



18th Annual Plastic Surgery Research Day
Department of Plastic Surgery
University of Pittsburgh
University Club, Ballroom B
Friday, June 25, 2021

The overall goal of the Pitt Plastic Surgery Research Day is to discuss and educate the audience on new concepts and technologies in clinical and translational research in all areas of plastic surgery.

7:30 AM - 8:00 AM	Breakfast
8:00 AM - 8:05 AM	Introduction and Opening Remarks (J. Peter Rubin, MD; Kacey Marra, PhD; Jesse Goldstein, MD)
8:05 AM - 9:00 AM	Visiting Professor - Lecture <i>Pressure Ulcer Evaluation and Management: It's Complicated</i> Gayle M. Gordillo, MD Chief of Plastic Surgery and Medical Director of Wound Services Indiana University School of Medicine President, Plastic Surgery Foundation
9:00 AM - 10:20 AM	Session I - Clinical Research I Presentations (Dr. Carolyn De La Cruz)
10:20 AM - 10:30 AM	Break/Vendor Exhibits
10:30 AM - 11:30 AM	Session II - Basic Science Research Presentations (Dr. Lauren Kokai)
11:30 AM - 11:45 AM	Break/Vendor Exhibits
11:45 AM - 1:00 PM	Lunch
12:00 PM - 1:00 PM	Visiting Professor - Second Lecture <i>Hemangiomas: From Bench to Beside</i> Gayle M. Gordillo, MD
1:00 PM - 2:20 PM	Session III - Clinical Research II Presentations (Dr. Jesse Goldstein)
2:20 PM - 2:30 PM	Break/Vendor Exhibits
2:30 PM - 3:40 PM	Session IV - Education, Quality and Innovation Presentations (Dr. Kacey Marra)
3:40 PM - 3:45 PM	Concluding Remarks (J. Peter Rubin, MD; Kacey Marra, PhD; Jesse Goldstein, MD)
3:45 PM	Adjournment
3:45 PM - 5:30 PM	Rooftop Reception

Course Directors:

Jesse A. Goldstein, MD
Associate Professor of Plastic Surgery
University of Pittsburgh, Pittsburgh, PA

Kacey G. Marra, PhD
Professor and Vice Chair of Research
Department of Plastic Surgery
Professor of Bioengineering
University of Pittsburgh, Pittsburgh, PA

Intended Audience:

The target audience for the meeting includes plastic surgeons in practice and in training, both private and academic, and members of the plastic surgery research community.

Learning Objectives:

At the conclusion of this activity, attendees should be able to:
Demonstrate knowledge of current concepts in plastic and reconstructive surgery;
Access clinical data that will have a direct impact on the everyday practice of plastic surgery,
Integrate basic science research to assist in making better clinical and operative decisions; and
Implement techniques in the areas of patient safety, clinical/surgical outcomes, and complications that will improve their performance and patient outcomes.

In support of improving patient care, the University of Pittsburgh is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Physician (CME)

The University of Pittsburgh designates this live activity for a maximum of 6.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Other health care professionals will receive a certificate of attendance confirming the number of contact hours commensurate with the extent of participation in this activity.

Link to website to register for CME
<https://cce.upmc.com/18th-annual-plastic-surgery-research-day>

Sponsored by:

University of Pittsburgh School of Medicine Center for Continuing Education in the Health Sciences and the Department of Plastic Surgery

The information presented at this CME program represents the views and opinions of the individual presenters, and does not constitute the opinion or endorsement of, or promotion by, the UPMC Center for Continuing Education in the Health Sciences, UPMC / University of Pittsburgh Medical Center or Affiliates and University of Pittsburgh School of Medicine. Reasonable efforts have been taken intending for educational subject matter to be presented in a balanced, unbiased fashion and in compliance with regulatory requirements. However, each program attendee must always use his/her own personal and professional judgment when considering further application of this information, particularly as it may relate to patient diagnostic or treatment decisions including, without limitation, FDA-approved uses and any off-label uses.

Visiting Professor and Keynote Speaker



Gayle M. Gordillo, MD
Chief of Plastic Surgery and
Medical Director of Wound Services
Indiana University School of Medicine
President, Plastic Surgery Foundation

Dr. Gordillo is the Drs. Sanford and Thelma Glanz Professor and Chief of the Division of Plastic Surgery at Indiana University. She currently serves as President for the *Plastic Surgery Foundation*. She is Medical Director of Wound Services for IU Health, which includes oversight of clinical, quality and wound related clinical research activities for the health system. She is the Principal Investigator or co-Principal Investigator of numerous clinical and translational research protocols, which includes industry, NIH, and Department of Defense sponsored projects. She has been continuously funded by NIH as a Principal Investigator (PI) since 2004. She has served as a standing member of the Bioengineering Technology and Surgical Sciences study section for NIH from 2013-2017 and is currently a standing member of the Arthritis Connective Tissue and Skin study section. She previously served on the Board of Directors for the Wound Healing Society and the Plastic Surgery Advisory Council for the American College of Surgeons.



