2014 COMMENCEMENT AND HONORS CELEBRATION "INTERDISCIPLINARY FRONTIERS"





810-141-01ECH-01.0ET

15-SUF EL ON HEALTS

COMMENCEMENT and HONORS CELEBRATION

Saturday, June 14, 2014. 12 noon Behrakis Grand Hall – Creese Student Center

(Creese Student Center is located on Chestnut Street, between 32nd and 33rd Streets)

Program of Events

RECOGNITION PROGRAM AND LUNCHEON - 12:00 NOON

WELCOME AND GREETING by Dr. Banu Onaral, Director Theme: "Interdisciplinary Frontiers"

SPECIAL RECOGNITIONS

The Elisabeth Papazoglou Inspired Leadership Award: Margaret Wheatley

Distinguished Alumnus Award: John Eisenbrey

Interdisciplinary Partners Award: Elisabeth Van Bockstaele

Interdisciplinary Partners Award: Donna DeCarolis

Learning Partners Award: Jay Bhatt

Outstanding Undergraduate Award - Service: Christopher J. Flounders

Outstanding Graduate Award - Research: Alimatou Mbanya Tchafa

Senior Design Team Awards

- First Place Team: "Shivering Detection Method for Adult Cardiac Arrest Patients Undergoing Targeted Temperature Management" – Ellen Giranda, Allison Kosydar, Caitlin Kealy, Michael McNichol, and Renee Nester / Advisors: Kenneth Barbee, Vinay Nadkarni, and Benjamin Abella
- Runners-Up Team 1: "Optimized Vesicle-based Drug Delivery System for the Delivery of a Syk Inhibitor to Mitigate the Effects of UV-radiation" – Chelsey Calvo, Jhan-Duc Duclos, Stephane Guillou, and Jennifer Wilkin / Advisor: Andres Kriete
- Runners-Up Team 2: "Development of a Solution for Biofilms in Chronic Wounds" Francis DiGennaro, Siddharth Joshi, Niraj Maniar, Dylan Narsingh, and Kevin Sacherman / Advisor: Michael Neidrauer

Outstanding Service Award - Peer Mentor: Rachel Wang

Outstanding Service Award - Peer Mentor: Sona Rathod

Outstanding Service Award – Work Study: Sonam Chheda

Outstanding Service Award - Advisor: Alison Oxenberg

Outstanding Service Award - Staff: Aylin Sagay

Outstanding Service Award – Staff: Estella Angle

STUDENT ACCOMPLISHMENTS AND HIGHLIGHTS (please see program booklet)

FACULTY AND STAFF ACCOMPLISHMENTS AND HIGHLIGHTS (please see program booklet)

PRESENTATION OF GRADUATING STUDENTS

REMARKS BY GRADUATING STUDENTS

- Undergraduate Student Speaker Rachel Wang
- Graduate Student Speaker Rosemary Bastian

CLOSING REMARKS by Fred Allen and Margaret Wheatley



GRADUATING CLASS OF 2014

Undergraduate Students BS in Biomedical Engineering

Lorenzo G. Albala Juna Min E. An Michael W. Barkofski Carl R. Beringer Sean Stephen Bishop Kevin A Bockman Isabel M. Buckner Chelsev L. Calvo Jesse P. Chan Sonam H. Chheda Stephanie M. Cicalese Joshua K. Cige **Bachael Elizabeth Cohen** Lea C. DeRosa Francis A. DiGennaro Michael T. Dilacqua Homaira Ferdous Christopher J. Flounders Christina Mary George Ellen Marie Giranda Charles J. Green Fergie Grizella Nicholas V Grzeczkowski Stephane Loic Guillou Andrew A. Hall Muzammil Raza Agha Hasan Marcus Beniamin Henderson Lillian M. Hippel Christine M. Ho Siddharth S. Joshi Cathy L. Kaing Caitlin L. Kealy Ian Andrew Kennedy Samir S. Khan Hee Joon Kim Melissa Kortman Julie Y I in Alvcia A. Loque Niraj Mahendra Maniar Waqdi G. Mankarious Veronika V. Martvnova Robert M. McCollum III Jacob Dean McGranaghan Asavari Mehta Michael C. Meyers

Mena Schiano Lo Moriello Sriram Moparthy Kiran Ghandikota Murthy Dylan L. Narsingh Renee M. Nester Ememabasi E Okoh Parth B. Panchal Kaushal P. Patel Ronak B. Patel Sita V. Patel Krishnateia Pemmaraiu Vincent Joseph Petaccio Michael Q Phan Phitha Philip Ajay S. Raghavan Sona Rathod Samuel J. Bozans Michael S. Rvan Kevin W. Sacherman Alexander O. Santangelo Rituparna P. Sarkar Jason M. Sedlak Breanna N Seiber Viviana Serrato Nilay Jitendrakumar Shah Jasmine Shirazi Vashina P Shukla Safi Siddiqui Ryan Smalley Mi Thant Mon Soe Amanda K Storm Basil Kooran Tharu Patrick R. Thompson Veronica M. Tomchak Christopher W. Veale Meenakshi Vidya Venkatachalam Andrea Verahese Rachel Runging Wang Jennifer L. Wilkin Tony Yu Zhelu Zhena

GRADUATING CLASS OF 2014

Graduate Students

MS in Biomedical Science

Meenakshi Vidya Venkatachalam Meghna Verma Joshua Wang Rachel Runqing Wang Shruti Subhash Wigh Rona Wilf Kendall Meredith Womack Ashlee N. Wood Xiangying Wu Chao Yu Tony Yu Bin Zhang Ce Zhou

MS in Biomedical Engineering

Reema Jaiprakash Abichandani Zahra Ahmed I orenzo G Albala David J. Alfego Barbara L. Benardo Nirmal Natu Bhakta Isabel M Buckner Alive Bulut Thomas R. Burns Robert J. Calderoni Chelsev L. Calvo Peter T. Cao Vidhi Chandra Manasi Naresh Dahibawkar Pratik P. Dhuru Pratik P. DiGennaro Shady El Damaty Eval M. Fuhrer Viktoriya Genzel Nicholas V. Grzeczkowski Sai Chetan Kumar Gudepu Stephane Loic Guillou Aditi Gupta Aditi S. Gupta Sirisha Phanithra Gutta Prasannaah Hadagali Joshua I Harrison Walter Alexander Hinds Christine M. Ho Cathy L. Kaing Heta Dewang Kapadia Tivvasengodan Karthick Privanka P. Kasbekar Ian Andrew Kennedy Abishek Sampath Kumar Jvotsna Lakshmi Kumar Qiangi Li

Julie Y. Lin Waddi G. Mankarious Asavari Mehta Michael C. Mevers Pranali A. Mulay Nicolle R. Murphy Kiran Ghandikota Murthy Shikha Navvar Renee M. Nester Xiaoyun Niu Daryl Omire-Mayor Purva Pandurang Pangaonkar Madhur Parihar Dharam B. Patel Kaushal P. Patel Ronak B Patel Vincent Joseph Petaccio Phitha Philip Mitrra Potheri Ramesh Jayesh H. Radadiya Gregory Warren Schwartz Arpit D. Shah Nilav Jitendrakumar Shah Jasmine Shirazi Mi Thant Mon Soe Mina N. Soryal Sirui Tang Malvika Thakur Basil Kooran Tharu Patrick R. Thompson Mariva Shabbir Tohfafarosh Javier E. Velasquez

