Department of Emergency Medicine
Research Program Overview: Annual Update

Benjamin S. Abella, MD MPhil FACEP
Vice Chair for Research

2021 update
The scope of our research

- Laboratory Research
- Clinical Investigation
- Health Services/Population Science
- Community Oriented Research

Some examples of faculty in each domain – just as illustrations

- David Jang
- Tony Davila
- John Greenwood
- Kit Delgado
- Austin Kilaru
- Nova Panebianco
- Zack Meisel
- Ari Friedman
- Raina Merchant
- Gina South
- Ben Abella
- Jeanmarie Perrone
Research activity: funding snapshot in context

Ranking of Emergency Medicine Departments:
Federal funding, 2020 (most recent available)

From the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH as compiled by Robert Roskoski Jr. and Tristram G. Parslow

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Emergency Medicine</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>UNIVERSITY OF MICHIGAN ANN ARBOR</td>
<td>$20,922,383</td>
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<tr>
<td>2</td>
<td>UNIV OF MASSACHUSETTS MED SCH WORCESTER</td>
<td>$7,549,680</td>
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<tr>
<td>3</td>
<td>YALE UNIVERSITY</td>
<td>$6,012,876</td>
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<td>4</td>
<td>UNIVERSITY OF CINCINNATI</td>
<td>$5,948,338</td>
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<tr>
<td>5</td>
<td>ICAHN SCHOOL OF MEDICINE MOUNT SINAI</td>
<td>$5,487,398</td>
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<tr>
<td>6</td>
<td>NEW YORK UNIVERSITY SCHOOL OF MEDICINE</td>
<td>$5,081,292</td>
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<tr>
<td>7</td>
<td>COLUMBIA UNIVERSITY HEALTH SCIENCES</td>
<td>$4,249,164</td>
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<tr>
<td>8</td>
<td>UNIVERSITY OF COLORADO DENVER</td>
<td>$3,703,482</td>
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<td>9</td>
<td>UNIVERSITY OF CALIFORNIA IRVINE</td>
<td>$3,649,803</td>
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<td>10</td>
<td>OREGON HEALTH &amp; SCIENCE UNIVERSITY</td>
<td>$3,271,244</td>
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<td>11</td>
<td>INDIANA UNIV-PURDUE UNIV INDIANAPOLIS</td>
<td>$2,934,585</td>
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<td>12</td>
<td>UNIVERSITY OF NORTH CAROLINA CHAPEL HILL</td>
<td>$2,552,694</td>
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<td>13</td>
<td>UNIVERSITY OF PENNSYLVANIA</td>
<td>$2,439,018</td>
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<td>14</td>
<td>UNIVERSITY OF TEXAS AUSTIN</td>
<td>$2,201,062</td>
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<tr>
<td>15</td>
<td>UNIVERSITY OF ILLINOIS CHICAGO</td>
<td>$1,594,088</td>
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Our Department is #13 in the nation for NIH funding among EM Departments
Tabulation does not include other federal funding, of which we are major recipient
Domains of Research

Centers within the Department

Center for Emergency Care Policy and Research  Zack Meisel
Center for Resuscitation Science  Ben Abella
Urban Health Lab  Gina South
BeSAFIR  Kit Delgado

Penn entities with strong EM presence/collaboration

Center for Digital Health
Center for Clinical Epidemiology and Biostatistics
Penn Injury Science Center
Spans clinical and health services and population science

**Topics of interest:**
Social media and emergency care
Patient narratives to guide health
Access and transitions of care
Drug and alcohol abuse
Economics of emergency care access

**Examples of recent publications**

**Return Hospital Admissions Among 1419 COVID-19 Patients Discharged from Five U.S. Emergency Departments**

*Austin S. Kilaru, MD, MSHP*¹, Kathleen Lee, MD²,³, Christopher K. Snider, MPH¹, Zachary F. Meisel, MD, MSHP, MPH²,³, David A. Asch, MD, MBA¹,³, Nandita Mirra, PhD²,⁴, and M. Kit Delgado, MD, MS²,⁴*

**State Legislators’ Divergent Social Media Response to the Opioid Epidemic from 2014 to 2019: Longitudinal Topic Modeling Analysis**

*Daniel C. Stokes, MSc¹,², Jonathan Purtle, DrPH, MPH, MSc³, Zachary F. Meisel, MD, MSHP¹,⁴, and Anish K. Agarwal, MD, MPH, MSHP¹,⁴*

2021

**Director**
Zachary F. Meisel, MD, MPH, MSHP
Spans from laboratory to community oriented research

**Topics of interest:**
- Ischemia-reperfusion injury
- Post-arrest care and outcomes
- Disparities in CPR training
- Targeted temperature management