University of Pittsburgh School of Medicine
Department of Plastic Surgery Faculty:

J. Peter Rubin, MD
Professor & Chair

Lauren E. Kokai, PhD
Assistant Professor

Joseph E. Losee, MD
Professor & Executive Vice Chair

Mark Kubik, MD
Assistant Professor

Kacey G. Marra, PhD
Professor & Vice Chair of Research

Ernest K. Manders, MD
Professor Emeritus

Devra B. Becker, MD
Associate Professor

Vu T. Nguyen, MD
Associate Professor & Residency Program Director

Michael R. Bykowski, MD, MS
Assistant Professor

Kenneth C. Shestak, MD
Professor Emeritus

Sydney R. Coleman, MD
Clinical Professor

Mario G. Solari, MD
Assistant Professor

Alexander J. Davit III, MD
Assistant Professor

Alexander M. Spiess, MD
Associate Professor

Carolyn De La Cruz, MD
Associate Professor

Shaum Sridharan, MD
Assistant Professor

Asim Ejaz, PhD
Assistant Professor

Guy M. Stofman, MD
Clinical Professor

Michael L. Gimbel, MD
Associate Professor

Jignesh V. Unadkat, MD
Assistant Professor

Jesse A. Goldstein, MD
Associate Professor

Dawn J. Wang, MD
Assistant Professor

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7:30 AM – 8:00 AM	Breakfast
8:00 AM – 8:05 AM	Introduction and Opening Remarks (J. Peter Rubin, MD; Kacey Marra, PhD; Jesse Goldstein, MD)
8:05 AM – 9:00 AM	<p>Visiting Professor – Lecture</p> <p style="text-align: center;"><i>Pressure Ulcer Evaluation and Management: It's Complicated</i></p> <p>Gayle M. Gordillo, MD Chief of Plastic Surgery and Medical Director of Wound Services Indiana University School of Medicine President, Plastic Surgery Foundation</p>
9:00 AM – 10:20 AM	Session I – Clinical Research I Presentations (Dr. De La Cruz)
9:00 AM – 9:05 AM	<p><i>Enhanced Utility and Operative Efficiency of the Novel Push-to-Spin Handheld (P2S) Fat Graft Processing Device</i></p> <p>Shawn J. Loder, MD; Phoebe Lee, BS; Lauren Kokai, PhD; Beth R. Gusenoff, MD; Jeffrey A. Gusenoff, MD</p>
9:05 AM – 9:10 AM	<p><i>The Impact of Baseline BMI on Longitudinal Weight Change Following Breast Reconstruction</i></p> <p>Eva Roy, BS; Jennifer A. Hall, BS; Xiao Zhu, MD; Francesco M. Egro, MBChB, MSc, MRCS; Carolyn De La Cruz, MD</p>
9:10 AM – 9:15 AM	<p><i>Evaluation of Prolonged vs. Peri-operative Courses of Antibiotic Prophylaxis Following Immediate Implant-Based Breast Reconstruction: A Historical Cohort Study Evaluating the Pitt Plastic Surgery Experience</i></p> <p>Samyd S. Bustos, MD; Casey Zhang, BS; Arnab Ray, BS; Vu T. Nguyen, MD</p>
9:15 AM – 9:20 AM	<p><i>Winking and Blinking: Take a Second Look the Consequences of non-Lateralized Innervation of Levator Palpebrae Superioris as a new diagnostic test for facial nerve function and Recovery</i></p> <p>Patricia Leftwich, MS; S. Tonya Stefko, MD; Jessie Van Swearingen, PhD; Ernest K. Manders, MD</p>
9:20 AM – 9:35 AM	Discussion
9:35 AM – 9:40 AM	<p><i>Disparities in Access to Postmastectomy Breast Reconstruction: Does Living in a Specific Zip Code Determine the Patient's Journey?</i></p> <p>Samyd S. Bustos, MD; Alejandro Munoz-Valencia, MD; Nerone K.O. Douglas, MSc; Steve Evans, MD; Emilia Diego, MD; Carolyn De La Cruz, MD</p>