GRADUATING CLASS OF 2014

Graduate Students PhD in Biomedical Science

Patrick Daniel Ganzer Latifa Fatima Jackson Glen P. Marszalowicz Kannaporn Pooput Alimatou Mbanya Tchafa

PhD in Biomedical Engineering

- Giang Hoang Thuy Au Arezou Akbarian Azar Zeinab Barati Arangassery Rosemary Bastian Utku Kursat Ercan James Andrew Furmato David Jamison Brandon M. Johnson Suganya Karunakaran Patrick L. Kirby
- Anitha Manohar Chantal M. McMahon Amrit Misra Rochelle E. Nasto An T. Nguyen Joshua A. Samuels Mehmet C. Soylu Nachiket Dattatray Vaze Adam D. Yost Robert W. Yucha

STUDENT ACCOMPLISHMENTS AND HIGHLIGHTS

BIOMED Students Receive Whitaker International Program Fellowship Grants To Conduct Research and Study Abroad

The following students in BIOMED each received a Whitaker International Scholarship:

- Emily Ballantyne, undergraduate student in BIOMED, will work on mathematical modeling of biological systems and a lung strain quantification project in the Computational Biomechanics and Biophysics lab under Dr. Daniel E. Hurtado at Pontificia Universidad Catolica de Chile.
- Frank Chang, BS/MS student in BIOMED, will research modifying calcium silicate with divalent cations to improve the mechanical, osteoinductive, and osteoconductive properties for bone regeneration under Dr. Hala Zreiqat at the University of Sydney, Australia.
- Samantha Fox, undergraduate student in BIOMED, will work on the Active Knee Prosthetic Project to help create smart prosthetics in the Sensory-Motor Systems Lab at the University of Zurich, Switzerland.
- Alex Valiga, undergraduate student in BIOMED, will research the development of a screening assay to improve the diagnosis and prognosis of melanoma progression under Dr. Reinhard Dummer in the Department of Dermatology laboratory at the University of Zürich, Switzerland.
- Reed Vennel, BS/MS student in BIOMED, will be studying and taking courses at Nanyang Technological University in Singapore.
- Tony Yu, BS/MS student in BIOMED (Advisor: K. Spiller), is conducting research on biocompatible scaffolds to promote angiogenesis under Dr. Wei Liu at Shanghai Jiao Tong University (SJTU) in Shanghai, China.

BIOMED Students Win Poster Awards in Four Categories at the 2014 Drexel Research Day

- BIO AND BIOMEDICAL
 "Indirect Plasma Sterilization of Ultrasound Contrast Agent" Lorenzo Albala Co-authors: Utku Kursat Ercan, Suresh Joshi (Advisor: M. Wheatley)
- COMPUTATION AND BIO-MODELING
 "Soft Exoskeleton Force Feedback Interface for Exploring Five Dimensional Stem
 Cell Image Data" Michael Koerner (Advisors: A. Cohen, G. Dion)
- HUMANITIES & SOCIAL SCIENCES
 "Studying the Effects of the Affordable Care Act on Medical Tourism in the US" Andrea Verghese (Advisor: Y. Yotov)
- TRANSLATIONAL AND CLINICAL
 "Feedback-controlled System to Titrate Oxygen Delivery" Parth Panchal Co-authors: Andrea Verghese, Kaushal Patel, and David Weinstock (Advisors: K. Izzetoglu, R. Hamilton)

BIOMED Students Are Nominated for Graduate Student Teaching Excellence Awards

The following students in BIOMED were nominated for the 2014 Drexel Graduate Student Teaching Excellence Award:

- Lauren Jablonowski (Advisor: M. Wheatley)
- Ceylan Tanes (Advisor: A. Tozeren)
- Nutte Tarn Teraphongphom (Advisor: M. Wheatley)
- David Wallace (Advisor: S. Giszter)
- Kelly Zaccheo (Advisor: K. Barbee)

Angeline Aguinaldo, Tyler Brennan, Will Dampier, Claudia Gutierrez, Josa Hanzlik, and Rebecca Walker Receive 2014 Student Life Awards

Student Affairs and the Undergraduate Student Government Association collaborate to recognize and reward Drexel community members who have made significant contributions

to student life at the University and in the surrounding community. Student Life Awards recipients for 2014 from the BIOMED community include:

- Rising Leader of the Year: Angeline Aguinaldo
- Charles E. Etting Award: Tyler Brennan and Josa Hanzlik
- Alexander Van Rensselaer Service Award: Rebecca Walker and Claudia Gutierrez
- Club Sports Coach of the Year: Will Dampier, Judo
- Student Organization Outstanding Service Award: Drexel Graduate Women in Science and Engineering (founded by Josa Hanzlik)
- New Student Organization of the Year: Medical Device Entrepreneurship Association (Austin Sacks / Organization advisor: Baruch Ben Dor)

Lorenzo Albala Wins the John Semanik Award at the Drexel Dragons' Annual Best of Blue and Gold Banquet

Lorenzo Albala, BS/MS student in BIOMED, earned the John Semanik Award for his accomplishments as an all-around top male student-athlete who demonstrates the ideals of collegiate athletics, especially academic achievement, athletic leadership, and community service.

Ashley Azar and Paul Partyka Each Receive a DAAD RISE (Research Internships in Science and Engineering) Professional Award

Ashley Azar, PhD candidate in BIOMED (Advisor: C. Sell), and Paul Partyka, graduate student in BIOMED (Advisor: H. Ayaz), each received a DAAD RISE (Research Internships in Science and Engineering) professional award for 2014 summer research. Paul will do research on ultra broad bandwidth impedance spectroscopy for characterization of biological matter at the Institute for Bioprocessing and Analytical Measurement Techniques (IBA) in Heilbad Heiligenstadt, Germany.

Rosemary Bastian and Tony Yu Win the 2014 Drexel Commencement Awards for Outstanding Doctoral and Master's Dissertation in the Physical Life Sciences

Rosemary Bastian, PhD candidate in BIOMED (Advisor: I. Chaiken and A. Shieh), and Tony Yu, BS/MS student in BIOMED (Advisor: K. Spiller), won the 2014 Drexel Commencement Awards for Outstanding Doctoral and Master's Dissertations in the Physical Life Sciences Category for their theses titled "Irreversible Breakdown of HIV-1 by Peptide Triazole Thiols and Multivalent Gold Nanoparticle Conjugates" and "Design and Validation of a Mathematical Model to Describe Macrophage Dynamics in Wound Healing," respectively. They will be recognized for their achievements at Commencement on June 14, 2014 in the Daskalakis Athletic Center.

 Rosemary and colleagues published a paper titled "Interactions of Peptide Triazole Thiols with Env Gp120 Induce Irreversible Breakdown and Inactivation of HIV-1 Virions" (Co-Authors: M. Contarino, LD Bailey, R. Aneja, DR Moreira, K. Freedman, K. McFadden, C. Duffy, A. Emileh, G. Leslie, JM Jacobson, JA Hoxie, and I. Chaiken) in the journal Retrovirology.

