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ARPA Institute Online Panel Discussion

By **Dr. Ani Aprahamian, Dr. Mary Papazian and Dr. Naira Hovakimian**
And **Dr. Ara Nazarian. Moderator: Dr. Bruce Boghossian**



How Can Education, Science & Technology in Armenia Be Modernized

Saturday, April 3, 2021 at 11:00 am, PST

Abstract: The educational system in Armenia has undergone some reforms, nevertheless it still requires a major overhaul. Modern education is based on Science, Technology, Engineering and Mathematics (STEM), which promote innovation, problem solving and decision-making skills. Universities in Armenia lack the necessary laboratories and modern instrumentation, and would benefit from new innovations in curricula. The research institutes have outdated laboratories and infrastructure, which cannot support progressive research and innovative technologies, at the level of the leading educational/research institutions of the world. The panel will address the current situation of and limitations on the educational and research institutions and the urgent reforms needed to improve the status quo in Armenia. Moreover, the improvement in administration, curriculum and research facilities necessary to accomplish any reforms will be highlighted. Finally, plans/suggestions for the immediate future will be proposed, as well as longer-term evolutionary reforms that will establish a path to high standards and competitive educational, research and technological developments in Armenia.

Dr. Mary A. Papazian has been serving as president of San José State University, Silicon Valley's public university, since July 2016, during which time she has developed the Interdisciplinary Science Building as part of a planned Science Park. Under her leadership, SJSU launched a ten-year strategic plan that positions it for long-term excellence in the 21st century. Dr. Papazian writes and speaks frequently about higher education issues in television news broadcasts, podcasts, national and international conferences, and other venues. She has written extensively about state and federal budget matters related to higher education. Before coming to San José State, Dr. Papazian served as president of Southern Connecticut State University, Connecticut, for five years. She strengthened programs and established a vision for SCSU's first-ever comprehensive philanthropic campaign. Under her leadership the university opened its new Academic Laboratory and Science Building and increased research opportunities for students. Previously, Papazian was provost and senior vice president for Academic Affairs at Lehman College of The City University of New York, dean of the College of Humanities and Social Sciences at Montclair State University in New Jersey, and as associate dean of the College of Arts and Science at Oakland University in Rochester, Michigan. A native of Los Angeles, Dr. Papazian holds B.A., M.A. and Ph.D. degrees in English from UCLA.

Prof. Ani Aprahamian was appointed Director of A.I. Alkhanyan National Science Laboratory (Yerevan Physics Institute) in April 2018. She is the first woman, and the first Diasporan Armenian, to hold this position. Aprahamian holds a B.A. and Ph.D. from Clark University, Worcester, Massachusetts. She was also named the Frank M. Freimann Professor of Experimental Nuclear

ARPA INSTITUTE, 18106 Miranda St, Tarzana CA 91356, USA . Phone (818) 453-0618

Մասնագետների ԱՐՓԱ Հասարակական Կազմակերպություն, Verin Antarayin 186/14 apt #7, Երևան 0009, հեռ (+374) 98 403 995



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Physics at the University of Notre Dame. Professor Aprahamian has been a professor at Notre Dame since 1989. She has mentored over 15 Ph.D. students, given over 225 invited talks at various National and International Conferences and published over 200 papers in refereed journals, book chapters, and more. She is active in numerous international and national advisory committees in nuclear science. She is on the scientific councils of GSI-FAIR in Germany, JINR in the Russian Federation, and GANIL in France. Among the many honors recognizing her achievements, she is an Elected Fellow of the National Academy of Sciences of the Republic of Armenia, the American Association for the Advancement of Science, and the American Physical Society.

Prof. Naira Hovakimyan has an MS in Theoretical Mechanics and Applied Mathematics from the Yerevan State University in Armenia, Ph.D. in Physics and Mathematics from the Institute of Applied Mathematics of Russian Academy of Sciences in Moscow. She has been a research scientist at Stuttgart University in Germany, French Institute for Research in Computer Science and Automation (INRIA) in France, Georgia Institute of Technology and Virginia Tech. She is a W. Grafton and Lillian B. Wilkins Professor of Mechanical Science and Engineering and the inaugural director for Intelligent Robotics Lab of Coordinated Science Laboratory at the University of Illinois, Urbana Champaign. She has co-authored two books, six patents, and more than 400 refereed publications. She received the SICE International scholarship for the best paper of a young investigator in the VII ISDG Symposium (Japan, 1996), the AIAA Mechanics and Control of Flight Award, the SWE Achievement Award, the IEEE CSS Award for Technical Excellence in Aerospace Controls, and the AIAA Pendray Aerospace Literature Award. In addition, she was awarded the Humboldt prize for her lifetime achievements and the UIUC Engineering Council Award for Excellence in Advising. She is Fellow and a life member of AIAA, a Fellow of IEEE, and a member of SIAM, AMS, SWE, ASME and ISDG. She is a co-founder and chief scientist of IntelinAir. Her work in robotics for elderly care was featured in the New York Times, on Fox TV and CNBC. Her research interests are in control and optimization, autonomous systems, machine learning, neural networks, game theory, and their applications in aerospace, robotics, mechanical, agricultural, electrical, petroleum, biomedical engineering, and elderly care.

Dr. Ara Nazarian is an Associate Professor of Orthopaedic Surgery at Harvard Medical School. He is the Vice chair of Research Affairs at the Carl J Shapiro Department of Orthopaedic Surgery and Director of the Musculoskeletal Translational Innovation Initiative at Beth Israel Deaconess Medical Center. He has mentored more than 170 undergraduate and graduate students and post-doctoral fellows and is the author/co-author of over 150 peer-reviewed publications, 2 books, more than 15 patents and patent applications, and a co-founder on 5 startups. His primary focus is on translational musculoskeletal studies to identify and address unmet clinical needs. His extensive biomechanics, bioimaging and animal models expertise and partnerships with clinical and research collaborators has been a hallmark of his work to date. He serves on the editorial Board of 2 journals, an ad hoc reviewer for 17 journals and has lectured extensively in the United States and abroad.

Bruce Boghosian, PhD, is a professor of Mathematics in the university of Tufts with secondary appointments in Computer Science and Physics. He also co-directs the Data Analytics program in the School of Arts and Sciences. Bruce received BS and MS degrees from MIT (1978), and PhD from the University of California, Davis (1987). He was elected to Fellowship in the American Physical Society in 2000, named a Distinguished Scholar of Tufts University in 2010, a Fellow of the Jonathan M. Tisch College of Civic Life in 2018, and a Fellow of Tufts' Data Intensive Studies Center in 2019. He served as Chair of the Department of Mathematics at Tufts University from 2006 to 2010, and as President of the American University of Armenia from 2010 to 2014. He has been Research Associate Professor, Center for Computational Science and Department of Physics, Boston University, Senior Scientist, Mathematical Sciences Research Group, Thinking Machines Corporation and Scientist, Lawrence Livermore National Laboratory. Dr. Boghossian's research emphasis is on mathematical models of economics in general, and agent-based models of wealth distributions, in particular. He has received numerous awards, honors and fellowships.

For information please contact Dr. Hagop Panossian at (818) 453-0618 or info@ARPAInstitute.org

ARPA INSTITUTE, 18106 Miranda St, Tarzana CA 91356, USA . Phone (818) 453-0618

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