is used by most of the Institute's laboratories for a variety of research projects. ❁

Giving in Unique Ways

TURNING TWO PASSIONS INTO SUPPORT FOR RESEARCH

Almost 24 million Americans have diabetes with 200,000 of those under the age of 20. Trudy Graboyes of TRUJO Productions, an organization that performs concert versions of musicals, has a daughter who is afflicted with this disease. Her passion for entertainment and her daughter, along with TRUJO co-founder and co-producer, Joe Ciresi and many others that she knows and works with, has allowed her to raise funds for diabetes research at LIMR.

In 2009, they held two fundraisers, *Man of La Mancha* in May and *Bye Bye Birdie* in November, with proceeds from the events dedicated to supporting research to help find new ways to treat or prevent diabetes. To date these events have raised almost \$4,300 and have helped increase awareness of LIMR and our research in the local community.

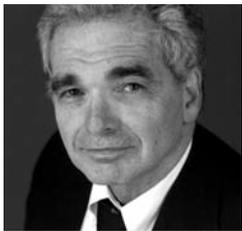
Look for a new musical event later this year; a concert version of the musical *Mame!* ❁



Trudy Graboyes with Bobby Rydell, who played Hugo in the 1963 movie version of *Bye Bye Birdie*

REMEMBERING A FRIEND AND COLLEAGUE

Founded in 1998, Onconova Therapeutics, Inc., is a private biopharmaceutical company focused on targeting cancer and protecting healthy cells. It also was one of the first companies to be a part of the LIMR Biotech Incubator.



Stanley C. Bell, Ph.D.

In June of 2009, when Dr. Stanley C. Bell, Onconova Senior Vice President for Pharmaceutical Discovery and Development, passed away suddenly, the team there came up with a way to honor their friend and colleague and his passion for research. On Monday, September 21, 2009, at the Hopewell Valley Golf Club in Hopewell, NJ, the

employees of Onconova held a golf fundraiser in memory of Dr. Bell. This event raised \$4,975 all of which was donated to LIMR to support ongoing research initiatives. ❁

To learn more about Dr. Bell and Onconova, visit:
www.onconova.com

A GIFT THAT GIVES BACK TO YOU: CHARITABLE GIFT ANNUITIES

What is a Charitable Gift Annuity?

A charitable gift annuity is a way to make a gift for the benefit of LIMR, while still receiving an income for yourself or another designated beneficiary. A donor transfers cash or other property to the Lankenau Hospital Foundation* for the benefit of LIMR and in exchange the Lankenau Hospital Foundation promises to make fixed payments annually to the designated individual. These payments are based on a measured percentage rate and the size of the contribution.

SAMPLE RATE CHART

Single-Life Annuity		Two-Life Annuity	
Age	Rate	Age	Rate
65	5.3%	65 and 66-70	5.0%
70	5.7%	70 and 72-75	5.3%
75	6.3%	75 and 77-79	5.7%
80	7.1%	80 and 82-83	6.2%
85	8.1%	85 and 87	7.2%
90	9.5%	90 and 92	8.6%

LIMR follows the American Council on Gift Annuities suggested rates

This is a great way to support a cause dear to your heart while also having a guaranteed amount of income each year for yourself or a loved one. You can even designate those funds to a specific area of focus including cancer research, cardiovascular disease research, or educational programming.

Learn more by contacting:

J. Todd Abrams, Ph.D.

Director of Philanthropy and Business Development

LANKENAU INSTITUTE FOR MEDICAL RESEARCH

100 E. Lancaster Avenue, Wynnewood, PA 19096

Phone: (484) 476-8145

Email: AbramsJ@mlhs.org

*The Lankenau Hospital Foundation provides financial support to LIMR. Gifts to the Lankenau Hospital Foundation may be restricted for general LIMR purposes or restricted to particular initiatives at LIMR.



