



**Շնորհալուր Լոր Տարի եւ Սուրբ Ծնունդ - Merry Christmas and a Happy New Year**

# Newsletter Headlines

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# President's Message

## WHAT IF?

What if Armenia was an independent nation since its inception? What if the Genocide did not take place? What if Soviet Armenia never existed and independent Armenia survived throughout these years? What would happen if we won the war of 2020? What would happen if the answers to all these questions were positive facts. What lessons have we learned from our history? Who was right and who was wrong? Do you sometimes ask these kinds of questions? What if Armenia had top level, cutting-edge technologies which could have helped develop such defense related tools and devices that could have made it possible to stand strong in front of the enemy and exhibit unprecedented defense capabilities that no external threat will be able to penetrate an inch inside the territories of Armenia or Artsakh? What would it take to create such an eco-system and capabilities that the superpowers of the world would suddenly be willing to vouch for Armenia and not let foreign forces dare attack Հայաստան? What could/should the Diaspora have done differently so that Armenia could have reached that stage? Could our global nation have coordinated and strategically planned the necessary steps that would have led to the development and implementation of an impenetrable defense system that would ensure the security and well being of Armenians in Artsakh and Armenia? Does the global Armenian nation have the necessary resources, both

financial, technical, and human, to have achieved such a goal. How can we develop strategic security and industrial/economic plans that will lead to the above-mentioned situation?

The ARPA Institute is doing its share (even if “a drop in the ocean”) regarding advancing science, education, technology healthcare, etc. to create the right capabilities, skills, and knowhow for a better future of Armenia. Renovating schools, churches, building new orphanages and old-age homes will not solve the existential problems of Armenia, even if important on their own. Armenia needs impactful and strategic projects that will take its people from Soviet mentality to a modern and developed nation-state. Please visit our website (<http://www.ARPAINSTITUTE.ORG>) to learn more about past and on-going projects. You can personally help support these long-term projects that can boost science, education, technology, and economic growth in Armenia! Please make a tax-deductible donation to ARPA Institute (501 c3, non-profit, charitable organization) through the website or by sending in your checks to Dr. Sargis Sedrakyan, Treasurer of the ARPA Institute, 17436 Dusty Willow Ct., Canyon Country, CA 91387.

**ARPA Institute is an organization of experts in various fields and its members use their expertise to provide technical and professional assistance to Armenia. ARPA needs people who are ready and willing to help and even spend time in Armenia and carry out Analysis, Research and Planning for Armenia. Please contact us at [info@arpainstitute.org](mailto:info@arpainstitute.org) if you can help achieve such functions.**



**Harol Avedis DeMirjian** was a founding and continuous Board member of the ARPA Institute since 1992. He was an organizer of the first Energy Conference for Armenia in November 1992, when 30 energy, economy, finance, and other experts from the Diaspora convened and took the important decision to re-activate the Medzamor Nuclear Power Plant. Harold also led the reactivation of the Jajour Coal mine to help provide heating material for the people. He served as the Treasurer of the ARPA Institute for over 25 years. Avedis has been instrumental in using the Medinian School Hall for the ARPA Institute monthly events, as well as the Board of Directors meetings, free of charge. He was one of

the pillars of the Institute and Board of Directors, his wise council will always be remembered and his steadfast and disciplined leadership, and his fatherly conduct will be missed dearly.

# 2023 ARPA INVENTION COMPETITION.

## ԱՐՓԱ Հիմնարկի 2023-ի Նորարարութեան Մրցումին Մասնակցող Ցայտեր

The ARPA Institute Invention Competition for Young Scientists is a contest designed to encourage young scientists active in science, engineering, mathematics, technology, and creative invention, while stimulating their problem-solving abilities. This prestigious challenge also recognizes the productive relationship among a team of researchers and their mentors that is essential to economic growth and leadership. [ARPA Institute is currently accepting submissions for the 2024 Invention Competition](https://www.arpainstitute.org/invention-competition/) <https://www.arpainstitute.org/invention-competition/>.

### **2023 Project Submissions:**

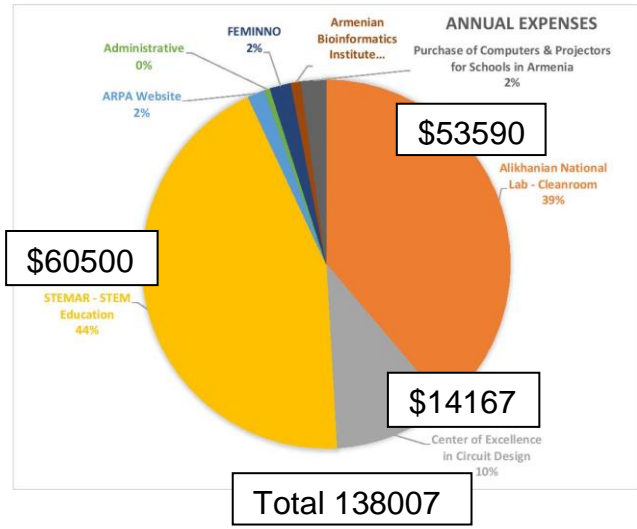
1. Nuances of the implementation of the technological process in the mode of Frontal Polymerization in continuous conditions, by Baghdasaryan, Tonoyan, Kocharyan, Varderesyan, Davtyan, Gasparyan
2. Production of Biomass and Biohydrogen in Green Algae as a promising way of Industrial Wastes Utilization, by Harutyunyan, Hambardzumyan, Hakobyan, Manoyan
3. A method for detecting movement over long distances by Amplifying and receiving infrared radiation from a moving object., by Bostanjan.

