



2025 BMES CMBE Conference

“Cell Engineering for Mechanomedicine and Rejuvenation”

January 3-6, 2025

Cape Rey Carlsbad Beach Hilton | Carlsbad, CA



2025 BMES CMBE Conference Program

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Carlsbad, CA

Friday, January 3, 2025

7:00 – 8:00 AM	Breakfast
8:00 – 8:15 AM	Welcoming Remarks (Conference Co-Chairs)
8:15 – 10:00 AM	Session 1: Advances in Regenerative Medicine
8:15 – 8:55 AM	<i>Keynote Speaker</i> Guillermo Ameer (Northwestern University): Modulating tissue and organ regeneration via microtopography engineering
8:55 – 9:10 AM	Oral abstract presentation
9:10 – 9:25 AM	Oral abstract presentation
9:25 – 9:40 AM	Oral abstract presentation
9:40 – 9:55 AM	Rising Star Faculty Award presentation
9:55 – 10:00 AM	Lightning talk



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10:00 – 10:30 AM	Coffee Break + Exhibit Hall Viewing
10:30 – 12:30 AM	Session 2: Translational Applications of Regenerative Medicine
10:30 – 11:10 AM	<i>Keynote Speaker</i> Karen Christman (UCSD): Design and Translation of Decellularized Extracellular Matrix Biomaterials
11:10 – 11:25 AM	Oral abstract presentation
11:25 – 11:40 AM	Oral abstract presentation
11:40 – 11:55 AM	Rising Star Faculty Award presentation
11:55 AM – 12:15 PM	Rising Star Faculty Award presentation
12:15 – 12:20 PM	Lightning talk
12:20 – 12:25 PM	Lightning talk
12:25 – 12:30 PM	Lightning talk
12:30 – 2:00 PM	Lunch on your own
12:30 – 2:00 PM	Meet the Leaders Lunch for Rising Stars and Travel Awardees (Or lunch on your own)



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2:00 – 3:00 PM	Panel Discussion on Careers in Biomedical Engineering
4:30 – 6:00 PM	CMBE Council Meeting (by invitation only)
4:30 – 6:00 PM	Poster Session 1
5:30 – 6:30 PM	Welcome Reception

Saturday, January 4, 2025

7:00 – 8:00 AM	Breakfast
8:00 – 10:00 AM	Session 3: Engineering Cellular and Tissue Rejuvenation
8:00 – 8:40 AM	<i>Keynote Speaker</i> Thomas Rando (UCLA): Pathways to Rejuvenation of Adult Stem Cells
8:40 – 8:55 AM	Oral abstract presentation
8:55 – 9:10 AM	Oral abstract presentation
9:10 – 9:25 AM	Oral abstract presentation
9:25 – 9:40 AM	Oral abstract presentation



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9:40 – 9:55 AM	Rising Star Faculty Award presentation
9:55 – 10:00 AM	Lightning talk
10:00 – 10:30 AM	Coffee break + exhibit hall
10:30 AM – 12:30 PM	Session 4: Advanced Biomaterials for Immunomodulation and Drug Delivery
10:30 – 11:10 AM	<i>Keynote Speaker</i> Tejal Desai (Brown University): Tuning the "Structure" of Biomaterials: Implications for Cell-Based Therapy and Drug Delivery
11:10 – 11:25 AM	Oral abstract presentation
11:25 – 11:40 AM	Oral abstract presentation
11:40 – 11:55 AM	Rising Star Faculty Award presentation
11:55 AM – 12:15 PM	Rising Star Faculty Award presentation
12:15 – 12:20 PM	Lightning talk
12:20 – 12:25 PM	Lightning talk
12:25 – 12:30 PM	Lightning talk



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12:30 – 2:00 PM	Industry sponsored lunch or demo (or lunch on your own)
2:00 – 3:00 PM	<i>Workshop</i> Transitioning to Product Development
4:30 – 6:00 PM	Poster Session 2
6:00 – 7:30 PM	<i>Gala Dinner</i> Shu Chien Achievement Award talk

Sunday, January 5, 2025

7:00 – 8:00 AM	Breakfast
8:00 – 10:00 AM	Session 5: Advancing Mechanomedicine
8:00 – 8:40 AM	<i>Keynote Speaker</i> Konstantinos Konstantopoulos (Johns Hopkins University): The interplay of substrate stiffness and fluid viscosity in breast cancer cell dissemination
8:40 – 8:55 AM	Oral abstract presentation
8:55 – 9:10 AM	Oral abstract presentation
9:10 – 9:25 AM	Oral abstract presentation
9:25 – 9:40 AM	Oral abstract presentation



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9:40 – 9:55 AM	Rising Star Faculty Award presentation
9:55 – 10:00 AM	Lightning talk
10:00 – 10:30 AM	Coffee break + exhibit hall
10:30 AM – 12:30 PM	Session 6: Mechanobiology of Rejuvenation
10:30 – 11:10 AM	<i>Keynote Speaker</i> Rong Li (National University of Singapore): Cytoplasmic Dynamics and Mechanics in the Maturation and Aging of Mammalian Oocytes
11:10 – 11:25 AM	Oral abstract presentation
11:25 – 11:40 AM	Oral abstract presentation
11:40 – 11:55 AM	Rising Star Faculty Award presentation
11:55 AM – 12:15 PM	Rising Star Faculty Award presentation
12:15 – 12:20 PM	Lightning talk
12:20 – 12:25 PM	Lightning talk
12:25 – 12:30 PM	Lightning talk



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12:30 – 2:00 PM	Industry sponsored lunch or demo (or lunch on your own)
2:00 – 3:00 PM	<i>Workshop</i> Meet the Program Officers
2:00 – 2:30 PM	CIRM grant funding opportunities in mechanomedicine
2:30 – 2:45 PM	NIH grant funding opportunities in mechanomedicine
2:45 – 3:00 PM	NSF grant funding opportunities in mechanobiology
4:30 – 6:00 PM	Poster Session 3
6:00 – 7:30 PM	Service Recognition Reception and Networking (Christopher Jacobs Award For Excellence in Leadership talk)

Monday, January 6, 2025

7:00 – 8:00 AM	Breakfast
8:00 – 8:40 AM	Momentum Award Lecture
8:40 – 10:00 AM	Session 7: Emerging Technologies in Cell and Molecular Bioengineering
8:40 – 9:20 AM	<i>Keynote Speaker</i> Kun Zhang (UCSD): Dissecting Kidney Injuries and Repairs with Single-Cell Technologies
9:20 – 9:35 AM	Oral abstract presentation



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9:35 – 9:50 AM	Oral abstract presentation
9:50 – 9:55 AM	Lightning talk
9:55 – 10:00 AM	Lightning talk
10:00 – 10:30 AM	Networking Coffee Break
10:30 – 11:30 AM	Session 8: Commercialization Considerations and Translation (Panel Discussion)
11:30 AM – 12:00 PM	Award ceremony and conclusion