Main Line Health

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Upcoming Events

For more information about LIMR events, visit: www.limr.org/LIMREvents



Saturday, May 22, 2010

THE 9TH ANNUAL FIGHT FROM THE FAIRWAY GOLF TOURNAMENT

Support Breast Cancer Research! The Fight from the Fairway Golf Tournament at the beautiful Honeybrook Golf Club in Honey Brook, PA is now in its ninth year. The event will include a four-person scramble, lunch, and award reception with raffle following the golfing. All proceeds go to support breast cancer research and education projects at LIMR and breastcancer.org. Register now and remember to invite your friends to play. ☸

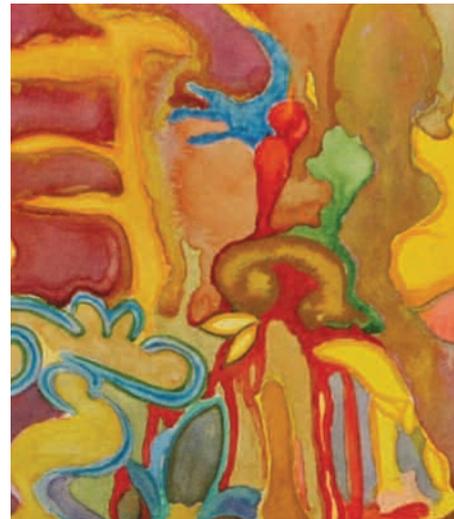
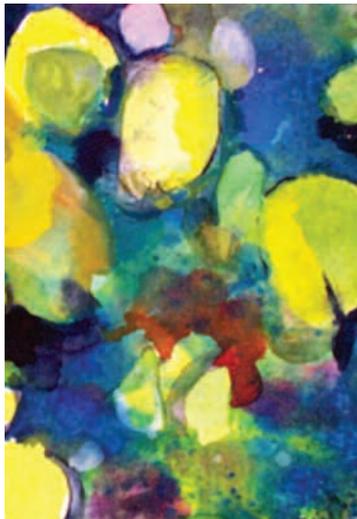
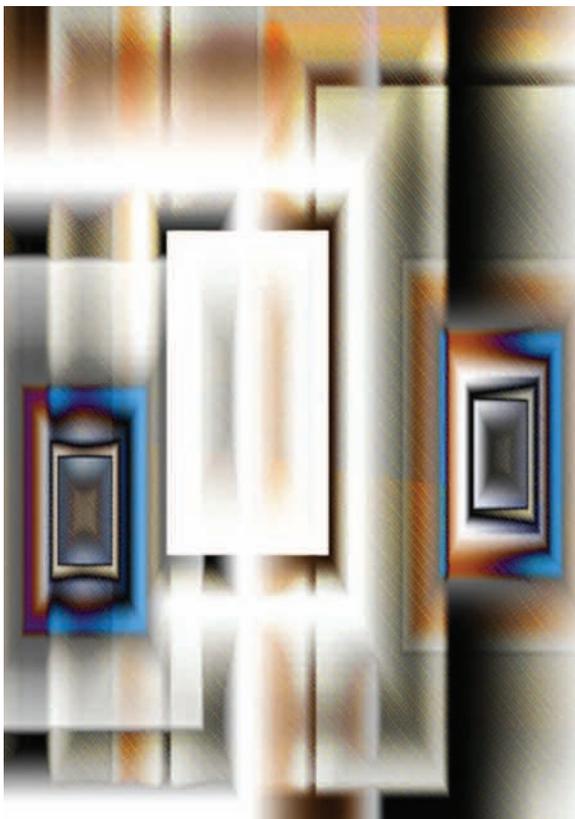
For additional information, visit: www.FightFromTheFairway.org

Through Friday, June 11, 2010

LIMR ART GALLERY SPRING EXHIBITION

The LIMR Art Gallery's Mission is to recognize that scientists and artists explore similar, fundamental questions with respect to what we see and understand about living forms.

The artwork of Blythe Hoyle, Doree Loschiavo, and Ted Mosher are featured at the Spring Exhibition. Regular gallery hours are Monday through Friday, 9:00 a.m. to 4:00 p.m., or by appointment (484) 476-3429. ☸



Featuring work by artists (details, left to right) Blythe Hoyle, Doree Loschiavo, and Ted Mosher