*Thank You to Our Generous Donors!*

## ARPA INSTITUTE DONATIONS IN 2023

Richard	Adrouny	\$102.53	Ara	Keshishian	\$510.65
Anouche	Agnerian	\$51.52	Vahe	Khanbabian	\$200.00
Lucy	Abgaryan	\$220.00	Armen	Kocharian	\$200.00
Rubik	Asatryan	\$100.00	Hagop	Kozanian	\$5,000.00
Hriar	Cabayan	\$1,000.00	Robert	Kurkjian	\$100.00
Alfred	Eisaian	\$102.53	Ruben	Lusinyants	\$204.56
Adrin/Sossy	Gharakhani+	\$5,000.00	Anna	Ohanyan	\$100.00
Armen	Goenjian	\$204.56	Denis	Orlando	\$50.00
Amazon Smile		\$21.18	Daniel	Ourlian	\$102.53
Goodsearch		\$54.49	Ara	Manoogian	\$100.00
Annie	Graham	\$100.00	Levon	Minnetyan	\$1,500.00
Armen	Hayrapetian	\$500.00	Ara	Minassian	\$180.00
Viken	Hovsepien	\$1,000.00	Tatiana	Mardirosian	\$102.53
Petar	Ivanov	\$63.40	Vahan	Martirosian	\$204.56
Hermine	Janoyan	\$102.53	Vahe	Musoyan	\$500.00
Hovhannes	Karakashian	\$400.00	Yervand	Nersisyan	\$1,000.00
Ani	Kerametlian	\$510.65	Lori	Panossian	\$455.58

Armen	Panossian	\$960.00
Hagop	Panossian	\$400.00
Gagik	Parsamian	\$820.24
Kevork	Santikian	\$100.00
Sargis	Sedrakyan	\$339.35
Ralph	Setian	\$100.00
Ani	Shabazian	\$600.00
Shant	Shekherdimian	\$204.56
Society for Science		\$3,000.00
Vatche	Souvalian	\$13,255.58
Grisha	Tamazian	\$51.39
Minas	Tanielian	\$200.00
Ara	Terjanian	\$102.53
Alex	Tour-Sarkissian	\$10.70
Kenell	Touryan	\$75.00
Sara	Vorsganian	\$609.12
Andre	Yarian	\$1,236.00



*Donating to ARPA Institute Takes Very Little Effort*

*Just Click on the PayPal Sign Below for A Secure Payment*



## NEW ARPA INSTITUTE PROJECTS

### 1. Center of Excellence in Circuit Design at National Polytechnic University of Armenia

The ARPA Institute is establishing a state-of-the-art electronic design automation lab in circuit design at the National Polytechnic University of Armenia (NPUA) in collaboration with CISCO and Cadence Design Systems. The primary expert and initiator for this project is Vatche Souvalian. The main objective is to offer new circuit design courses for graduate students to learn the use and applications of specialized software tools provided by Cadence Design System. This will help improve the semiconductor ecosystem in Armenia. The lab will be certified by Cadence Design

Systems, thus giving NPUA international recognition to attract international players in the field, such as NVIDIA and AMD. ARPA institute will provide the necessary hardware (two dedicated high-performance servers as well lab equipment/computers), make the arrangements for the software and training and coordinate with NPUA Administration. CISCO will provide the necessary knowledge and training to teach and proliferate the use of such design tools. The Cadence software tools will be used for both education as well as research and development.

***Please help the ARPA Institute complete this highly critical facility with all the modern computational hardware and tools necessary to carry out cutting-edge circuit design courses and research in Armenia by donating generously. You can donate through our website or send a check made to the ARPA Institute and mailed to Dr. Sargis Sedrakyan - Treasurer, 17436 Dusty Willow Ct., Canyon Country, CA 91387.***

## **2. Research on Confined Light and Advanced Photovoltaics (aka Picoscience) at Yerevan State University and Alikhanyan National Lab**

The optical response of materials is predicated on light-matter interactions in free space, subject to the laws of conservation of energy and momentum. Since the momentum of free space photons is negligible in comparison to that of electrons, optical transitions are only allowed among states that are vertically aligned in momentum space. This is the reason for the poor absorption of so called indirect semi-conductors, where the valence and conduction bands are misaligned. Silicon, which is the material of choice for photovoltaic solar cells, is a prime example. In a recent article, [arXiv:2304.14521](https://arxiv.org/abs/2304.14521), it was demonstrated that light-matter interactions can be fundamentally changed using nanometrically confined photons. The momentum of the photon can be increased by 2-3 orders of magnitude by confining it on plasmonic nanoparticles, whereby the absorption of solar radiation in silicon can be enhanced by 2-3 orders of magnitude. This paves the way for thin-film Si-solar cells at a significant reduction in cost and materials consumption. To explore the concept and its implementation, a theoretical effort was launched at YSU, led by Drs. Vram Mughnetsyan and Aram Manaselyan, and supported by Hovhannes Haroyan, Armen Harutyunyan, and Professor Khachig Nerkararyan; and an experimental effort was launched at the Alikhanyan National Laboratory, led by Drs. Narek Margaryan and Eduard Aleksanyan. Prof. V. Ara Apkarian of UC Irvine, who is a coauthor of the original work, is advising the two groups, and the effort was initiated and is being facilitated by the ARPA Institute.

Please View the Video of Discussions with Professor Ara Apkarian:  
[https://youtu.be/oFqL\\_9zNNgU?si=75nWmX0WL4TlwmUr](https://youtu.be/oFqL_9zNNgU?si=75nWmX0WL4TlwmUr)

## CONTINUING PROJECTS

### **3. CLEANROOM: Collaboration with the Alikhanyan National Laboratory of Armenia (Yerevan Physics Institute)**



CLEANROOM: (Մաքրատնտես) ANLA is the national science laboratory of Armenia, it has changed its name from the Physics Institute in 2011. There are seven research divisions at ANLA namely, Cosmic Ray, Experimental, Isotope Research and Production, Cosmology and Astrophysics, Matinyan Theory, Experimental, and Applied Physics. Science and technology jobs are economic security paths for all nations and for Armenia in particular. However, to have competitive global science and technology requires infrastructure, instrumentation, and knowhow. That was the motivation and vision for the creation of an ISO-6 or Class-1000 Cleanroom at AANL. The facility will be open for collaboration and use by all the universities and scientific institutes of Armenia as well as technology companies as needed. Just recently Bazoomq worked on the first ever indigenous satellite (CubeSat Hayasat 1) in the Cleanroom.

The ARPA Institute has also supported other important projects at AANL, through special cooperation and assistance to the team of Radio-Frequency Photo Multiplier Tube, led by Dr Amur Margaryan.

We are promoting their successful implementation of Radio Frequency timers of unsurpassed precision with huge potential in fundamental sciences and industrial applications with billions of EUR valuation in international markets. Having the right infrastructure, especially a Cleanroom will allow Armenia to successfully compete in the future for high level experimental projects.

For the development of thin films to be blind to IR light, as well as other benefits of a Cleanroom and its potential benefits to science and the defense of the Homeland could be significant.

We envision a Cleanroom that allows both fundamental research and applied work to be carried out in an ISO-6 Class-1000 Cleanroom that will improve and advance scientific research and enable future more advanced projects, that could allow collaboration between scientific institutes and private companies.

