



**WELCOME**

**ברוכים הבאים**

### **Welcome from the President, Drexel University**

On behalf of Drexel University students, faculty and staff, I am pleased to extend a warm welcome to our guests from Hebrew University. I salute the spirit of discovery and cooperation embodied by this symposium, and look forward to the establishment of the research hub conceived during the recent visit to Israel led by my predecessor, Interim President C.R. "Chuck" Pennoni.

Our two universities share a strong commitment to translational research that creates solutions to real-world problems. And we share an understanding that today's global economy demands international collaboration. Geography is no longer a barrier to partnership. Together, we can develop technologies that improve health and quality of life around the world.

This symposium is the first step in what I hope will be a long and fruitful partnership. I thank everyone involved for making it happen.

Sincerely,

*John Fry*

President, Drexel University



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## **Welcome from the Provost and Senior Vice President, Drexel University**

I want to extend a hearty welcome to all of the participants of the Bi-national Drexel University-Hebrew University Translational Biomedical Research symposium taking place at Drexel University, August 29-31, 2010. This symposium is the crystallization of an idea that emerged during our visit to Israel in November 2009 and is an important first step in the development of a Research HUB bringing together premier scientists and engineers from Drexel and Hebrew Universities to define and advance joint translational biomedical research projects.

The HUB and this symposium provide a framework for joining the complementary strengths and specializations of our universities. I fully anticipate that this meeting will initiate the establishment of a productive and sustainable platform for jointly addressing fundamental challenges in biomedical research, such as drug design and delivery, regenerative medicine and tissue engineering, biomedical instrumentation, clinical technologies and therapies.

Drexel is strongly committed to the establishment of interdisciplinary links in science and technology, the production of cutting-edge research, and the advancement of scientific knowledge for the good of humanity. We recognize the critical role of top research universities, such as Drexel and Hebrew University, in bringing discoveries from the laboratory to the marketplace, from the bench to the bedside. With this in mind, I wish you all a fruitful symposium and look forward to seeing the results of this exchange of ideas in new research projects, funded proposals, and final products that advance our scientific understanding and offer life saving solutions to humankind.

Again, welcome to Drexel and our best wishes for a productive conference.

*Dr. Mark Greenberg*

Provost and Senior Vice President  
Drexel University



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### **Welcome from the Associate Vice Provost for International Programs**

Greetings from the Office of International Programs at Drexel University! We salute the Bi-national Drexel University-Hebrew University Translational Biomedical Research symposium and welcome your participation in this important event inaugurating Drexel's partnership with Hebrew University. Sustainable, mutually beneficial partnerships with world-class universities such as Hebrew University play a key role in Drexel's strategy to engage globally in innovative research, education, and service. We look forward to supporting further steps in this scientific collaboration and to seeing the fruits of what will surely be an inspiring and productive symposium. We hope that you will also take this opportunity to learn more about Drexel University and our international activities. Please make sure to ask us about our international programs and visit our website: [www.drexel.edu/international](http://www.drexel.edu/international).

Best wishes,

*Dr. Julie Mastov*

Associate Vice Provost for International Programs

Drexel University



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## Welcome from the Director of the School of Biomedical Engineering, Science & Health Systems

I would like to warmly welcome you to the first-ever Bi-National Drexel University-Hebrew University Translational Biomedical Research HUB Symposium. Since its inception, Drexel's School of Biomedical Engineering, Science & Health Systems has been a place where researchers from a variety of backgrounds and nationalities could unite their respective strengths to address unmet needs in healthcare. I am proud to be able to include you as the newest participants in this tradition.

As scientists and engineers, we are natural pragmatists and problem-solvers. We understand that most of the world's challenges transcend national boundaries and therefore solutions are not the domain of a single nation or people. We know that science does not happen in a vacuum nor in a straight line, but through trial and error and because of the work and intellect of a great many people. Like all human activities, it can be frustrating and conflict-ridden, but it can also be richly rewarding.

We at Drexel have always emphasized science's rewards: to our students, as we prepare them to lead useful adult lives; to our partners in industry and academia, as we seek to move innovative technologies to market; and to doctors and their patients, as we work to find new "life saving solutions." It is with this spirit of enthusiasm and excitement that we are very pleased to host our friends and colleagues from the Hebrew University, Institute for Drug Research in Jerusalem, Israel. I know we can accomplish great things together.

