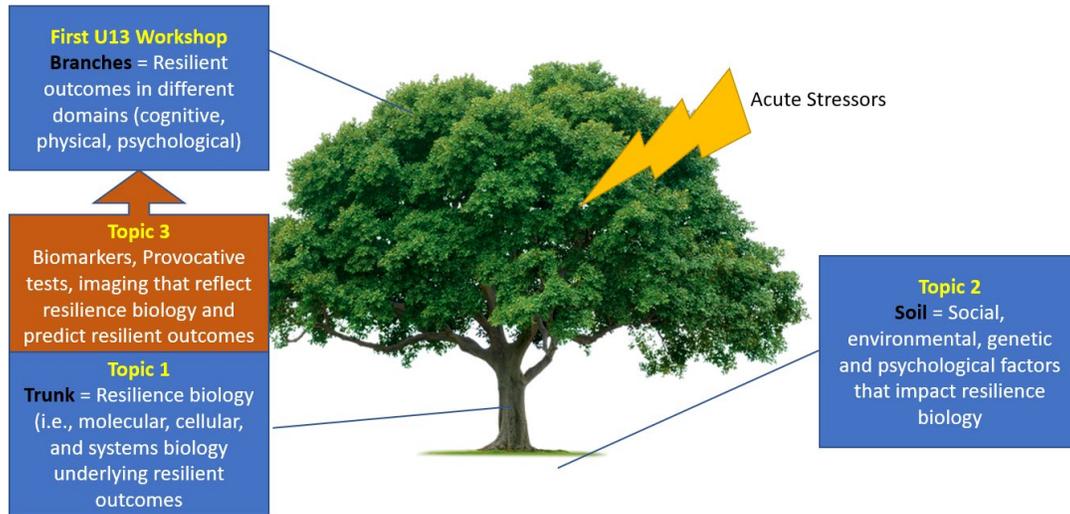


# AGS/NIA R13 Bench-to-Bedside Conference Series

## Stress Tests and Biomarkers of Resilience

*Supported by the National Institute on Aging and the American Geriatrics Society*

**Hyatt Regency, Bethesda, MD**  
**Monday, March 4 – Tuesday, March 5, 2024**



### DAY 1: MONDAY, MARCH 4

*Location: REGENCY ROOM I & II*

Time	Session	Presenters
7:30 AM	Breakfast	
8:00 – 8:05 AM	<b>Opening Session &amp; Welcome</b>	<i>Jeremy Walston, MD and Cathleen Colón-Emeric, MD, MHS</i>
8:05 – 8:15 AM	<b>Conference 1 Summary: Definitions of resilience across domains</b>	<i>Peter Abadir, MD</i>
8:15 – 8:30 AM	<b>Concept Models of Resilience and General Approaches to Quantifying Resilience</b>	<i>Jeremy Walston, MD and Cathleen Colón-Emeric, MD, MHS</i>
8:30 - 9:15 AM	<b>Plenary: Central Nervous System Physiology and the Development of Stress-Related Disorders</b>	<i>James Herman, PhD</i>
9:15 – 11:00 AM	<b>Topic 1: Brief State of the Science Talks: what is known about resilience biology</b>	Moderator: <i>Alessandro Bartolomucci, PhD</i>
9:15 – 9:30 AM	<ul style="list-style-type: none"> <li>• <b>HPA Axis and Physiological Stress Response</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Douglas Bowden, MD</i></li> </ul>
9:30 – 9:45 AM	<ul style="list-style-type: none"> <li>• <b>Autonomic Nervous System and Resiliency</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>David Goldstein, MD, PhD</i></li> </ul>
9:45 – 10:00 AM	<ul style="list-style-type: none"> <li>• <b>Immune System Responses to Stressors</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Elizabeth Repasky, PhD</i></li> </ul>