**Special Contributions of Dr. ARAM TANIELIAN to the Cleanroom and the ARPA Institute:** The unconditional support and guidance for the Cleanroom has been provided by Dr. Aram Tanielian. *He has been the main architect, instructor, and teacher for the Cleanroom, as well as the main provider for instrumentation and tools.* He donated over 20 Cleanroom instruments and devices to the Cleanroom, which ARPA shipped to Armenia, and which are being installed for use by the research community. Below please see photos of the instruments and Aram Tanielian at work at the Alikhanyan National Lab training young scientists.



Spinner-Coater



Laboratory Furnace



Laboratory Sink



Aram Teaching AANL Staff & Grad Students

#### **4. Radio Frequency Timer (RFT): Collaboration with the Alikhanyan National Laboratory of Armenia (Yerevan Physics Institute)**

In collaboration with the AANL, the ARPA Institute is helping Development, construction, and testing of a new prototype of the Radio Frequency Photomultiplier Tube (RFPMT) at Alikhanyan National Lab (ANL) in Yerevan, by using the services of Photek in England. Also in the works is the potential commercialization of the device in medical and other fields. Mihran Aroian, a commercialization expert from the USA, under the Igordz program of the High Commissioner of Diaspora Affairs' office, is helping write proper contract agreements and Intellectual Property rights.

#### **5. Nanotechnology: ARPA Institute Continues to Support the Physical Research Institute (PRI) in Ashtarak**

The ARPA Institute had purchased a Hypothermia Furnace for PRI to carry out research and experiments in nanotechnology. Especially important was the initiative of Dr. Aram Manukyan, team leader and senior scientist in PRI, who is developing methodologies to extract nanoparticles of various materials, but especially graphene made through processing of waste plastics. He has created graphene filters that show high performance in water purification.

#### **6. Empowering a Project-Based Scientific Approach to Collaborative STEM Education**

The main objective of STEM Education is to help motivate teachers to provide project-based holistic learning experience for students. Special teacher training and mentorship will be carried out in over 10 schools in Davush, Armenia, on the various approaches and methodologies in STEM education; Project-based education kits and guidance will be supplied and provided to each individual student in

the upper grades and project-related hands-on research problems will be given for them to solve. STEM EXPO as a project and research exposition and collaborative platform will be organized to educate the community and motivate their cooperation and understanding. It is expected that comprehensive STEM projects in participant schools will be implemented and tangible results of educational and/or communal values will be generated, which will help in intra- and inter-school collaboration. Communication channels between the schools and STEM representatives will always be open and transparent to foster experimental learning and entrepreneurial mindset to addressing individual and community needs.

## ORGANIZING SCHOOL SCIENCE FAIRS IN ARMENIA

**History:** ARPA Institute organized the first science fair ever in Armenia in 2017, held in the National Academy of Sciences headquarters on Baghramian Avenue. Since then, we have helped make this an official Armenia-wide program. ARPA Institute board members have been working diligently to mentor teachers and students and conduct science fairs in Armenia's schools every year. Prior to the first 2017 fair, a teacher-training program was implemented in the Heratsy school facilities, where around 80 teachers were in attendance. They were divided into teams of four and guided to carry out a science project, by experimenting on paper airplanes with each team optimizing a parameter, while all the other parameters were kept constant. The objective was to have them understand the real meaning of a science project and guide their students. 24 projects from various schools in Yerevan and the regions were presented at the science fair. A select group of judges were trained and asked to interview the students and the best 4 were awarded.

**Ongoing Development:** Since then, ARPA has been working with the current SECS Ministry on school science fairs and has had many on-line meetings with the then Deputy Minister (now Minister) Zhanna Andreyan and her assistant Anna Khudoyan. A special program of teacher-training is being implemented by STEMAr, supported in part by ARPA funding, in more than 10 schools in the Davush region in the northeast of Armenia.

**Prizes:** In April 2020, the first ever official Science Fair (Գիտափորձադրսական Փառատուն), was held in the Architectural University in Armenia with 44 projects from various regions and continues every year since. Two of the winning projects participated on-line in the International Science and Engineering Fair (ISEF) and one of the teams won fourth place with a \$400 award. This year Armenia won scholarship for study one academic year in the petroleum engineering university of Saudi Arabia.

Every year official announcements from SECS will go out to all schools in all the regions of Armenia and will solicit participation in the science fair in Yerevan. Teachers will be guided to help students select their project topics in December, carry out research on their topics in January, construct a prototype, perform experiments, and collect data in February and be ready for their regional science fairs in early March. The final Գիտափորձադրսական Փառատուն will be held in April in Yerevan. The winners will once again participate in the 2024 ISEF, most probably on-line again.



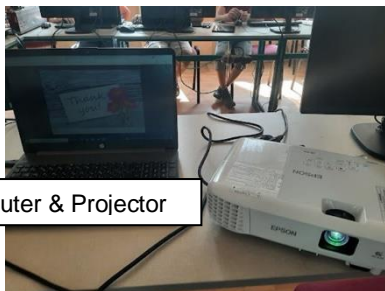
# REPORT FROM THE ARPA INSTITUTE EXECUTIVE DIRECTOR IN ARMENIA

ARPA Institute applied for and received a \$3,000 grant from International Science and Engineering Fair (ISEF) in 2023, for the second year, to realize a project which would provide a technology boost for schools in the provinces (Marzs) to extend internet access and computing resources to more students and provide them with incentives to participate in the National Science Fair in Armenia. On behalf of the ARPA Institute, our Armenia Board Member, Hrachoohi Boghossian reached out to schools in the Ararat and Siunik Marzes to identify schools with the most need for the technology resources. 3 schools were identified and provided with a new laptop and projector with a screen. The laptop and projectors were set up to allow access for all students to use it for science fair research and education projects. Barkev Iskikian, the ARPA Institute Executive Director in Armenia purchased the necessary devices and planned to deliver them and have a special training for the teachers in charge. The hardware was personally delivered to each school and set up and configured. The school principals and teachers were very appreciative and excited to receive the laptops and projectors. Below is the list of schools which received the donations.