Sincerely,

*Dr. Banu Onural*

H.H. Sun Professor and Director  
School of Biomedical Engineering, Science & Health Systems  
Drexel University



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## Welcome from the Directors of the Institute for Drug Research, The Hebrew University of Jerusalem

The Hebrew University of Jerusalem's Institute for Drug Research (IDR) is pleased to unite with Drexel University in the first Bi-national *Translational Biomedical Research Symposium*. In this symposium, prominent academic faculty members from the two universities will address issues and challenges in five major areas of translational biomedical research: *drug discovery and delivery, emerging technologies/imaging, regenerative engineering, neural engineering and regeneration, and unique drugs and targets*.

At the IDR, translational biomedical research stands at the core of all activities. Multi-disciplinary cooperation among the IDR's researchers focuses on efforts to develop drugs – starting from the concept, design and planning; the chemical synthesis; the pharmacological and toxicological testing of the new drug; determining the choice of an optimal drug delivery system; and then following through until the drug's excretion from the body.

We anticipate that the presentations and roundtable discussions of this bi-national symposium will result in ongoing exchanges of knowledge and ideas, the initiation of collaborative research projects and scientific activities, and the attraction and matching together of additional researchers from the two institutions. In the long term, we believe the combination of Drexel University's medical engineering expertise with Hebrew University's IDR drug development know-how can provide a platform for advancing biomedical research that will lead to the creation and clinical implementation of life-saving pharmaceuticals, enhanced drug delivery systems, diagnostic-based imaging procedures, biomedical devices, and improved biomedical procedures.

Sincerely,

*Prof. Israel Ringel*

Director of The Institute for Drug Research  
The Hebrew University of Jerusalem  
Jerusalem, Israel

*Prof. Simon Benita*

Director-Elect of The Institute for Drug Research  
The Hebrew University of Jerusalem  
Jerusalem, Israel



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## Welcome from the Symposium Organizers

Welcome to the first Bi-national Drexel University-Hebrew University Translational Biomedical Research Symposium at Drexel University, Philadelphia. We are delighted to present a program that explores the frontiers of translational research on design, characterization, proof of concepts and applications of drugs and biomedical technologies. With more than a dozen top scientists and engineers from both universities presenting their groundbreaking basic and translational biomedical research, you will be able to listen some of the most advanced concepts, and creative approaches towards asking, addressing, and answering some of the most challenging questions that biomedical engineering and pharmaceutical sciences has to offer.

We hope that your participation in this meeting will provide you with novel ideas, tools, resources and information needed to advance your own work in these important fields synergistically with newly-found collaborators from the two partnering universities. This symposium is part of our ongoing efforts to generate a bi-national research HUB between Drexel-BIOMED and HUJI-IDR. We believe that this bi-national HUB will provide a unique opportunity and platform for advancing biomedical research that will lead to the creation and subsequent commercialization of life-saving pharmaceuticals, enhanced drug delivery systems, biomedical devices, and improved biomedical procedures.

This HUB will encourage synergy between cutting-edge technologies and pioneering research programs to meet hitherto unmet clinical needs, merging Drexel University's excellence in medical engineering with Hebrew University's excellence in drug development. We are confident that recruitment of world-class faculty from both partner universities and the implementation of a wide range of cutting edge complementary technologies will drive both the basic and translational biomedical research programs and drug discovery efforts and place Drexel University/BIOMED and HUJI/IDR HUB among the very best research centers in the world.

We wish you all a stimulating, informative and enjoyable time in Philadelphia!

Sincerely,

*Peter Lelkes*

Peter Lelkes Ph.D.  
Calhoun Chair Professor of  
Cellular Tissue Engineering  
Drexel University  
School of Biomedical Engineering,  
Science & Health Systems

*Philip Lazarovici*

Philip Lazarovici, Ph.D.  
Professor of Pharmacology  
Head, Pharmacology Division  
The Institute for Drug Research  
The Hebrew University of  
Jerusalem and Visiting Stein Professor