Chris Bawiec and Youhan Sunny Give an Invited Talk on Tether-free, Wearable Ultrasound Sources for Operation at the 12th Annual Ultrasonic Transducer Engineering Conference (UTEC)

Chris Bawiec and Youhan Sunny, both PhD candidates in BIOMED (Advisor: P. Lewin), gave an invited talk titled "Tether-free, Wearable Ultrasound Sources for Operation in 20– 100 kHz Bandwidth" (Co-authors: Y. Sunny, C. Bawiec, P. Lewin, M. Weingarten, L. Zubkov, J. Samuels, and D. Margolis) at the NIH sponsored 12th Annual Ultrasonic Transducer Engineering Conference (UTEC) in Los Angeles, CA.

 Chris and Youhan hosted and presented to a group of middle school girls who visited the School of Biomedical Engineering, Science and Health Systems on "Introduce a Girl to Engineering Day!" as part of the School's continued support of Drexel's STEM outreach activities.

Aparna Bhattacharyya Wins 1st Place in the Wound Healing Society Conference 2014 Poster Competition

Aparna Bhattacharyya, PhD candidate in BIOMED (Advisor: K. Barbee), won 1st Place and a \$500 cash prize at the Wound Healing Society Conference 2014 Poster Competition, held in Orlando, FL, for the poster titled "Controlled Release of Nitric Oxide through Zeolite Sachets" (Co-author: M. Neidrauer).

Nathaniel Bridges Is Awarded a Department of Defense (DoD) Science, Mathematics and Research for Transformation (SMART) Scholarship for Service

Nathaniel Bridges, PhD candidate in BIOMED (Advisor: K. Moxon), was awarded a DoD Science, Mathematics and Research for Transformation (SMART) Scholarship for Service that will provide full tuition coverage. The SMART Scholarship for Service program was established to support undergraduate and graduate students pursuing degrees in Science, Technology, Engineering and Mathematics (STEM) disciplines.

Daphney Chery and Robert Shultz Each Receive a National Science Foundation (NSF) GK-12 Fellowship

Daphney Chery and Robert Shultz, both PhD candidates in BIOMED (Advisors: L. Han and Y. Zhong, respectively), each received an NSF GK-12 Education Fellowship for training in science, technology, engineering, and mathematics (STEM), along with a 1-year \$30K stipend and coverage of tuition and fees. In return, they will partner up with a local high school teacher to develop lesson plans and activities that will integrate engineering grand challenges into their curriculums.

Raha Dastgheyb Wins 1st Place in the Graduate Poster Presentation Category at the 2014 Northeast Bioengineering Conference (NEBEC)

Raha Dastgheyb, PhD candidate in BIOMED (Advisor: K. Barbee), won 1st Place in the graduate poster presentation category at the 2014 Northeast Bioengineering Conference (NEBEC) at Northeastern University for the poster titled "The Role of Intracellular Calcium in Axonal Injury."

 Raha received a \$500 travel grant to attend the 2014 National Neurotrauma Society Symposium in San Francisco, CA. Raha will present her poster titled "Secondary Membrane Damage and the Potential for Membrane-Targeted Neuroprotection."

Jhan-Duc Duclos Wins a Drexel University 2014 Cooperative Education Award

Jhan-Duc Duclos, BS/MS student in BIOMED, won a Drexel University 2014 Cooperative Education Award for fulfilling the goals and ideals of cooperative education.

Christopher Flounders, Alison Oxenberg, and Team Members Organize Inaugural Biomedical Engineering (BME) Week

Christopher Flounders, undergraduate student in BIOMED, Alison Oxenberg, undergraduate advisor in BIOMED, and team members organized the inaugural Biomedical Engineering (BME) Week, with the help of a Drexel University Alumni Association grant and other funding. BME Week was organized around the theme "Startups and Translational Research" and included lectures and seminars on translational research, startup companies, and a research and design showcase.

Sachin Gandhi and Rishiraj Mathur Win 2nd Place at the 2014 Philadelphia Impactathon Healthcare Solutions Competition

Sachin Gandhi and Rishiraj Mathur, both undergraduate students in BIOMED, won 2nd Place at the 2014 Philadelphia Impactathon healthcare solutions competition. Sachin and Rishiraj created an easy to assemble and economical solar panel kit that costs less than \$4 dollars per kit and whose electronics are sourced from old appliances.

Ellen Giranda, Allison Kosydar, Caitlin Kealy, Michael McNichol, and Renee Nester Win 1st Place in the 2014 BIOMED Senior Design Competition and the Faculty Choice Award in the 2014 CoE Senior Design Competition

Ellen Giranda, Allison Kosydar, Caitlin Kealy, Michael McNichol, and Renee Nester, all undergraduate students in BIOMED (Advisors: Kenneth Barbee, Vinay Nadkarni, and Benjamin Abella), won 1st Place in the 2014 School of Biomedical Engineering, Science, and Health Systems Senior Design Competition and the Faculty Choice Award in the 2014 College of Engineering (CoE) Senior Design Competition for their project titled "Shivering Detection Method for Adult Cardiac Arrest Patients Undergoing Targeted Temperature Management." The two Runner-Up teams are listed below and will be honored along with the 1st Place team at the 2014 BIOMED Commencement and Honors Celebration.

Runners-Up Team 1: "Optimized Vesicle-based Drug Delivery System for the Delivery of a Syk Inhibitor to Mitigate the Effects of UV-radiation"

Members: Chelsey Calvo, Jhan-Duc Duclos, Stephane Guillou, and Jennifer Wilkin Advisor: Andres Kriete

Runners-Up Team 2: "Development of a Solution for Biofilms in Chronic Wounds" Members: Francis DiGennaro, Siddharth Joshi, Niraj Maniar, Dylan Narsingh, and Kevin Sacherman

Advisor: Michael Neidrauer

Josa Hanzlik Receives a National Science Foundation (NSF) Fellowship To Attend the 13th NSF International Summer School on Biocomplexity and Biodesign

Josa Hanzlik, PhD candidate in BIOMED (Advisor: S. Kurtz), received an NSF Fellowship to attend the 13th NSF International Summer School on Biocomplexity and Biodesign in Istanbul, Turkey.

 Josa was featured in a DrexelNOW article titled "How One Student Created a Path for Aspiring Women Engineers." The article discusses Josa's career path in biomedical engineering and how she founded the Drexel Graduate Women in Science and Engineering (DGWISE) group to create a supportive outlet for graduate women in science and engineering programs.

Latifa Jackson Is Nominated for a Great Promise to Enhance Drexel's Reputation Award

Latifa Jackson, PhD candidate in BIOMED (Advisor: A. Tozeren), was nominated for a 2014 Great Promise to Enhance Drexel's Reputation Award.

- Latifa and her teammates (N. Szapiro, R. Pickett, V. Nneji, A. Seminario, W. Vasquez and D. Mesa) won the Fan Favorite Award at the Extreme Science and Engineering Digital Environment (XSEDE) 2013 Student Programming Competition in San Diego, CA.
- Latifa received the Federation of American Societies for Experimental Biology Minority Access to Research Careers (FASEB MARC) Travel Award to attend the American Society for Human Genetics annual meeting in Boston, MA.

Suganya Karunakaran and Anitha Manohar Each Receive an Office of Graduate Studies Dissertation Fellowship

Suganya Karunakaran and Anitha Manohar, both PhD candidates in BIOMED (Advisor: K. Moxon), each received a 2014 Office of Graduate Studies dissertation fellowship.