9:40 AM - 9:45 AM	<i>The Pittsburgh Trunk Lymphedema Staging System (PTLSS) – A Validated Staging System for the Description of Breast Cancer Associated Trunk Lymphedema</i> Elizabeth A. Moroni, MD, MHA ; Jordan E. Fishman, MD, MPH; Carolyn De La Cruz, MD
9:45 AM - 9:50 AM	<i>The use of tranexamic acid in transgender men undergoing subcutaneous mastectomy for chest masculinization</i> Isaac James, MD, MS ; James O'Brien, MS; David Turer, MD, MS; Lorelei Grunwaldt, MD
9:50 AM - 9:55 AM	<i>Optimization of Post-Operative Pain Control for Outpatient Hand Surgery: Soft Tissue, Bone, and Shoulder</i> Justine Kim, MD and Joseph Imbriglia, MD
9:55 AM - 10:00 AM	<i>Use of Bioabsorbable Nerve Conduits as an Adjunct to Obstetrical Brachial Plexus Palsy</i> Nallammai Muthiah, BS ; Jessica A. Lee, MD; Francesco M. Egro, MBChB, MSc, MRCS; Meg Stanger, PT; Lorelei J. Grunwaldt, MD, FACS, FAAP
10:00 AM - 10:15 AM	Discussion
10:15 AM - 10:30 AM	Break/Vendor Exhibits
10:30 AM - 11:30 AM	Session II – Basic Science Research Presentations (Dr. Lauren Kokai)
10:30 AM - 10:35 AM	<i>Cryopreserved Adipose for Hypodermal Augmentation after Full-Thickness Burns</i> Shawn J. Loder, MD ; Phoebe L. Lee, BS; Patricia A. Leftwich, MS; Somaiah Chinnapaka, PhD; Wayne V. Nerone, BS; Kacey G. Marra, PhD; Asim Ejaz, PhD; Lauren E. Kokai, PhD; J. Peter Rubin, MD
10:35 AM - 10:40 AM	<i>Novel Surgical Epibole Model for Humanization of Chronic Wound Healing in Mice</i> Phoebe L Lee, BS ; Shawn Loder, MD; Lauren Kokai, PhD; Peter J. Rubin, MD, FACS
10:40 AM - 10:45 AM	<i>Vitamin D Improves Autologous Fat Graft Retention</i> Phoebe L. Lee, BS ; Shawn Loder, MD; Patricia Leftwich, MS; Wayne Nerone, BS; Kacey G. Marra, PhD; J. Peter Rubin, MD; Lauren E. Kokai, PhD
10:45 AM - 10:50 AM	<i>Allogeneic adipose tissue-derived matrix mitigates radiation-induced fibrosis (RIF)</i> Somaiah Chinnapaka, PhD ; Katherine Yang; Michael W. Epperly, PhD; Wen Hou, MD; Joel S. Greenberger, MD, FACRO, FACR, FASTRO; J. Peter Rubin, MD; Asim Ejaz, PhD
10:50 AM - 11:05 AM	Discussion
11:05 AM - 11:10 AM	<i>An SEM Imaging and Mechanical Testing Analysis of Biodegradable Conduits Containing GDNF Encapsulated PLGA Microspheres for Peripheral Nerve Repair</i> Caroline N. Fedor, BA ; Benjamin K. Schilling, PhD; Wuyang Li, MS, MB; W. Vincent Nerone, BA; Alejandro J. Almarza, PhD; Kacey G. Marra, PhD