## **The schools in Armenia that received a Laptop, a Projector and a Screen**

School Name	Region	Gifted technology	School Principal	Delivery Address
		Plus Screens		
Lusarat Secondary School	Ararat	Laptop + Projector	M. Derderyan	Գ. ԼՆԼՍԱՌՆԱՍ, Lusarat - Town School
Yeghegnavan Secondary School	Ararat	Laptop + Projector	Hasmik Mayilyan	Եղեգնավան- Ararat, Yegheknavan- School
Nrnadzor Secondary School	Meghri	Laptop + Projector	Susanna grigoryan	Մեղրի - Meghri Town-School

A sample of the items donated to the schools:



Sample Computer & Projector

# ARPA BOARD MEMBERS CONTRIBUTIONS TO THE ADVANCEMENT OF SCIENCE, EDUCATION, HEALTHCARE IN ARMENIA



**Dr. Shant Shekherdimian** serves as one of the senior advisors to the Ministry of Health of the Republic of Armenia. The focus of his work within the Ministry has been on optimizing several dimensions of the healthcare system in preparation for enactment of Universal Health Coverage (UHC) within the Republic of Armenia. UHC implementation is a stated goal of the government and one of the main components of the United Nations Sustainable Development Goals, to which Armenia has committed. The detailed assessments have identified 3 major bottlenecks on the path towards successful UHC implementation: 1- a weak primary care system, 2- delivery of poor-quality care, and 3- insufficient governance capacity needed to drive a complex reform of this magnitude. In line with these identified challenges, Dr. Shekherdimian's work has involved leading the Primary Care Strengthening Task Force, which has developed a strategy and roadmap for primary care reform, participation in the National Quality Policy and Strategy committee, and contribution to efforts aimed at improving organizational efficiency and effectiveness within the Ministry of Health.



**Dr. Ara Keshishian** is a Board-Certified surgeon and has been in private practice since 1999. Dr Keshishian has developed medical devices and received patents in US, Canada, and European Union. He works on a few projects in Armenia, including development of adaptive prosthetics for wounded soldiers and special eyeglasses that adjust the inadequacy of people with eye/vision issues, such as those with strabismus (crossed eyes). Special sensors inside the eyeglasses detect the imbalance between the eyes and make the necessary adjustments adaptively to provide better vision. Students in TOMO, Armenia are also working with Dr. Keshishian on the design of these eyeglasses. You can view the video in the link below for more details: <https://youtu.be/0Api-ed5BvU?si=TzSMGnlppAVRyIVN>



**Mr. Ruben Lusinyants** is a Managing Director and head of Alternative Investments Technology at Morgan Stanley. Mr. Lusinyants is also the Founding Director of PIERIS Fund - a non-profit organization fostering economic and social development in Armenia through supporting scientific research, accessible education, and investments into sustainable technology driven businesses. Amongst other things, he funded and supported the establishment of (ACDT) Advanced Center for Detection Technologies at AANL, funded scholarships for talented students, etc. 8 scientists and 6 students at ACDT is representing Armenia as one of 13 countries in international collaboration of (EIC) Electron Ion Collider initiative led by Brookhaven National Laboratories and Jefferson Lab. For more information see <https://www.pieris.fund>. Mr. Lusinyants is also the founding director of STEMAR Enterprises (<https://www.steamr.academy>) – an organization with mission to facilitate STEM experiential and problem-based collaborative education for school-aged children. On April 7, 2023, based on its successful execution in 4 schools in Armenia, STEMAR project-based education was certified by the Ministry of Education, Science, Culture, and Sports for its alignment with MoESCS strategic vision and new educational standards. This program is now expanded for execution in 16 schools through 2024.



**Dr. Armine Lulejian** is Program Director for the Avetis Health Informatics Training program in Armenia and Clinical Assistant Professor in Population and Public Health Sciences at the Keck School of Medicine of University of Southern California. She is leading the Avetis Health Informatics Fellowship (AHIF), whereby Armenia can leapfrog the US and Europe with a workforce to build the necessary infrastructure for Electronic Health Records (EHR), which is already being widely implemented. AHIF is the first health informatics training program in Armenia, consisting of a bootcamp, an individualized training program, a capstone, and a scholarly project. The first cohort completed the fellowship the summer of 2023 with much success. Some of the projects included an electronic system for tuberculosis lab supply management, integration of laboratory data to the unified system, diabetes registry, SMS system for cardiovascular health, and health informatics tools Continuing Medical Education for healthcare professionals in Armenia. All four fellows presented their scientific work in both national and international conferences. Most notably, Ruzanna Movsisyan presented her work at the American Medical Informatics Association's (AMIA) annual meeting in New Orleans in November. In October 2023, the second cohort of the fellowship started with six new healthcare professionals.

## ARPA INSTITUTE PANEL DISCUSSIONS AND PRESENTATIONS DURING 2023

In 2023, ARPA Institute organized 15 panel discussions and/or presentations on various topics related to Armenia or Armenians.

*If you have an interesting topic and are interested in making a presentation, please contact us at [info@arpainstitute.org](mailto:info@arpainstitute.org)*

1. **ARPA Panel Discussion on: “Armenian Highlands and Early-Hunter Gatherers to Food Producing Societies”, Panelists: Boris Gasbaryan, Phil Glauberman and Jayson Peter Gill, Moderator: Ellery Frahm.** Held on Saturday, January 21, 2023 @ 10:00 am, PST.

**VIDEO of the panel discussion:** <https://youtu.be/1UqkDKTaZh0?si=Ddgqt7n3qy7VPfCB>

**Abstract:** The Armenian Highlands and the Caucasus, a glacial refugium, are a hotspot of biodiversity. The favorable climate, diversity and rich natural resources have helped define their pivotal role as an important destination and thoroughfare for hominin populations since the Paleolithic and, indeed, into protohistoric and historic times. It is thought that for hominins, during the Pleistocene it served as a core area from which (re)colonization of Eurasia started. Researchers working in Armenia will present archaeological records from the Lower, Middle, and Upper Paleolithic periods. Reconstructing the behaviors of ancient human groups through time and to test widely held ideas about landscape organization, management of life supporting resources, technology, exchange, and connections, in parallel with cultic behaviors and the worldview, under fluctuating climate and biological-social

displacements will be attempted. Despite knowledge gaps, it will be shown how the people in the region developed their own local culture and interacted with other societies of the Ancient World, contributing to the shaping of the standard basis of early civilizations.



**Boris Gasparyan, Ph.D.** is a researcher at Institute of Archaeology and Ethnography of the National Academy of Sciences of the Republic of Armenia and is Assistant Professor in the Department of Archaeology and Ethnography at Yerevan State University since 1992. He has directed and co-directed many international joint archaeological missions in Armenia since 2000. Boris is an author of around 180 scientific publications regarding different aspects of Archaeology of Armenia and the Near East. One of the well-known projects led by Gasparyan is the Areni-1 cave, where the worlds' oldest shoe and wine producing facility was discovered. Among his achievements are the excavations of the Lower Paleolithic site of Haghtanak-3 in the Debed River valley, series of important Middle Paleolithic sites (Hovk-1, Barozh-12, etc.), the Upper Paleolithic sites of Aghitu-3 cave and Kalavan-1 open-air and others. Gasparyan also contributed to the study of the Bronze-Iron Age, Classical Period and Medieval monuments of Armenia.



