



Science & Technology for Healthy Longevity: *A Workshop for the Global Roadmap for Healthy Longevity Initiative*

AGENDA JUNE 15 & 17, 2021

This 2-day public workshop will explore science and technology research and development for enabling healthy longevity. Workshop participants will explore and suggest avenues for innovative and groundbreaking research and development across basic, clinical, pharmaceutical, social and behavioral sciences, bioengineering, information technology, and assistive technologies. Approaches to expanding research funding and incentivizing research in the area will also be examined. Discussions may include:

- Mechanisms of aging and regeneration, tissue destruction and repair, and cellular death and survival with a focus on corrective interventions using both conventional means with small molecules and antibodies and emerging therapeutic modalities using cells, genes, nucleic acids, and designer proteins;
- Advances in information technologies including the development of large databases, machine learning, and artificial intelligence tools that will inform approaches to therapeutic interventions but also to enhancing quality of life;
- Emerging engineering technologies based on software and mechanical design that hold promise for monitoring the health and activity of the elderly as well as enhancing their mobility and functionality to help them continue to live productive lives; and
- Implications for investment in research and development, regulation, commercialization, and scalability, including issues pertaining to ethics and equality.

Workshop speakers and discussants will be drawn from government, academia, private, civil society, and nonprofit sectors from the local to global levels. Proceedings of the workshop discussions will be prepared by a designated rapporteur in accordance with institutional guidelines as part of a three workshop series on healthy longevity.

DAY 1 – JUNE 15
All times are in Eastern Standard Time

5:00 PM (10 min)	<p>Welcome Remarks VICTOR DZAU President National Academy of Medicine, USA</p> <p>Workshop Overview, Goals, and Framework ANN AERTS, <i>Co-Chair of the Workshop</i> Head Novartis Foundation, Switzerland</p> <p>TACHI YAMADA, <i>Co-Chair of the Workshop</i> Venture Partner Frazier Healthcare Partners, USA</p>
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SESSION I:
Transformative Advances in Biological Sciences for Healthy Longevity

Session I Objectives:	<ul style="list-style-type: none"> • Explore critical biological mechanisms of aging and their implications for predicting, preventing, diagnosing, and treating disease across diverse populations • Consider emerging scientific advances enabling a healthy longevity future for individuals and societies • Discuss knowledge gaps needing research which will create opportunities for advancing science in the longevity field
5:10 PM (20 min)	<p>Plenary Keynote <i>Speaker:</i> ERIC VERDIN, The Buck Institute, USA [Provide an overview of the field, highlighting discussions on critical mechanisms for aging]</p>
5:30 PM (1 hr 20 min)	<p>Expert Discussion <i>Moderator:</i> TACHI YAMADA, Frazier Healthcare Partners., USA</p>
6:50 PM (10 min)	<p>Conclusion</p>
7:00 PM (15 min)	<p>Break</p>

SESSION II:
Transformative Advances in Technologies for Aging Societies

Session II Objectives:	<ul style="list-style-type: none"> • Describe existing technology and engineering innovations enabling people to function within their physical and social environments • Explore the potential of emerging technology and engineering developments to promote better health and well-being across the life course
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	<ul style="list-style-type: none"> Highlight critical gaps in technology and engineering research and development, focusing on co-created and problem-driven solutions
7:15 PM (20 min)	Plenary Keynote <i>Speaker:</i> JOE COUGHLIN, MIT, AgeLab, USA [Provide an overview of the field, highlighting discussions on critical mechanisms for aging]
7:35 PM (1 hr 20 min)	Expert Discussion <i>Moderator:</i> MEHMOOD KHAN, Life BioSciences Inc., USA
8:55 PM (5 min)	Conclusion
DAY 2 – JUNE 17	
9:00 AM (5 min)	Welcome and Recap of Day 1 TACHI YAMADA, <i>Co-Chair of the Workshop</i> Venture Partner Frazier Healthcare Partners, USA
SESSION III: Implementing Advances in Science and Technology to Enable Healthy Longevity	
	<p>Session III Objectives:</p> <ul style="list-style-type: none"> Identify successful deployment and scaling of science and technology in building accessible, equitable, and health promoting living environments Discuss strategies to finance and build infrastructure while ensuring public participation in building science and technology enabled societies Further discuss actions to reform research and development ecosystems to break down siloes and encourage holistic systems approaches Consider the ethical, equity, and accessibility implications of science and technology, including strategies to prevent and mitigate negative outcomes such as the digital divide
9:05 AM (20 min)	Plenary Keynote MICHELE GRIMM, Professor, Department of Mechanical Engineering, Michigan State University, USA
9:25 AM (1 hr 20 min)	Expert Discussion <i>Moderator:</i> ANN AERTS, Novartis Foundation, Switzerland
10:45 AM (15 min)	Conclusion
11:00 AM (15 min)	Break

Session IV: Opportunities and Gaps in Science & Technology

	<p>Session IV Objectives:</p> <ul style="list-style-type: none"> • Envision, using a future back approach, how investing in science and technology will unleash unprecedented opportunities to create more equitable aging societies worldwide • Present and review highlights from the preceding workshop sessions and discussions • Discuss topics, themes, and issues essential to achieving healthy longevity with equity at its center • Identify and discuss gaps in knowledge and perspectives to solidify the knowledge base of the Global Roadmap for Healthy Longevity initiative and report
11:15 AM (5 min)	<p>Welcome and Overview</p> <p><i>Moderator:</i> TACHI YAMADA, Frazier Capital Partners, USA</p> <p>[Provide an overview of the major domains of gaps and opportunities for investment and the priorities and next steps]</p>
11:20 AM (10 min)	<p><u>Visionary Statements on Opportunities and Gaps</u></p> <p>TOM CHEUNG Professor, Division of Life Science Hong Kong University of Science and Technology</p>
11:30 AM (10 min)	<p>ELENA BONFIGLIOLI Managing Director Health and Life Sciences Microsoft (Belgium)</p>
11:40 AM (10 min)	<p>SELINA SEAH Director, Centre for Healthcare Assistive and Robotics Technology Asst. Chief Executive Officer, Changi General Hospital (Singapore)</p>
11:50 AM (60 min)	<p>Expert Discussion</p> <p><i>Moderators:</i> ANN AERTS, <i>Co-Chair of the Workshop</i> Novartis Foundation, Switzerland</p> <p>TACHI YAMADA, <i>Co-Chair of the Workshop</i> Frazier Healthcare Partners, USA</p>
12:50 PM (30 min)	<p>Conclusion and Final Remarks</p> <p>ANN AERTS, <i>Co-Chair of the Workshop</i> Novartis Foundation, Switzerland</p>
1:00 PM	Adjourn