11:10 AM - 11:15 AM	<i>Comparison of Walking Track Functional Analysis Methods</i> Jocelyn S. Baker, BS ; Benjamin K. Schilling, PhD; Chiaki Komatsu, MD; Mario G. Solari, MD; Kacey G. Marra, PhD
11:15 AM - 11:20 AM	<i>Facial Nerve Repair in Rats with Poly(caprolactone) Nerve Guides: A Preliminary Study</i> Fuat Baris Bengur, MD ; Jocelyn S. Baker, BS; Caroline Nadia Fedor, BA; Chiaki Komatsu, MD; Wayne Vincent Nerone, BA; Mario G. Solari, MD; Kacey G. Marra, PhD
11:20 AM - 11:25 AM	<i>Development of a Rat Fasciocutaneous Free Flap Model for Extended Isolated Support with an Extracorporeal Perfusion System</i> Ryan A. Orizondo, PhD; Fuat Baris Bengur, MD ; Chiaki Komatsu, MD; Kelly R. Strong; Mario G. Solari, MD
11:25 AM - 11:40 AM	Discussion
11:40 AM - 11:45 AM	Break/Vendor Exhibits
11:45 AM - 1:00 PM	Lunch
12:00 PM - 1:00 PM	Visiting Professor Lecture - Gayle M. Gordillo, MD <i>Hemangiomas: From Bench to Bedside</i>
1:00 PM - 2:20 PM	Session III - Clinical Research II Presentations (Dr. Jesse Goldstein)
1:00 PM - 1:05 PM	<i>Overcorrection in Trigenocephaly: 3D-Based Morphometric Analysis of a Standardized Approach to Fronto-Orbital Advancement</i> Sarah P. Erpenbeck, BS ; Miles J. Pfaff, MD, MHS; Madeleine K. Bruce, BA; Xiao Zhu, MD; Lucas Dvoracek, MD; Jesse A. Goldstein, MD, FAAP, FACS
1:05 PM - 1:10 PM	<i>Computed Tomography Associated Radiation Exposure in Children with Craniosynostosis</i> Aditya M. Mittal, BS ; Madeleine K. Bruce, BA; Darunee S. Whitt, MS, DABR; Lynda L. Flom, MD; Miles J. Pfaff, MD, MHS; Joseph E. Losee, MD; Jesse A. Goldstein, MD
1:10 PM - 1:15 PM	<i>Clinical Significance of Clinoccephaly in Late-Presentation Sagittal Craniosynostosis</i> Joseph W. Mocharnuk, BA ; Miles J. Pfaff, MD; Regina Fenton, CRNP; Madeleine K. Bruce, BA; Jennifer Fantuzzo, BS; Michael Bykowski, MD; Joseph E. Losee, MD; Jesse A. Goldstein, MD
1:15 PM - 1:20 PM	<i>Quantifying the Severity of Metopic Craniosynostosis</i> Erin Anstadt, MD ; Madeleine K. Bruce, BA; Wenzheng Tao; Ejay Guo; Ladislav Kavan, PhD; Ross Whitaker, PhD; Jesse A Goldstein, MD
1:20 PM - 1:25 PM	<i>3D Photogrammetry to Quantify the Severity of Metopic Craniosynostosis</i> Madeleine K. Bruce, BA ; Wenzheng Tao; Cameron Christensen; Miles J. Pfaff, MD; Ross Whitaker, PhD; Jesse A. Goldstein, MD
1:25 PM - 1:40 PM	Discussion

1:40 PM – 1:45 PM	<i>Predicting Breast Reduction Resection Weights and Attainment of Insurance-Mandated Minimums: Sternal Notch-Nipple and Nipple-Inframammary Fold Distances Alone are Effective</i> Xiao Zhu, MD ; Jennifer A. Hall, BS; Michael L. Gimbel, MD; Vu T. Nguyen, MD
1:45 PM – 1:50 PM	<i>Social Factors and Outcomes in Prophylactic Mastectomy Patients</i> Angela T. Prescott, MD ; Eva Roy, BS, BA; Elizabeth A. Moroni, MD, MHA; Carolyn De La Cruz, MD
1:50 PM – 1:55 PM	<i>Epidemiology and Characteristics of a Multidisciplinary Pediatric Melanoma Center</i> Michael Marallo, MD ; Madeleine Bruce, BA; Alex Davit, MD
1:55 PM – 2:00 PM	<i>Interdisciplinary Representation of Burn Surgery Journal and Society Leadership</i> Caroline E. Kettering, BS; Sarah P. Erpenbeck, BS ; Guy M. Stofman, MD; Jenny A. Ziembicki, MD, FACS; Francesco M. Egro, MBChB, MSc, MRCS
2:00 PM – 2:05 PM	<i>Independent or Integrated Plastic Surgery Residency Pathways: Trends in Representation in Academic Plastic Surgery in the United States</i> Sarah P. Erpenbeck, BS ; Samyd Bustos, MD; Brandon Smith, MS; Francesco M. Egro, MBChB, MSc, MRCS; Vu T. Nguyen, MD
2:05 PM – 2:20 PM	Discussion
2:20 PM – 2:30 PM	Break/Vendor Exhibits
2:30 PM – 3:40 PM	Session IV – Education, Quality and Innovation Presentations (Dr. Kacey Marra)
2:30 PM – 2:35 PM	<i>University of Pittsburgh Plastic Surgery Virtual Sub-Internship: An Evolutionary Response to the Pandemic</i> Francesco M. Egro, MBChB, MSc, MRCS ; Samyd S. Bustos, MD; J. Peter Rubin, MD; Jesse A. Goldstein, MD; Joseph E. Losee, MD; Vu T. Nguyen, MD
2:35 PM – 2:40 PM	<i>Evaluation of a Simulation-Based Mini-Elective on Medical Student Interest in Plastic Surgery</i> Eva Roy, BS ; Erin E. Anstadt, MD; Joseph E. Losee, MD; Vu T. Nguyen, MD; Jesse A. Goldstein, MD
2:40 PM – 2:45 PM	<i>Why Isn't Diversity Increasing in Plastic Surgery? Perceptions of Plastic Surgery Among Under-Represented Medical Students</i> Abraham A. Williams, BS ; Madeleine K. Bruce, BA; Eliza Beth Littleton, PhD; Vu T. Nguyen, MD; Carolyn De La Cruz, MD; Jesse A. Goldstein, MD
2:45 PM – 2:50 PM	<i>Pediatric Plastic Surgery Operating Room Block-Time Utilization: A Casualty of Illness</i> Samantha G. Maliha, MD, MS ; Madeleine K. Bruce, BA; Erin A. Anstadt, MD; Eva Roy, BA; Miles J. Pfaff MD, MHS; Joseph E. Losee, MD; Jesse A. Goldstein, MD
2:50 PM – 3:05 PM	Discussion