**Phil Glauberman, PhD**, University of Connecticut, USA, 2014, is a researcher at the Catalan Institute of Human Paleoecology and Social Evolution (IPHES) and Rovira i Virgili University in Tarragona, Spain. He also maintains affiliations at the Department of Early Prehistory and Quaternary Ecology at the University of Tübingen, Germany, and the Institute of Archaeology and Ethnography of the National Academy of Sciences of the Republic of Armenia (IAE NAS). Since 2008, he has collaborated on and co-directed several Paleolithic archaeology surveys and excavations in Armenia, including at the Lower Paleolithic site of Nor Geghi-1, and the Middle Paleolithic sites of Lusakert-1 cave, Kalavan-2, and Barozh-12, among others. He is mainly interested in learning about human behavior through the study of stone tools, their contexts, and the formation of Paleolithic sites. He seeks to improve our understanding of how Paleolithic humans adapted their technology and land use to the eco-geographically diverse Armenian Highlands in the context of global climate changes. With Boris Gasparyan, Artur Petrosyan (IAE NAS), and an international research group, Phil currently co-directs a new project that investigates the age and context of Lower Paleolithic artifacts and animal remains at the sites of Areni-1 and -2 caves, and ultimately explores the behavior of the earliest human occupants of the Armenian Highlands.



**Jayson Peter Gill, M.A.** is a PhD candidate at the University of Connecticut, USA. Since 2015, he has collaborated on multiple Paleolithic archaeology projects in Armenia, including work on the Lower Paleolithic sites of Nor Geghi-1, Haghtanak-3, and Hatis-1, as well as the Middle Paleolithic site of Lusakert-1. The focus of his doctoral work is the application of cultural evolutionary theories alongside 3D scanning, statistical shape analysis, and traditional modes of lithic analysis to answer questions regarding behavioral change during the Lower to Middle Paleolithic transition in Eurasia. This research examines the behavioral factors underpinning the change from Acheulian bifacial to Levallois prepared core technology using both newly excavated material and museum collections. Currently, he co-directs excavations at the Middle Paleolithic site of Ptghavan-4 in the Debed Gorge of northern Armenia and is collaborating on a project investigating early occupations at the sites of Areni-1 and -2, in the Vayots Dzor Province of Armenia. Jayson also works on material from the UK through a collaboration with the British Museum.



**Ellery Frahm, PhD**, University of Minnesota, USA, 2010, is a faculty member in the Department of Anthropology and Council on Archaeological Studies at Yale University, USA. Dr. Frahm is also affiliated with the Anthropology Division of the Yale Peabody Museum, and he is the Co-Editor-in-Chief of the Journal of Archaeological Science: Reports. Since 2011, he has collaborated on a range of Paleolithic archaeological projects in Armenia, spanning from Lower Paleolithic sites such as Nor Geghi-1 to Upper Paleolithic sites such as Aghitu-3 cave. Tracing the transportation of obsidian artifacts in the distant past allows him to understand how different human groups made use of natural resources distributed across the landscape, how they responded to environmental challenges, and how the resulting behaviors shaped opportunities for the spread of technological innovations and social changes.

**2. ARPA Institute Presentation: «ԱՍՏՆԻ ՃՈՒՏԸ», Յեղիակ՝ Խորեն Արամունի, Հարցազրույցի ղեկավար՝ Մինաս Գոճաեան.** Շաբաթ, Փետրուար 4, 2023 @ 10:00 am, PST.

**VIDEO of the presentation:** <https://youtu.be/eAkzRc2Tm50?si=2uyyg6exaLrYrPJO>

**Ամփոփում՝** 1946-ին, Իրանի հայկական գիւղերից հայրենիք ներգաղթելու նպատակով մայրաքաղաք Թեհրան տեղափոխուած բազմահազար հայ ընտանիքներ մնացին անօթեւան: 1952-ին Իրանի կառավարութիւնը որոշեց, Բեհշադապատ թաղը, որտեղ տեղակայուել էին ներգաղթի նպատակով Թեհրան փոխադրուած հայերը, հավասարեցնել հողին: Արդիւնքում գոյացան հայկական նոր թաղամասեր: Կարճ ժամանակաշրջանում կարողացան ուտքի կանգնել, ունեցան իրենց ազգային դպրոցները, եկեղեցիները ու մշակութային կենտրոններն, որոնք իրենց նպաստը բերեցին ոչ միայն հայապահպանման գործում, այլև համաիրանական տարբեր ոլորտների զարգացմանը: Թէ ի՞նչ սերունդ տուեցին զուտ հայաբնակ այդ նոր շրջանները, երեք գլխաւոր կերպարների միջոցով կը ներկայացուեն, որոնցից իւրաքանչիւրը ունի կեանքի իր ուրոյն փիլիսոփայութիւնն ու տեսլականը: Պիտի մանրամասնուի թէ ինչպէս՝ վեպի սկիզբից մինեւ աւարտը, ձգուում է սիրոյ թեման, սեր դեպի հակառակ սեռն ու հայրենիքը: Պիտի շօշափուի Իրանի յեղափոխութիւնն ու հայերի դերը, զինուած պայքարն ու Արցախեան պատերազմին իրենց մասնակցութիւնը բերած որոշ երիտասարդների նուիրուածութիւնը: Գիրքը համառօտ գեղարուեստական հանրագիտարան որպէս պիտի ներկայացուի, այն անձերի համար որոնք բնաւ առնչութիւն չեն ունեցել Իրանահայ համայնքի հետ:



**Խորեն Արամունի՝** Ծնուել է 1948-ին Իրանի Բուրվարի շրջանի Ֆարաջաբատ գիւղում: Տարրական կրթութիւնը ստացել է հայկական Նայիրի, իսկ միջնակարգը՝ պարսկական դպրոցում: Երկու տարի սովորել է Սպահանի համալսարանի հայագիտական բաժնում: 1969-ին հայրենադարձուել է: 1975-ին աւարտել է Երեւանի պետական համալսարանի բանասիրական բաժինը: 1980-ին արտագաղթել է Միացեալ Նահանգներ (ԱՄՆ): Հանդէս է եկել տեղական տարբեր լրագրերում և ամսագրերում: Համագործակցել է «Հայաստան» հեռուստահաղորդումներին: Իր լուման է ներդրել Անահիտ Արամունու շաբաթօրեայ դպրոցի ստեղծմանն ու զարգացման գործում: Հիմնադրել է «ԱՅԲ-ԲԵՆ» հրատարակութիւնը: 1994-ին «Գարուն» Ամսագրի ներկայացուցիչը ԱՄՆ-ում, 2004-ից Հայաստանի Գրողների միութեան (ՀԳՄ) անդամ եւ 2014-ին Պարգեւատրուել է ՀՀ սփիւռքի նախարարութեան «Վիլեամ Սարոյեան» մետալով: 2018-ին ՀԳՄ կողմից արժանացել է մետալի՝ գրական վաստակի համար, նաեւ Կալիֆորնիայի սենատի, Լոս Անջելեսի և տարբեր քաղաքների բարձր ասելի քան 14 գնահատագրերի: Յեղիակ է 18 գիրքերի եւ 6 թատերգութիւնների:



**Միհայր Գոճաեան** ծնած է Պեյրուս: Նախնական կրթութիւնը ստացած է Ազգ. Սահակեան, ապա Ազգ. Ռուբինեան վարժարանները, ապա ԶԲԸՍ Յովակիմեան-Մանուկեան վարժարանը: 1968-ին կը յաճախէ Երեւանի Պետական Զամալսարանը եւ կ'աւարտէ հայ Բանասիրութեան բաժինը՝ միաժամանակ հետեւելով պատմութեան բաժնի աղբիւրագիտութեան ճիւղին: Պաշտօնավարած է Կիպրոսի ԶԲԸՍ Մելգոնեան 1978-1991, որպէս Զայոց լեզուի, գրականութեան եւ մշակոյթի պատմութեան ուսուցիչ, ապա ԶԲԸՍ Մանուկեան-Տեմիրճեան վարժարան՝ ղեկավարելով Զայկական բաժանմունքը: Դասաւանդած է նաեւ Քալիֆորնիոյ Նորթրիճի Նահանգային համալսարանի (CSUN) հայկական բաժանմունքին եւ California Language Center-ին մէջ: 2014-2017՝ Երուսաղէմի Սրբ. Յակոբեանց Ընծայարանի եւ Սրբ. Թարգմանչաց վարժարանի մէջ խմբագրած է «Սիրն»-ը : Աշխատակցած է Պեյրուսի, ԱՄՆ-ի եւ Զայաստանի տարբեր պարբերականներու եւ թերթերու: 2013-էն ասդին խմբագրութեան անդամ է [keghart.org](http://keghart.org) առցանց պարբերաթերթին: Զրատարակած է պատշաճեցուած Զայ գրականութեան եւ պատմութեան գիրքեր:

3. **ARPA Panel Discussion on: “The Challenges of Lebanon and the Armenian Community”, Panelists: Joe Kechichian, Ara Sanjian and Samar Issa, Moderator: Viken Hovsepian.** Held on Saturday, February 25, 2023 @ 10:00 am, PST.

**VIDEO of the Panel Discussion:** <https://youtu.be/77xibo9gDlc?si=W0a0XOsAyo86HOQY>

**Abstract:** Christians in the Middle East are in a difficult situation, particularly in the context of extreme swings between Sunnis and Shi'ahs. Nevertheless, and however imperfect, the moribund Lebanese system has given Christians some political privileges, which are now in jeopardy. Armenian families, like many other Christian communities, are emigrating even if few have a clear idea of actual numbers. The panel will discuss the repercussions of these issues and shed light on expected future developments considering the economic crisis, including the clientelist system and government complicity, the intricacies of local and international politics pertaining to Lebanon, the fundamental reasons why Armenians cannot offer any solution by themselves but may carry the brunt of the financial-political crisis. In addition, highlighted will be migration and "assimilation" among the Maronite-dominated Christian population.



**Joseph A. Kéchichian, Ph.D.**, a former political scientist at the Rand Corporation in Los Angeles, is a non-resident Senior Fellow at the King Faisal center for Research and Islamic Studies in Riyadh, Saudi Arabia. The author of 19 books, his latest contribution is *A Sultanate that Endures: Oman in the World from Qaboos bin Sa'id to Haitham bin Tariq*, Liverpool University Press, 2023, along with “*Armenians and Jews Confront the Genocide*,” in The Palgrave International Handbook of Israel, edited by P. R. Kumaraswamy, 2022.



**Ara Sanjian, Ph.D.**, Associate Professor of History and the Director of the Armenian Research Center at the University of Michigan-Dearborn was born in Beirut, Lebanon where he went to school. From 1986 to 1991 he studied for his master's degree in history at Yerevan State University, Armenia. From 1991 to 1994, he did his PhD in modern history of the Middle East at the School of Oriental and African Studies, the University of London. From 1996 to 2005, Dr. Sanjian served as Chairman of the Department of Armenian Studies, History and Political Science at Haigazian University in Beirut. In 2006, he joined the University of Michigan-Dearborn. His research focuses on the post-World War I history of Armenia, Turkey, and the Arab states of Western Asia. He is the author of *Turkey and Her Arab Neighbors, 1953-1958: A Study in the Origins and Failure of the*

Baghdad Pact (2001), two monographs, and articles and book chapters, in English, Armenian, Russian, and French.



**Samar Issa, Ph.D.**, Assistant Professor of Finance, Business Analytics, and Leadership at the Department of Business Administration at Saint Peter's University, New Jersey, USA. She is also the Director of the Center for Leadership Studies. She received a Ph.D. in Economics from The New School for Social Research. She formerly completed an MBA from the Lebanese American University. She is an expert on economic crisis and diaspora engagement and possesses a good track record of research success with published articles and international conference presentations. Samar worked for over a decade at U.S. corporations, the United Nations, and Lebanon. She is fluent in English, Arabic, and French, and conversant in Spanish.



**Viken Hovsepien, Ph.D.**, School of International Relations, University of Southern California (USC), in US foreign formulation and decision making, especially on the Middle East. He was born in Beirut, Lebanon and is a community leader and activist. Dr. Hovsepien has held leadership positions in Armenian organizations, as Chairman of the Armenian Revolutionary Federation, Western US Central Committee, and the ARF Bureau. Hovsepien was awarded the "Mkhitar Gosh" medal by the President of Artsakh, for his many services to the people, and to the Republic of Artsakh. He helped establish the Pan Armenian Council (PAC) in the Western US, of 24 organizations to promote dialog and coordinate activities, and was its first moderator. Dr. Hovsepien has also had a long banking career and is an Advisory Board member at Golden State Bank in California.