**Examples of recent publications**

**In-hospital cardiac arrest in patients with coronavirus 2019**

Oscar J.L. Mitchell⁵, Eugene Yuriditsky⁵, Nicholas J. Johnson⁵, Olivia Doran⁵, David G. Buckler⁵, Stacie Neefe⁵, Raghu R. Seethala⁵, Sergey Motov⁵, Ari Moskowitz⁵, Jarone Lee⁵, Kelly M. Griffin⁵, Michael G.S. Shashaty⁵, James M. Horowitz⁵, Benjamin S. Abella⁵, on behalf of the Coronavirus 2019 In-Hospital Cardiac Arrest (COVID IHCA) Study Group

**Experimental paper**

Epinephrine plus chest compressions is superior to epinephrine alone in a hypoxia-induced porcine model of pseudo-pulseless electrical activity

Felipe Teran⁵, Claire Centeno⁵, Alexander L. Lindqwister⁵, William J. Hunckler⁵, William P. Landis⁵, Karen L. Moodie⁵, Frances S. Sholer⁵, Benjamin S. Abella⁵, Norman A. Paradis⁵
Focus on community health and social emergency medicine

**Topics of interest:**
Green space impacts on health outcomes
Social determinants of health
Community response to opioid epidemic

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**Examples of recent publications**

**Association of Gun Violence With Emergency Department Visits for Stress-Responsive Complaints**
Eugenia C. South, MD, MS\*; Kaylenna Stillmen, MD; David G. Buckler, MUSA; Douglas Wiebe, PhD

*Corresponding Author. E-mail: eugenia.south@pennmedicine.upenn.edu, Twitter: @eugenia_south.

**Nurtured in Nature: a Pilot Randomized Controlled Trial to Increase Time in Greenspace among Urban-Dwelling Postpartum Women**
Eugenia C. South · Kathleen Lee · Kehinde Oyekanmi · David G. Buckler · Max Jordan Nguemeni Tiako · Tyler Martin · Sara L. Kornfield · Sindhu Srinivas

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Eugenia C. South, MD
Director, Urban Health Lab
Focus on personal choices and their role in healthy decision to avoid harm

**Topics of interest:**
Texting and driving
Health system management of opioids
Gun violence

Examples of recent publications

**Brief Report**
**Short-Stay Hospitalizations for Patients with COVID-19: A Retrospective Cohort Study**

Austin S. Kilaru, Kathleen Lee, Lindsay Grossman, Zachary Mankoff, Christopher K. Snider, Eric Bressman, Stefanie B. Porges, Keith C. Hemmert, Scott R. Greysen, David A. Asch and Mucio K. Delgado

**Accuracy of Consumer-marketed smartphone-paired alcohol breath testing devices: A laboratory validation study**

Research program activities

- Annual Research Day symposium
- Research in Progress seminar series
- Academic Associates program
- Journal Club series
Annual Research Day symposium – April 14, 2020

One day symposium each Spring

Oral presentations and posters from ED family (faculty, residents, nurses, medical students)

Guest keynote speaker from national Emergency medicine domain

Wonderful opportunity to showcase Our work and share within the Department and the Penn SOM community

Next research day April 12, 2022!
Research Day activities include:

- Guest speaker breakfast with residents – mentorship discussions, career advice, networking
- Oral and poster science presentations from faculty, nurses, residents, fellows
- Networking for our growing department: residents, nurses, faculty, staff

**Prior Keynote Speakers**

**2018**
Jesse Pines MD MBA
Director, Clinical Innovation
Acute Care Solutions

**2019**
Corita Grudzen MD
Vice Chair for Research
NYU Emergency Med

**2020 Keynote Speaker**
Harrison Alter MD MS
Executive Director,
Levitt Center for Social
Emergency Medicine
Clinical Professor, UCSF
Research in Progress (RIP) seminar series

Wednesdays at noon – lunch provided

Informal presentations on research at any stage: prepping for proposals, early data, prepping for manuscript submissions

Great chance to get advice and feedback

Speakers from EM but also guest speakers with relevant collaborations:

Some of our guest speakers:
- Josh Levine
  Neuro ICU
- Nuala Meyer
  MICU
- Carrie Sims
  Trauma/ESS
Academic Associates (AA) program

Resource for clinical research screening
And enrollment in the ED

AAs are pre-health students
(mostly Penn post-bac program)

Program led by full time Research Coordinator Felix Penny-Fernandez

All new projects are welcome – contact us if you want to start collecting data for your project
Journal Club series

Collaboration between research and residency domains of our department

For residents, fellows and faculty

Hosted at faculty homes – discussion led by residents with faculty support

Dinner provided

Mira Mamtani, Kevin Scott, and Lauren Conlon
Residency Program Directors

Michele Haynes
Residency Program Coordinator

Fran Shofer
Director of Research
Design & Biostatistics
Key people to help you with research within EM

Felix Penny-Fernandez
AA program coordinator

Libby Moore
Grants administrator

Fran Shofer
Director of research
design & biostatistics

Ben Abella
Vice Chair for Research

Zack Meisel
Director, CECPR

Eileen McDonnell
Research administrative
coordinator