3:05 PM – 3:10 PM	<i>Preoperative Time-Out and Checklist Practices</i> Brodie Parent, MD MS ; Samyd Bustos MD; Madeleine Bruce, BA; Fuat Baris Bengur, MD; Lena Lin Vodovotz, MS; Allison Mak, MS; Elizabeth Bailey, MD; Mehmet Uluer, MD; Dawn Wang, MD
3:10 PM – 3:15 PM	<i>Inappropriate Emergency Transfers for Evaluation by Plastic Surgery</i> Joshua A. David, MD ; Phoebe L. Lee, BS; Nerone O. Douglas, BS, MS; Elizabeth Moroni, MD, MHA; Devra Becker, MD
3:15 PM – 3:20 PM	<i>Time Cost and Fragmentation Efficacy: Clinical Considerations When Generating NanoFat</i> Phoebe L. Lee, BS ; Shawn J. Loder, MD; Patricia A. Leftwich, MS; Wayne V. Nerone, BA; Kacey G. Marra, PhD; Lauren E. Kokai, PhD; J. Peter Rubin, MD
3:20 PM – 3:25 PM	<i>Microsurgical Reconstruction of the Columella</i> Robert L. Walton, MD; Brenton R. Robinson, MD
3:35 PM – 3:40 PM	Discussion
3:40 PM – 3:45 PM	Concluding Remarks (J. Peter Rubin, MD; Kacey Marra, PhD; Jesse Goldstein, MD)
3:45 PM – 5:30 PM	Reception on the Rooftop at the University Club



Description of Awards

Best clinical presentation

Awarded to the best oral presentation of a clinical abstract based on the assessment made by the Visiting Professor. Selection criteria include innovation, quality of approach, application to practice, and quality of presentation.

Best basic science presentation

Awarded to the best oral presentation of a basic science abstract based on the assessment made by the Visiting Professor. Selection criteria include innovation, quality of approach, application to practice, and quality of presentation.

Best quality/education presentation

Awarded to the best oral presentation of a quality/education abstract based on the assessment made by the Visiting Professor. Selection criteria include innovation, quality of approach, application to practice, and quality of presentation.

All individuals in a position to control the content of this education activity including members of the planning committee, speakers, presenters, authors, and/or content reviewers have disclosed all relevant financial relationships with any entity producing, marketing, re-selling, or distributing health care goods or services, used on, or consumed by, patients.

The following relevant financial relationships were disclosed:

Sydney R. Coleman, MD	Royalties from designed cannulas: Mentor
Gayle M. Gordillo	Grant/Research Support: NIH Stockholder: Med Compliance IQ, LLC
Beth Gusenoff, DPM	Co-Inventor: Push-to-Spin (P2S) Device
Jeffrey A. Gusenoff, MD	Co-Inventor: Push-to-Spin (P2S) Device
Ernest K. Manders, MD	Stockholder, CSO, and Medical Director: Promethean Life Sciences
Benjamin K. Schilling, PhD	Stockholder: AxoMax Technologies, Inc.
Alexander M. Spiess, MD	Consultant: Renerva CE Speakers' Bureau: Axogen

No other planners, members of the planning committee, speakers, presenters, authors, content reviewers and/or anyone else in a position to control the content of this education activity have relevant financial relationships to disclose.

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the following for this activity:

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**Allergan Plastic and Regenerative
Medicine**

**Integra LifeSciences featuring
SurgiMend and Gentrax**

KLS Martin Group