4. **Panel Discussion on "Young Entrepreneurs and Political Activism in Armenia"**, Panelists: **Mayis Margaryan and Ashot Vardanyan and Armen Kherlopian. Moderator: AI Eisaian.** Saturday, March 25, 2023 @ 11:00 am, PDT

**VIDEO of the Panel Discussion:** <https://youtu.be/76pgRnC6gNU?si=5HZYnzWLZ3ybsWdZ>

**Abstract:** Political entrepreneurs are those who create ideas and innovations, and act as new leaders in politics. They are individuals and groups who seek to improve the science and art of politics through disruption, new ways of solving political problems in terms of political philosophy, technology, campaigns, and governance. Just like the rise of social entrepreneurs worldwide brought about better business management and hence more innovation and technological miracles, now we need the same with political entrepreneurs. Armenia has just begun its entrepreneurial revolution by its young and fearless changemakers, now it may be time to enter the phase of political entrepreneurship. Today, politics is a complex and complicated field of taxing and spending constituents, or tackling huge internal and international problems, such as competition, regulation, or poverty, and political entrepreneurship is a means of utilizing power to make decisions to solve societal and political problems, shaping, changing, and consolidating political institutions. These and other issues will be addressed by the panel.

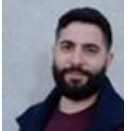


**Mayis Margaryan** was Born on February 6, 1987, in Yerevan. In 2012, he graduated from the Armenian State Economics University with a master's degree in marketing. He worked in several companies, including "Inecobank", and "Ardshinbank" CJSC as risk manager and analyst. In 2015 he founded the Excelist Training Club, which provides online training in data analysis. From 2019 he has been engaged in social entrepreneurship, especially through the organization he founded, Children in the Region which is an NGO involved in building capacity in

leadership by creating networks in various regions of Armenia through activities. Since 2021 he has moved to Stepanavan to coordinate these networks.



**Ashot Vardanian** is a 27-year-old researcher, developer and entrepreneur, born and raised in Russia. He started programming in elementary school and launched numerous successful software products before graduating from high school. He pursued a degree in Astrophysics, combining it with his research in Theoretical Computer Science and Artificial Intelligence, which led to Unum's creation in 2015. Since then, Ashot has travelled across 4 continents until settling in Armenia and calling it home, for himself and his company, Unum.



**Dr. Armen R. Kherlopien** is an entrepreneur, scientist, and investor. He currently serves on the Scientific Advisory Board of NASA-backed TRISH, is a Founding Partner at the BAJ Accelerator and is a board director at Scylla AI. Armen's diverse work experience spans leadership positions at massive multinational organizations including Booz Allen and Genpact. He has been the recipient of several notable awards, including the U.S. National Science Foundation Graduate Research Fellowship, U.S. Department of Energy Computational Science Graduate Fellowship, Coca-Cola Scholarship, and has served as a U.S. delegate to the Lindau Nobel Laureates Meetings. Armen holds a Bachelor's and master's degrees in biomedical engineering from Columbia University, where he specialized in algorithms. PhD in Biophysics, Cornell University in machine learning and fellowship in High Performance Computing and AI at Princeton University. Armen is a thought leader and brings a unique blend of technical expertise and business acumen in innovation initiatives.



**Al Eisaian** is CEO and Board Member of Cognaze Holdings Inc., Co-Founder and Board Member of IntelinAir, and Co-Founder and Board Member of IntelinAir. Formerly, Eisaian led several startups with successful exits and worked on a string of startups, Integrien (acquired by VMWare, 2010), IconApps (acquired by Science Inc., 2014). Al is a multiple-exit serial entrepreneur who specializes in people. He has built several innovative, collaborative teams around scientific breakthroughs and has then helped them achieve greatness. Mr. Eisaian is a committed servant leader for over 30 years and believes in the human potential as an infinite resource. Mr. Eisaian earned his BSEE from Oklahoma State University and his MBA from Pepperdine University.

5. **Panel Discussion on “What School Children in Turkey Learn About Armenia and Armenians”, Panelists: Garine Palandjian, Arusyak Kochmonnet and Firat Güllü. Moderator: Chris Sheklian.** Saturday, April 22, 2023 @ 11:00 am, PDT.

**VIDEO of the Panel Discussion:** <https://youtu.be/yYDHOslA3kY?si=fS44md49DS8QR6wz>

**Abstract:** The panel will discuss the teaching of distorted history to school children with a false, politically biased narrative and the consequential creation of an image of the “other” as an “enemy”. Turkey and Azerbaijan practice such an educational model which promotes hatred towards Armenians and Armenia. When unfortunate events open deep wounds on a community, it is extremely difficult to mend the devastating scars inflicted by perpetrators on their victims. When the victimized tell their story through actual experiences, the unrepenting victimizer denies the facts and creates their artificial narrative and justifies its crime, and even blames the victim. This leads to dark politics of textbook development and teaching, based on fictional narratives. On the other hand, when perpetrators admit



their crime, reconciliation and even friendship is possible. The school textbooks of Turkey and their teachings to children about Armenians and Armenia will be discussed and solutions will be proposed.



**Garine Palandjian, Ph.D.**, Educational Policy and Evaluation, is a Postdoctoral Researcher at Arizona State University, Melikian Center for Russian, Eurasian and East European Studies, on Armenian education. Garine has pursued several research projects and fieldwork in Armenia on post-Soviet transformations in education, peace and inclusive education, national identity, textbook studies, and pedagogical practices. Palandjian conducted her dissertation fieldwork in Armenia on pedagogical practices in border villages and Yerevan, as well as one month in Istanbul, Turkey. She focuses on the capacity and potential of education for peaceful relationships among ethnic groups in Armenia, Azerbaijan, and Turkey, and to clarify the constraints of schools in fulfilling this role.



**Firat Güllü** is a Turkish writer, translator, and theater historian with a BA and an MS from The Boğaziçi University in history. He is also a member of the Bosphorus Performing Arts Ensemble and the Editorial Board of performing arts periodical “Mimesis”. Firat has published two books on Ottoman performing art history named “Vartovyan Theatre Company and the Young Ottomans”, “System Crisis and Theater in the Ottoman Empire” and a novel “The Man Without a Name,” on the life of Istanbul-based Armenian playwright Arman Vartanyan. He has also translated Kevork Bardakjian’s “Hagop Baronian’s Political and Social Satire” into Turkish. He is a history teacher and member of the History Foundation, and on the Editorial Board of “Toplumsal Tarih” (Social History).



**Arusyak Koç Monnet** is pursuing an Intl. Master’s Program in Armenian Studies at Inalco, Paris. She has 23 years of experience in the field of education. She was the principal of Karagözyan Armenian School in Istanbul. She studied Pedagogy at the University of Marmara, Istanbul.