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10:00 – 10:15 AM	<ul style="list-style-type: none"> <li>• <b>Energetic and Mitochondrial Drivers of Stress responses</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Martin Picard, PhD</i></li> </ul>
10:15 – 10:30 AM	<ul style="list-style-type: none"> <li>• <b>Proteomics and gene activation – translational changes in the setting of stress</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Ravikiran Raju, MD, PhD</i></li> </ul>
10:30 – 11:00 AM	<ul style="list-style-type: none"> <li>• <b>Moderated discussion on gaps and future directions</b></li> </ul>	<i>All</i>
11:00 – 11:15 AM	<i>Morning Break</i>	
11:15 – 12:45 PM	<b>Topic 2: State of the Science Talks: what is known about key mediators and moderators of resilience and what does it tell us about resilience biology?</b>	Moderator: <i>Shakira Suglia, ScD</i>
11:15 – 11:30 AM	<ul style="list-style-type: none"> <li>• <b>Psychological impacts on Resiliency in Older Adults</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Jacqui Smith, PhD</i></li> </ul>
11:30 – 11:45 PM	<ul style="list-style-type: none"> <li>• <b>Social impacts on Resiliency in Older Adults</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Tyson Brown, PhD</i></li> </ul>
11:45 – 12:00 PM	<ul style="list-style-type: none"> <li>• <b>Insights from animal models of social determinants of health</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Steve Cole, PhD</i></li> </ul>
12:00 – 12:15 PM	<ul style="list-style-type: none"> <li>• <b>Genetic and Environmental Predictors of Resilience</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Dan Belsky, PhD</i></li> </ul>
12:15 – 12:45 PM	<ul style="list-style-type: none"> <li>• <b>Moderated discussion on gaps and future directions</b></li> </ul>	<i>All</i>
12:45 – 1:45 PM	<i>Lunch and Networking</i>	
1:45 – 3:15 PM	<b>Topic 3: What biomarkers and stress tests predict resilience and what clues do they give us about resilience biology?</b>	Moderator: <i>Adam Salmon, PhD</i>
1:45 – 2:00 PM	<ul style="list-style-type: none"> <li>• <b>Aging-Related Molecular Changes, Related Biomarkers, and their Utility in Resilience Detection</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Virginia Kraus, MD, PhD</i></li> </ul>
2:00 – 2:15 PM	<ul style="list-style-type: none"> <li>• <b>Measuring resilience through time series data</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Alan Cohen, PhD</i></li> </ul>
2:15 – 2:30 PM	<ul style="list-style-type: none"> <li>• <b>Network Physiology and Complex Systems Dynamics</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Plamen Ivanov, PhD</i></li> </ul>
2:30 – 2:45 PM	<ul style="list-style-type: none"> <li>• <b>Using Functional Measures and AI to Predict Resilient Outcomes</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Jennifer Schrack, PhD</i></li> </ul>
2:45 – 3:00 PM	<ul style="list-style-type: none"> <li>• <b>Integrative omics Predicting Resilience</b></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Rasika Mathias, ScD</i></li> </ul>
3:00 – 3:30 PM	<ul style="list-style-type: none"> <li>• <b>Moderated discussion on gaps and future directions</b></li> </ul>	<i>All</i>
3:30 – 3:45 PM	<i>Afternoon Break</i>	
3:45 – 5:15 PM	<b>Small Group Sessions</b> <ul style="list-style-type: none"> <li>• Developing recommendations for a clinically-relevant assessment battery for use in human resilience research <ul style="list-style-type: none"> <li>○ What unanswered questions remain in order to get here?</li> <li>○ Animal and cellular models needed?</li> </ul> </li> </ul>	<i>All</i>

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	<ul style="list-style-type: none"> <li>○ Cross-cutting items vs. domain specific items</li> <li>○ Key mediators and moderators that should be routinely measured</li> <li>● Developing recommendations for a biomarker panel for use in human resilience research <ul style="list-style-type: none"> <li>○ Cross-cutting items vs. domain specific items</li> <li>○ Variability and heterogeneity considerations</li> </ul> </li> <li>● Prioritizing key unanswered questions about resilience biology for future research endeavors <ul style="list-style-type: none"> <li>○ Energetics, metabolomics</li> <li>○ Gene activation, protein control</li> <li>○ Inflammation</li> <li>○ Hormones, neuroendocrine regulation</li> </ul> </li> <li>● Translational priorities and information/resources needed to move from prediction to intervention</li> </ul>	
5:45 – 8:45 PM	Reception and Dinner – <i>REGENCY FOYER</i>	

<b>DAY 2: TUESDAY, MARCH 5</b>
<i>Location: REGENCY ROOM I &amp; II</i>

Time	Session	Presenters
8:00 – 9:00 AM	<b>Breakfast and one-on-one Mentee/Mentor Meetings</b>	
9:00 – 11:15 AM	<b>Moving the Field Forward: Priorities, Agenda-setting, Wrap-up</b>	<i>Jeremy Walston, MD and Cathleen Colón-Emeric, MD, MHS</i>
8:30 – 10:30 AM	<b>Small groups provide 10-minute reports from each break-out group</b>	<i>All</i>
10:30 – 11:15 AM	<b>Moderated Discussion – Agenda-setting and Prioritizing</b>	<i>All</i>

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11:15 – 12:00 PM	<b>Wrap-up, Final remarks, Evaluations</b>	<i>Cathleen Colón-Emeric, MD, MHS and Jeremy Walston, MD</i>
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<p><b>Rising Stars: Afternoon Session for Junior Investigator Travel Awardees</b> (12:00 PM to 3:30 PM)</p>
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<b>Time</b>	<b>Session</b>	<b>Presenters</b>
12:00 – 1:00 PM	<b>Lunch/Networking – Getting to Know NIA Staff</b>	
1:00 – 2:00 PM	<b>Roundtable Resilience Consultancy Discussions</b> <ul style="list-style-type: none"> <li>• Each person has 5 minutes to discuss background, stage of career, and a specific challenge they are facing. Group then provides practical feedback using a structured “wise crowds” format.</li> <li>• Attendees can choose among tables with different themes: Defining Resilience in your field; Measurement/analytic issues in resilience; Resilience promoting intervention development; general career or mentorship challenges</li> </ul>	<i>All</i>
2:00 – 3:00 PM	<b>“Write a Compelling Resilience Grant” – Panel Discussion</b>	<i>Moderator: Cathleen Colón-Emeric, MD, MHS</i>  <i>Peter Abadir, MD, Basil Eldadah, MD, Jeremy Walston, MD, and Heather Whitson, MD, MHS</i>
3:00 – 3:30 PM	<b>Evaluations, Action Item postcards, Adjourn</b>	<i>All</i>

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