Michael Koerner Presents His Research Poster at the 2014 Posters on the Hill Event

Michael Koerner, undergraduate student in BIOMED, presented his poster titled "Soft Exoskeleton Force Feedback Interface for Exploring Five Dimensional Stem Cell Image Data" (Co-authors: M. Koerner, E. Wait, M. Winter, C. Bjornsson, S.K. Goderie, S. Temple, and A.R. Cohen) at the 18th Annual Posters on Capitol Hill event in Washington, DC. Michael is collaborating with Dr. Andrew Cohen (ECE) on new ways to explore bioimaging Student Accomplishments and Highlights

data using tactile feedback.

 Michael will present his paper titled "Multisensory Interface for 5D Stem Cell Image Volumes" (Co-authors: E. Wait, M. Winter, C. Bjornsson, S.K. Goderie, S. Temple, and A.R Cohen) at the 2014 IEEE Engineering in Medicine and Biology Conference (EMBC) in Chicago, IL.

John Lee Receives a Lindau Meeting of Nobel Laureates Graduate Student Travel Award

John Lee, MD/PhD student in CoM and BIOMED (Advisor: S. Giszter), received a Lindau Meeting of Nobel Laureates Graduate Student Travel Award to attend the meeting of Nobel Laureates for Medicine and Physiology in Lindau, Germany. The meeting offers students the opportunity to hear lectures and interact directly with Nobel laureates with the goal of inspiring the next generation of scientists worldwide.

 John won 2nd Place in the MD/PhD category at the College of Medicine's Medical Student Research Day for the poster titled "Investigating Combination Therapies of Robot Rehabilitation and Viral Delivery of Brain-Derived Neurotrophic Factor (BDNF) in Treating Adult Spinal Cord Injury (SCI)."

Savannah Lee and Neha Thomas Win 1st Place in the 2013 Society of Women Engineers (SWE) Undergraduate Collegiate Poster Competition

Savannah Lee and Neha Thomas, both undergraduate students in BIOMED, won 1st Place in the 2013 Society of Women Engineers (SWE) Undergraduate Collegiate Poster Competition for their poster titled "Measuring Dehydration through Skin Conductivity."

Glen Marzalowicz, Amrit Misra, and Sina Nassiri Receive 2014 Graduate Student Day Awards

The Office of Graduate Studies' Graduate Student Research Excellence Committee recognized the following BIOMED graduate students for their outstanding contributions to the Drexel community:

- Teaching Excellence Award: Glen Marzalowicz (Advisors: K. Pourrezaei and S. Waldman)
- Research Excellence Award (Doctoral): Amrit Misra (Advisor: K. Moxon)
- Continued Teaching Excellence Award: Sina Nassiri (Advisor: K. Spiller)

Justin Melunis Receives a Department of Education Graduate Assistance in Areas of National Need (GAANN) Fellowship for the Field of infectious Disease Bioinformatics Justin Melunis, PhD candidate in BIOMED (Advisor: U. Hershberg), received a Department of Education Graduate Assistance in Areas of National Need (GAANN) fellowship in the field of infectious disease bioinformatics.

Justin received a Society for Mathematical Biology fellowship and an Office of Graduate Studies travel grant to present the poster titled "CD28 Co-Stimulation Effects on Calcium Influx of Immature Thymocytes" (Co-authors: C.T. Berry, P. Doonan, B. Freedman, and U. Hershberg) at the 3rd International Workshop on Systems Approaches in Immunology and Infectious Diseases in Santa Fe, NM.

Amrit Misra Wins 3rd Place in the Outstanding Senior Graduate Student Poster Category at the Drexel Discovery Day Presentation Awards

Amrit Misra, MD/PhD student in CoM and BIOMED (Advisors: M. Sperling and K. Moxon), won 3rd Place in the Outstanding Senior Graduate Student Poster Category for the poster titled "Human Single Neuron Dynamics during Recruitment of Non-epileptogenic Networks into Generalizing Seizure" (Co-authors: X. Long, M. Sperling, A. Sharran, and K. Moxon) at the Drexel Discovery Day Presentation Awards.

 Published the article titled "Preventing Neuronal Damage and Inflammation In Vivo during Cortical Microelectrode Implantation through the Use of Poloxamer P-188" (Co-authors: P. Kondaveeti, J. Nissanov, K. Barbee, P. Shewokis, L. Rioux, and K.A. Moxon) in the Journal of Neural Engineering.

Sina Nassiri Receives a 2014 Iranian Cultural Society of America Academic Scholarship

Sina Nassiri, PhD candidate in BIOMED (Advisor: K. Spiller), received an Iranian Cultural Society of America Academic Scholarship for 2014.

 Sina received an Honorable Mention Student Travel Achievement Award for the paper titled "Modeling of Macrophage-Mediated Controlled Release System for the Treatment of Diabetic Wounds" (Co-author: K. Spiller) at the Society for Biomaterials (SFB) 2014 annual meeting in Denver, CO. The paper was nominated as an outstanding contribution to the SFB meeting.

Averie Palovcak Wins 1st Place in the Undergraduate Division at the American Chemical Society's 14th Annual Student Poster Session

Averie Palovcak, undergraduate student in BIOMED, won 1st Place in the Undergraduate Division at the American Chemical Society's 14th Annual Student Poster Session for the poster titled "Targeting Malignancies with Apoptosis-Inducing Ultrasound Contrast Agents." Averie is a former STAR student of Dr. Margaret Wheatley.

Parth Panchal Wins 3rd Place in the Close School's Laurence A. Baiada Institute for Entrepreneurship 2014 Ian J. Berg Business Plan Competition

Parth Panchal, undergraduate student in BIOMED, won 3rd Place in the Ian J. Berg Business Plan Competition for his project titled "SAVE Simulation: Surgical Aid via Visual Experience," a learning tool for physicians and medical professionals.

Dhairya Pujara Appears in a Philadelphia Business Journal Cover Story on Creating Ycenter and Organizing Philadelphia's First Impactathon Healthcare Solutions Competition

Dhairya Pujara, alumnus in BIOMED and Founder and CEO for Ycenter, appeared in a Philadelphia Business Journal cover story titled "Not Your Everyday Study Abroad Program" about the formation of Ycenter, an informational immersive program for higher education students. Dhairya's company recently won a popular choice award at the Philly DoGooder Awards, and organized Philadelphia's first Impactathon, a citywide hackathon styled event whose participants attempt within a 48-hour period to create solutions to solve real challenges in healthcare and education.

Kevin Sacherman and Classmates Design Prototype for Light Therapy Glasses in Drexel's Inaugural Product Design Class

Kevin Sacherman, undergraduate student in BIOMED (Advisor: D. McEachron), and Troy Hudson (CoMAD), designed a prototype for light therapy glasses that infuse light directly into the users' eyes, helping to increase serotonin levels as the light is positioned to the retina. This mobile light therapy helps seasonal affective disorder (SAD) sufferers in a way that fits their lifestyle.

Joshua Samuels Appears in a Healthline.com and Medical Device Daily Article and on New Orleans TV News and Inside Science TV for a New Ultrasound Patch That Heals Chronic Wounds

Joshua Samuels, PhD candidate in BIOMED (Advisor: P. Lewin), appeared in a Healthline. com story titled "New Ultrasound Patch Heals Wounds in Just Four Sessions" and in a Medical Device Daily story titled "Researchers Develop Ultrasound Patch to Heal Chronic Wounds," as well as on New Orleans TV News and Inside Science TV, about Drexel researchers developing an ultrasound patch to help speed the process of chronic wound healing. Dr. Peter Lewin, Richard B. Beard Professor of Biomedical and Electrical and Computer Engineering, and PI on this NIH-sponsored project; Dr. Leonid Zubkov, research professor in BIOMED, and Dr. Michael Weingarten, professor of surgery in CoM, were mentioned as collaborators on the project. Joshua and Dr. Weingarten were also featured Student Accomplishments and Highlights

in a video about their research that appeared on WGNO-TV (New Orleans).

 Joshua gave an invited talk titled "Low Intensity (55 kPa) 20 kHz Ultrasound Heals Venous Ulcers" (Co-authors: J. Samuels, P. Lewin, M. Weingarten, L. Zubkov, C. Bawiec, Y. Sunny, J. McDaniel, L. Jenkins, and D. Margolis) at the 167th Meeting of the Acoustical Society of America in Providence, RI.

Poonam Sharma Receives an Honorable Mention from the National Science Foundation (NSF) Graduate Research Fellowship Program

Poonam Sharma, alumna in BIOMED (BS in BME '12), received an Honorable Mention from the prestigious NSF Graduate Research Fellowship Program (GRFP).

Venkat Sundaram and Rosemary Bastian Each Receive a Young Investigator Award To Present at the 2014 Conference on Retroviruses and Opportunistic Infections (CROI)

Venkat Sundaram and Rosemary Bastian, both PhD candidates in BIOMED (Advisors: I. Chaiken and A. Shieh), each received a Young Investigator Award to present at the 2014 Conference on Retroviruses and Opportunistic Infections (CROI) in Boston, MA. Venkat and Rosemary presented the papers titled "Interplay of Cholesterol and Env Protein in the Lytic Deformation of HIV-1 by Peptide Triazoles" and "Irreversible Inactivation and Breakdown of HIV1 with Env-gp120 Targeting Peptide Triazole Thiols," respectively.

 Venkat and Rosemary were mentioned in a ScienceBlog.com post about Drexel researchers developing a molecule that can combat HIV.

Alimatou Tchafa Is Nominated for a Research Excellence Graduate Student Award

Alimatou Tchafa, PhD candidate in BIOMED (Advisor: A. Shieh), was nominated for a 2014 Drexel Research Excellence Graduate Student Award at the doctoral level.

Mariya Tohfafarosh Receives a Society of Tribologists and Lubrication Engineers Scholarship for Her Research on Hydrogel Tribology and Knee Joint Finite Element Modeling

Mariya Tohfafarosh, PhD candidate in BIOMED (Advisor: S. Kurtz), received a \$2K scholarship from the Society of Tribologists and Lubrication Engineers for her research on hydrogel tribology and knee joint finite element modeling.

Mesut Yucel Gives a Lecture at the Spatial Computing Workshop at the 13th Autonomous Agents and Multiagent Systems Conference

Mesut Yucel, graduate student in BIOMED (Advisor: U. Hershberg), gave a lecture titled "Memory As an Organizer of Dynamic Modules In a Network of Potential Interactions" (Coauthor: U. Hershberg) at the Spatial Computing Workshop at the13th Autonomous Agents and Multiagent Systems conference in Paris, France.









Recoedrch Control 2014





FACULTY AND STAFF ACCOMPLISHMENTS AND HIGHLIGHTS

BIOMED Faculty Members Receive 2014 Wallace H. Coulter Translational Research Grants

The following BIOMED faculty members received a 2014 Wallace H. Coulter Translational Research Grant:

Drs. Meltem Izzetoglu, research assistant professor in BIOMED, Baruch Ben Dor, entrepreneur in residence in BIOMED, Peter Le Roux and James Schuster (both at UPenn) received \$99.89K in Coulter funding for the project "Non-Invasive Hand-Held Brain Edema Monitoring System."

Drs. Meltem Izzetoglu, research assistant professor in BIOMED, Zvia Breznitz, and Itamar Sela (both at Safra Brain Research Center for the Study of Learning Disabilities, U. of Haifa) received \$61.46K in Coulter seed funding for the project "Reading Acceleration Program (RAP) for the Enhancement of Reading Skills of Atypical Readers."

Drs. Peter A. Lewin, Richard B. Beard Professor of Biomedical and Electrical and Computer Engineering, and Michael S. Weingarten (CoM) received \$44.3K in Coulter seed funding for the project "Theranostic Acousto-Optic Chronic Wound Management Device."

Drs. Kambiz Pourrezaei, professor in BIOMED, and Rose Ann DiMaria-Ghalili (CNHP) received \$49.37K in Coulter seed funding for the project "Smart Cup: Development of A Device to Measure Liquid Intake."

Drs. Margaret Wheatley, John M. Reid Professor in BIOMED, Janet Sawicki (Lankenau Institute for Medical Research), Jonathan Brody, and Charles J. Yeo (both at Thomas Jefferson University) received \$100.8K in Coulter funding for the project "Circumventing Drug Delivery Problems in Advanced Localized Pancreatic Cancer Treatment."

Drs. Leonid Zubkov, research professor in BIOMED, Michael Neidrauer, research assistant professor in BIOMED, Michael S. Weingarten (CoM), and Rose Ann DiMaria-Ghalili (CNHP) received \$99.65K in Coulter funding for the project "Diagnosis of Tissue Injury using Multi-Frequency NIR Spectroscopy."

Dr. Hasan Ayaz, Dr. Meltem Izzetoglu, and Juan Du Receive a Grant from InfraScan Handheld Brain Diagnostics to Fund Three Research Positions

Dr. Hasan Ayaz and Dr. Meltem Izzetoglu, both research assistant professors in BIOMED, and Juan Du, research scientist in BIOMED, received a \$150K grant from InfraScan Handheld Brain Diagnostic to fund three research positions in the Cognitive Neuroengineering and Quantitative Experimental Research (CONQUER) group. InfraScan is the maker of the Infrascanner, a hand-held, point-of-care device developed in part by a team in BIOMED to be used in emergency rooms to detect bleeding in traumatic brain injury.

- Drs. Ayaz and Jennifer Nasser (PI), associate professor in CNHP, received a 1-year \$75K Drexel Clinical & Translational Research Institute (CTRI) Seed Fund grant for the project titled "fNIRS Assessment of Dorsolateral and Dorsomedial Prefrontal Cortex in Response to Food as a Marker for Loss of Control."
- Cited in Le Monde de l'Intelligence in an article on optimizing mental workload and on the studies he conducted on air traffic controllers using fNIRS to follow brain activity linked to mental workload, working memory or decision-making in a natural work environment.

Dr. Sriram Balasubramanian Receives a Grant from the Pediatric Orthopaedic Society of North America (POSNA) for His Spinal Fusion and Instrumentation on Rib Position Project

Dr. Sriram Balasubramanian, assistant professor in BIOMED, received a \$30K grant from the Pediatric Orthopaedic Society of North America (POSNA) for the project titled "Effects of Spinal Fusion and Instrumentation on Rib Position, Costovertebral Joint Geometry and Vertebral Morphology in Adolescent Idiopathic Scoliosis."

Drs. Baruch Ben Dor and Robert Hart Are Cited in a Technically Philly Post on Pennsylvania's Plan To Fund Early Stage Technological Development Projects

Drs. Baruch Ben Dor, Entrepreneur in Residence in BIOMED and CEO, InfraScan, and Robert Hart, alumnus in BIOMED and President and CTO, Optofluidics, were cited in a Technically Philly post on Pennsylvania's \$75M plan to fund early stage technological development projects throughout the state.

Dr. Uri Hershberg and Colleague Receive an NIH Grant for Their Tissue Compartmentalization of Human Lymphocytes Project

Dr. Uri Hershberg, assistant professor in BIOMED, and Donna Farber (Columbia University – PI) received an \$89.2K NIH Program Project Grant for the project "Tissue Compartmentalization of Human Lymphocytes."

- Received with Brian Wigdahl (CoM Co-PI) a \$75K grant from the Pennsylvania Department of Health's Commonwealth Universal Research Enhancement (CURE) program for the project titled "HIV-1 Viral Reservoir Persistence and CTL Surveillance during Effective Therapy."
- Received with Erin Reichenberger, PhD candidate and Calhoun Fellow in BIOMED (Advisors: U. Hershberg and G. Rosen), a \$20K Louis and Bessie Stein Family Fellowship for Exchanges with Israeli Universities for their proposal titled "Does a Viral-Bacterial Arms Race Drive Variation in Bacterial Nucleotide Content?"
- Cited with Gail Rosen (ECE) in an article in The Scientist about an ongoing day-care microbiome project they lead and how researchers are taking advantage of rapid and cheap DNA sequencing technologies to map the bacterial microbiome of New York City.
- Gave invited talks at the CHOP, Drexel, and Hebrew University Translational Biomedical Research Symposium; the Department of Medicine, Karolinska Institute, Stockholm, Sweden; the Department of Biology, Immunology and Microbiology at Brooklyn College; and the Bar Ilan University in Israel.
- Published with his students Gregory W. Schwartz, Bochao Zhang, Justin Melunis, and Mesut Yucel articles in the Journal of Arthritis Research and Therapy, Frontiers in Immunology, the Journal of Experimental Medicine, and the Proceedings of the 2014 Spatial Computing Workshop, 13th Autonomous Agents and Multiagent Systems.

Dr. Kurtulus Izzetoglu and Colleagues Receive Three Additional Department of Transportation–Federal Aviation Administration (DOT–FAA) Grants

Dr. Kurtulus Izzetoglu, research assistant professor in BIOMED (PI), and colleagues received a 1.5-year \$300K DOT–FAA grant for the project "Development and Validation of Enhanced AGENTFLY Simulation Platform with ATC Agent." Dr. Izzetoglu and colleagues also received a 1.5-year \$270K DOT–FAA grant for the project "Development of the EEG Neuroergonomics Toolbox or EEGNT," as well as a 1-year \$25K DOT–FAA grant for the project "Participation in Human Factors Research."

Dr. Meltem Izzetoglu Is Featured in a DrexelNOW Article on Using Near Infrared Light To Study the Brain Function of Students with Learning Disabilities

Dr. Meltem Izzetoglu, research assistant professor in BIOMED, was featured in a DrexelNOW article titled "A Personal Trainer for Learning to Read" on using near-infrared

light to study the brain function of students with learning disabilities. She is collaborating with Drs. Olga Chuntonov and Zvia Breznitz, both from the Edmond J. Safra Brain Research Center for the Study of Learning Disabilities, University of Haifa, Israel, along with experts in reading disabilities, to create a reading tutorial program that can adapt to the learning pace of people with learning disabilities.

Dr. Joshua Jacobs and Colleagues Publish a Paper on Neuronal Activity in Human Spatial Navigation in the Journal Nature Neuroscience and Present at the 12th Annual Summer Interdisciplinary Conference (ASIC)

Dr. Joshua Jacobs, assistant professor in BIOMED, and colleagues published a paper titled "Direct Recordings of Grid-like Neuronal Activity in Human Spatial Navigation" (Co-authors: C. Weidemann, J. Miller, A. Solway, J. Burke, X. Wei, N. Suthana, M. Sperling, A. Sharan, I. Fried, and M. Kahana) in the journal Nature Neuroscience and presented the paper at the 12th Annual Summer Interdisciplinary Conference (ASIC) in Dolomites, Italy.

 Quoted in stories in the NY Times and The Times of India, as well as in the Huffington Post, FOX News.com, Science News, Science World Report, Medical Daily, and Popular Mechanics about his team's discovery of brain cells as "grid neurons" that help humans navigate in open environments.

Drs. Dov Jaron, Ken Barbee, and Donald Buerk Receive an NIH Grant for Their Nitrous Oxide Signaling Cells to Vascular Networks Project

Drs. Dov Jaron, Calhoun Distinguished Professor of Engineering in Medicine in BIOMED (PI), Ken Barbee, professor and deputy director in BIOMED, and Donald Buerk, research professor in BIOMED, were awarded a 5-year \$3.5M NIH grant for the project titled "Multiscale, Transport-Dependent NO Signaling: Cells to Vascular Networks." The goal is to develop a unique multi-scale mathematical model that will provide quantitative information regarding mechanisms governing nitric oxide (NO) activity in the microcirculation and to utilize innovative, real-time experiments to validate the model. Drs. Jaron, Barbee, and Buerk were quoted in Science Daily, Science News and other outlets about their research.

 Dr. Jaron gave a keynote talk on "Systems Analysis of Health and Well Being in the Changing Urban Environment" at the 13th Annual Mediterranean Conference on Medical and Biological Engineering and Computing" in Seville, Spain.

Dr. Yasha Kresh Is Elected Fellow of the Cardiac Division of the American Physiological Society

Dr. Yasha Kresh, professor of cardiothoracic surgery and medicine (cardiology) and research director in CoM and affiliate professor in BIOMED, was elected Fellow of the American Physiological Society (Cardiovascular Section) in recognition of his seminal contributions to the basic understanding of cardiac mechanics and energetics, coronary circulation dynamics, cardiac self-regulation and adaptation, and cellular mechanosensing and molecular mechanotransduction.

- Published with Anant Chopra, BIOMED Alumnus and UPenn College of Medicine, and colleagues the paper titled "Augmentation of Integrin-Mediated Mechanotransduction by Hyaluronic Acid" in the journal Biomaterials.
- Published the paper titled "Left Ventricular Volume Regulation in Heart Failure with Preserved Ejection Fraction" (Co-authors: P. L. M. Kerkhof, J. K. J. Li, and G. R. Heyndrickx) in the journal Physiological Reports.

Drs. Steven Kurtz and Marla Steinbeck Receive a National Institute of Arthritis and Musculoskeletal and Skin (NIAMS) – NIH Renewal Grant for Their Disc Replacement Project

Drs. Steven Kurtz, research associate professor in BIOMED (PI), and Marla Steinbeck, research associate professor in BIOMED (Co-PI), received a 1-year \$292K National Institute of Arthritis and Musculoskeletal and Skin (NIAMS) – NIH renewal grant for their project titled "Wear, Inflammation and Clinical Performance of Total Disc Replacement."

 Dr. Kurtz was cited in a Reuters story about hip replacements that also appeared on FOXNews.com, Yahoo! News, MedCity News, The Orlando Sentinel, and other publications.

Laurie Lenz Presents a Round Table Discussion at the Middle Atlantic Career Counseling Association Annual Conference on How to Create and Run a Peer Mentoring Program

Laurie Lenz, academic advisor in BIOMED, presented a Round Table Discussion on "How to Create and Run a Peer Mentoring Program" at the 43rd annual Middle Atlantic Career Counseling Association (MACCA) conference in Lancaster, PA.

Dr. Peter Lewin and Colleagues Receive a Drexel University Grant for Their Theragnostic Acousto-Optic Chronic Wound Management Device Project

Drs. Peter A. Lewin, Richard B. Beard Professor of Biomedical and Electrical and Computer Engineering, Director, Biomedical Ultrasound Research and Education Center, and Dr. Michael Weingarten (CoM) received a 9-monht \$45K Drexel University grant for the project titled "Theragnostic Acousto-Optic Chronic Wound Management Device."

- Developed with Dr. Leonid Zubkov, research professor in BIOMED, Dr. Michael Weingarten (CoM), and Joshua Samuels, Chris Bawiec, and Youhan Sunny, all doctoral students in BIOMED (Advisor: P. Lewin), an NIH-funded alternative, fully non-invasive approach to healing chronic wounds using ultrasound technology in the form of a patch. A hi-res image of the device was part of a National Institute of Biomedical Imaging and Bioengineering (NIBIB) exhibit featured at national meetings and other events.
- Gave an invited talk at the 2013 IEEE Ultrasound Symposium in Prague, Czech Republic on recent advances in ultrasound field measurements and devices during a tutorial entitled "Hydrophone-based Measurement of Ultrasonic Fields for Biomedical, Non-Destructive Testing and Regulatory (US FDA) Applications." Dr. Lewin was one of the two speakers invited who are affiliated solely with the respective national metrology or standards laboratories, including the FDA, the Center for Devices and Radiological Health, the National Physical Laboratory (NPL) in the United Kingdom, and the Physikalisch-Technische Bundesanstalt (PTB) in Germany. He was also invited to present an extended lecture on this topic in Germany.
- Cited along with Dr. Steven Wrenn (CoE) in an NSF blog post and a LiveScience post regarding their research using ultrasound technology to deliver customized medication through the skin.

Dr. Hualou Liang, Xiajing Gong, and Colleagues Publish an Article on Top-Down Influences on Visual Processing in the Journal Neuron

Dr. Hualou Liang, professor in BIOMED, Xiajing Gong, PhD candidate in BIOMED (Advisor: H. Liang), and colleagues published a paper titled "Incremental Integration of Global Contours through Interplay between Visual Cortical Areas" (Co-authors: M. Chen, Y. Yan, C.D. Gilbert, and W. Li) in the journal Neuron.

 Gave an invited presentation titled "Attentional Effects between Single Neurons and Oscillatory Activity in Visual Cortex" at the 2nd International Cognitive Science Symposium in Beijing, China.

Dr. Michele Marcolongo Is Elected to the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows

Dr. Michele Marcolongo, assistant professor in MSE and affiliate professor in BIOMED, was elected to the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE) based on her record of achievements in research, development, education, public service, and technological leadership as they relate to medical and biological engineering.

Dr. Don McEachron and Colleagues Publish an Article on Chronobioengineering Indoor Lighting to Enhance Facilities for Aging and Alzheimer's Disorder in the Journal Intelligent Buildings International

Dr. Donald McEachron, research professor and associate director in BIOMED, published the article titled "Chronobioengineering Indoor Lighting to Enhance Facilities for Aging and Alzheimer's Disorder" (Co-authors: E. V. Ellisa and E. W. Gonzalez) in the journal Intelligent Buildings International.

 Drs. McEachron and Eugenia Ellis (CoMAD) and their research on endless ambient light exposure were featured in a Drexel EXEL article titled "The Power of Light."

Dr. Karen Moxon Publishes Paper on Promoting Cortical Reorganization after Spinal Cord Injury in the Journal Experimental Neurology

Dr. Karen Moxon, professor in BIOMED, published the article titled "Serotonergic Pharmacotherapy Promotes Cortical Reorganization after Spinal Cord Injury" (Co-authors: P.D. Ganzer, E.B. Knudsen, and J.S. Shumsky) in the peer-reviewed medical journal Experimental Neurology.

Dr. Banu Onaral, Dr. Sriram Balasubramanian, Davood Tashayyod, and Philadelphia Pediatric Device Consortium (PPDC) Collaborators Receive an FDA Grant To Research and Design Medical Devices for Children

Dr. Banu Onaral, H. H. Sun Professor and Director, School of Biomedical Engineering, Science and Health Systems, Dr. Sriram Balasubramanian, assistant professor in BIOMED, and collaborators from the Philadelphia Pediatric Device Consortium (PPDC) received a 5-yr. \$1.5 million FDA grant to address a shortage of medical devices designed for children. The Consortium brings together experts from Drexel University, Children's Hospital of Philadelphia (CHOP), and the University of Pennsylvania and will provide clinical, business and regulatory expertise, as well as seed funding, to help translate promising, innovative ideas into commercial devices for use in young patients. The Consortium also hosted an FDA Site Visit with presentations at CHOP, the University of Pennsylvania, and Drexel University.

- Drs. Onaral and Kurtulus Izzetoglu, assistant professor in BIOMED, and colleagues from CoM and CNHP were quoted in a Philadelphia Inquirer story on Drexel research that uses functional near-infrared spectroscopy (fNIRS) technology.
- Gave a presentation titled "Global Innovation Partnerships" at the Organization for Economic Co-operation and Development (OECD) Global Knowledge Economy Forum in Istanbul, Turkey.
- Gave a presentation titled "fNIR: A Functional Optical Brain Monitoring Modality for Cognitive Performance" at the NSF Workshop on Mapping and Engineering in the Brain in Arlington, VA.
- Featured in a Science Translational Medicine Q&A and podcast.

Dr. Patricia Shewokis and Team Members Receive a National Science Foundation (NSF) Research Experiences for Undergraduates (REU) Supplement

Dr. Patricia Shewokis, professor in CNHP with a joint appointment in BIOMED, and team members received a 1-year \$16K NSF Research Experiences for Undergraduates (REU) Supplement for funding undergraduate student research under the Neuroprosthetics Award.

 Interviewed on WHYY's "Radio Times with Marty Moss-Coane" about local work in prosthetic development and amputee rehabilitation.

Dr. Wan Shih and Colleagues Develop the Technology for the Philadelphia Business Journal's Selection as Best Medical Device

Dr. Wan Shih, associate professor in BIOMED, and her colleagues developed the technology for the Intelligent Breast Exam device that the Philadelphia Business Journal innovation awards section named "Best Medical Device." This is an ultra-portable wireless device that allows doctors and women to conveniently and easily screen for breast cancer without pain, radiation or any discomfort.

Dr. Kara Spiller Is Named as an Associate Scientific Advisor of the Journal Science Translational Medicine for 2014

Dr. Kara Spiller, assistant professor in BIOMED, was named by the American Association for the Advancement of Science (AAAS) as an Associate Scientific Advisor of the journal Science Translational Medicine for 2014.

Drs. Aydin Tozeren, Adam Ertel, Mike Gormley, and Colleagues Publish an Article on microRNA Processing and Expression in Breast Cancer in the Journal Nature

Drs. Aydin Tozeren, distinguished professor and director, Center for Integrated Bioinformatics, Adam Ertel and Mike Gormley, both alumni in BIOMED, and colleagues published the article titled "Cyclin D1 Induction of Dicer Governs microRNA Processing and Expression in Breast Cancer" (Co-authors: Z. Yu, L. Wang, C. Wang, X. Ju, M. Wang, K. Chen, E. Loro, Z. Li, Y. Zhang, K. Wu, M.C. Casimiro, P. Fortina, Y. Chen, Z. Liu, and R.G. Pestell) in the journal Nature.

Dr. Ming Xiao and Colleague Receive an NIH Grant for Their Single Molecule DNA Mapping for Genome and CNV Analysis Project

Dr. Ming Xiao, research professor in BIOMED, and Pui-Yan Kwok (University of California at San Francisco) received a 1-year \$716K NIH–National Human Genome Research Institute grant for the project titled "Single Molecule DNA Mapping for Genome and CNV Analysis" to optimize a new, highly flexible and automated method for optical genome mapping for general use.

 Drs. Xiao and Harold Riethman (PI – Wistar Institute) and colleagues received a 1-year \$263K NIH grant for the project titled "Nanomapping-assisted Analysis of Human Telomere Regions" to modify and extend a new, highly accurate highthroughput single-molecule mapping technique ("nanomapping") for efficient mapassisted next-gen sequencing.

Dr. Yinghui Zhong Receives an NIH Grant to Support Her Work on Novel Materials for Localized Delivery of Neuroprotective Drugs

Dr. Yinghui Zhong, assistant professor in BIOMED, received a 2-year \$425K NIH grant to support her work on novel materials for localized delivery of neuroprotective drugs to patients with spinal cord injury.

- Received with her mentor, Dr. John Houle (CoM), a 1-year \$149K Landenberger Foundation grant for the project titled "Local Delivery of Minocycline and BDNF to Promote Neuroprotection and Functional Recovery after Spinal Cord Injury."
- Received as a co-PI with Simon Giszter (CoM PI) and Denise Garcia (CoM Co-PI) a 1-year \$75K Philadelphia Health Education Corporation (PHEC) grant for the project titled "In-vivo 2 Photon Imaging of Neural Plasticity in Mouse Cortex to Compare Chronic Responses to the Drexel Braided Electrodes vs. Standard Microwires, with and without Hydrogel Delivered Trophins." The goal is to study chronic tissue response and brain tissue integration of novel brain electrodes by releasing neurotrophins using non-invasive in-vivo 2-photo imaging so the brain-electrode interface is not disrupted.

Drs. Leonid Zubkov, Michael Neidrauer, Michael Weingarten, and Rose Ann DiMaria-Ghalili Receive a Department of Defense (DOD) Spinal Cord Injury Research Program (SCIRP) Grant

Drs. Leonid Zubkov, research professor (PI), and Michael Neidrauer, research assistant professor, both in BIOMED, and Drs. Michael Weingarten (CoM) and Rose Ann DiMaria-Ghalili (CNHP), received a 3-year \$667K DOD Spinal Cord Injury Research Program (SCIRP) grant for the project titled "Early Diagnosis of Pressure Ulcers by Noninvasive Diffuse Near-Infrared and Correlation Spectroscopy." The funding allows the study of the hemodynamics of pressure ulcers in spinal cord injury patients, with the hope of identifying a reliable method of detecting deep tissue injury before it is clinically apparent. Dr. Peter

Lewin, Richard B. Beard Professor of Biomedical and Electrical and Computer Engineering, Joshua Samuels and David Diaz, both PhD candidates in BIOMED, made valuable contributions to the proposal. Collaboration will also take place with Magee Rehabilitation Hospital co-investigators Dr. Guy Fried, medical director of the Spinal Cord Injury Unit, and Julianne Rece, RN, Spinal Cord Injury Unit.

BIOMED Hosts Drexel's Inaugural Biomedical Engineering (BME) Week

The School of Biomedical Engineering, Science and Health Systems hosted Drexel's inaugural Biomedical Engineering (BME) Week in the Bossone Research Enterprise Center. The themes for BME Week were translational research and startup companies. The week featured seven events, including a tour of the Science Center, seminars on translational research and startup companies, a startup company and small business expo, a Society of Women Engineering (SWE) public health forum, a research and design showcase, a biomedical engineering faculty version of the game Jeopardy, as well as an alumni networking happy hour. More than 250 students and faculty participated in the BME Week events.

BIOMED Co-hosts the Pediatric Translational Research Symposium

Drexel University, the Children's Hospital of Philadelphia (CHOP), and the Hebrew University of Jerusalem came together in January 2014 for a unique symposium with investigators from all three institutions to explore potential areas for collaboration and collaborative grants in pediatric translational research. Drexel University president John Fry, together with the presidents of CHOP and the Hebrew University of Jerusalem, signed a research agreement in November 2013 as part of Philadelphia mayor Michael A. Nutter's trade mission to Israel. The research partnership is designed to focus on pediatric translational research and to develop a collaborative platform for advancing pediatric medicine from the bench to the bedside. The symposium and this collaboration are outgrowths of Drexel's partnership with the Institute of Drug Research in the Department of Pharmacy (IDR) at Hebrew University. The goal of the symposium was to present cuttingedge science that has the potential to benefit from collaboration among investigators at each institution to advance the health care of children. These projects would be supported through dedicated philanthropic efforts. The scientific team from Drexel includes Jim Barrett and Olimpia Meucci (DUCOM) and Karen Moxon (BIOMED), while the team from CHOP is led by Tom Curran, with Bob Levy, Tim Roberts, and Struan Grant. The Hebrew University team is led by Rami Yaka and Simon Benita.

BIOMED Co-hosts the Global Innovation Partnership Forum 2013

Drexel University welcomed innovation, economic development, and investment partners from its regional, national, and international communities to the Global Innovation Partnership (GIP) Forum 2013. The GIP Forum was co-hosted by the Coulter-Drexel Translational Research Partnership Program, the School of Biomedical Engineering, Science and Health Systems, and Drexel's Office of International Programs. The GIP Forum provided an opportunity for innovators and entrepreneurs to forge global relationships inspired by the Coulter Foundation's commitment to translational biomedical research. As a Wallace H. Coulter Foundation Translational Research Partner, Drexel dedicated this event to the Centennial Celebration of the late Wallace H. Coulter's birth and his impact on the development of life-saving solutions.

Student Volunteers and Outreach

The School of Biomedical Engineering, Science and Health Systems would like to thank the following students for their valuable contributions in leading our student recruitment efforts and events this past year:

Undergraduate Volunteers

Dimitri Arhontoulis Enis Banai Tianna Bennett Nicole Ferraro Timothy Hoang Samuel Kern Ivv Koberlein Mike Koerner Evan Lynn Ashlev Malone Jane Roberts Austin Sacks Julie Speer Mengdi Tao Oksana Vovchuk Rachel Wang

Summer Outreach Program Staff (2013/2014)

David Alfego Rosemary Bastian Raha Dastgheyb Jaimie Dougherty Prasannaah Hadagali Brandon Marcinkiewicz James Peters Robert Schultz Arpit Shah Reva Street Venkat Sundaram Hansini Upadhay Mengdi Tao





SCHOOL OF BIOMEDICAL ENGINEERING, SCIENCE AND HEALTH SYSTEMS

DREXEL UNIVERSITY 3141 CHESTNUT STREET PHILADELPHIA, PA 19104 PHONE: 215.895.2215 FAX: 215.895.4983 EMAIL: BIOMED@DREXEL.EDU

WWW.BIOMED.DREXEL.EDU