**Արուսեակ Գոչ Մոնե՝** Փարիզի, Ինստիտյուտի հայագիտութեան բաժնի մէջ, միջազգային մագիստրոսական ծրագրի ուսանող է: 2006-էն մինչեւ 2022, Ստանպուլի Գարակեօզեան Որբանոց-Վարժարանի տնօրէնուհին էր: Վկայուած է Ստանպուլի, Մարմարա համալսարանի, մանկավարժական գիտութիւններու բաժնէն:



**Christopher Sheklian, Ph.D.**, Anthropology, University of Chicago, is a Postdoctoral Researcher at Radboud University in the Netherlands. His dissertation was on “Theology and the Community: The Armenian Minority, Tradition, and Secularism in Turkey.” From 2018-2020, Dr. Sheklian was the Director of the Krikor and Clara Zohrab Information Center at the Eastern Diocese of the Armenian Church of America. He has published on liturgy and law in the lives of religious minorities, in the *Journal of Turkish Studies* and in *Armenian Christianity Today*. Chris is working on a monograph entitled “Liturgical Rights: Armenian Christian Presence in the Republic of Turkey”.

6. **ARPA Institute Panel Discussion on “FemInno: biggest female conference in Armenia and the region”, Panelists: Seda Papoyan, Nare Dovlatyan, Meri Grigoryan and Haikouhi Oroudjian. Moderator: Ani Shabazian.** Held on Saturday, May 13, 2023 @ 11:00 am, PDT.

**VIDEO of the Panel Discussion:** <https://youtu.be/8ulGSKWaOil?si=F7qEeztYtejdyd-l>

**Abstract:** Of paramount importance and critical is an intentional and systematic approach to developing women leaders in Armenia. The government should create policies or processes aimed at

supporting women, organizing diversity or gender-specific training, leadership development programs, mentoring, coaching, connecting with other women leaders, as well as attending conferences, joining professional organizations, and participating in online forums. Moreover, it is necessary to promote a supportive culture in recognition that women are burdened with more caregiving responsibilities than men. Especially crucial is to recognize and overcome bias which limits opportunities and advancement. Presented will be facts about the first and the biggest female innovation conference in Armenia and in the whole region – FemInno, the main actors in the initiative, as well as the primary objective of the conference. Discussions will also include the number of ways to get engaged and take an active role in FemInno in driving change for female talent and leadership in Armenia.



**Seda Papoyan** is the founder of FemInno and the Managing Director at Girls in Tech of Armenia. She is an experienced leader, passionate about technology, innovation, and women empowerment, with demonstrated positive results in diverse industries, including journalism, education, international affairs, and technology. Seda has skills in Technology Education, Strategic Communications, Innovation, Startups and Media Relations.



**Nare Dovlatyan** is the Co-organizer of FemInno and is the Operations manager of Girls in Tech Armenia. Nare is also the Co-Founder at Mootq, with demonstrated experience in operations and project management. She is committed to promoting diversity in and passionate about high technology.



**Meri Grigoryan** has a bachelor's degree in computer science and data science. In TUMO Labs, training on Machine Learning and internship in the Armenian Bioinformatics Institute. Meri is a student at Jacobs University Bremen, Google DSC Tech Lead at Jacobs University, FemInno Ambassador. She is one of the scholarship awardees of Sona Mnatsakanyan Female Talent Scholarship Fund.



**Haikouhi Oroudjian** is the Co-founder and COO of Oqni and the CIO at Safe YOU. Haikouhi is also a winning team member of the female-founded startup competition organized by FemInno. She was born in Armenia but raised in the USA and France. Oroudjian worked as a Clinical and Forensic Psychologist and then specialized in Artificial Intelligence consulting with Microsoft. She moved to Armenia after the war to help rebuild the country through sustainable solutions. Her main objective is to help empower amputees to live fulfilled lives.

7. **ARPA Institute Panel Discussion on “Strategic Planning and Scenario Analysis and Relevance to Armenia’s Geopolitical Challenges and Opportunities in the South Caucasus”, Panelists: Allison Astorino-Courtois, David Akopyan, Anna Gevorgyan, and Leonid Nersisyan, Moderator: Hriar Cabayan.** Held on Saturday, May 27, 2023 @ 11:00am, PDT.

**VIDEO of the Panel Discussion:** <https://youtu.be/dUzf0e1jHKI?si=-F10akQ3SC67e8Ms>

**Abstract:** Scenario planning is a strategic management tool that enables identification of potential future scenarios and develop strategies to mitigate risks and exploit opportunities. Strategic defense is a concept that involves using military or diplomatic means to protect the national security interests of a country. Scenario planning allows defense planners to consider a wide range of possible future scenarios and develop appropriate responses, contingency plans and allocate resources more effectively. The Panel will explore the relationship between scenario planning and strategic defense

and address the geopolitical challenges and opportunities facing Armenia over the rest of this decade. The panelists, who are subject matter experts will offer their views on issues critical for the Government of Armenia to consider in formulating long-term strategies to promote interests, enhance readiness and preparedness and to safeguard the security of the nation. The discussion will be based on the outcome of a course on strategic planning, which was followed by a simulation exercise on the future potential security conditions for Armenia. The panelists were co-authors of the attached Report.



**Allison Astorino-Courtois** is Executive Vice President at NSI, Inc. She has also served as co-chair of a National Academy of Sciences study on Strategic Deterrence Military Capabilities in the 21st Century, and as a primary author on a study of the Defense and Protection of US Space Assets. For the past 15 years Dr. Astorino-Courtois has served as technical lead on US Joint Staff-directed, Strategic Multi-layer Assessment projects in support of US forces and Combatant Commands, such as development of methodologies and analysis identifying the dynamics driving complex regional conflict systems. Previously, Dr. Astorino-Courtois was a Senior Analyst at SAIC (2004-2007). Prior to SAIC, Allison was a tenured Associate Professor of International Relations at Texas A&M University in College Station, TX (1994-2003). She has received several academic grants and awards and has published articles in multiple peer-reviewed journals. Dr. Astorino-Courtois also taught at Creighton University and as a visiting instructor at the U.S. Military Academy at West Point. She earned her Ph.D. in International Relations and MA in and Research Methods from New York University. Dr. Astorino-Courtois has been awarded both a US Navy Meritorious Service Award and a US Army Commander's Award.



**David Akopyan** has a Ph.D. in physics, studied complex systems. He worked for the UN in 15 countries across many regions. The last 10 years of his UN career was spent in Afghanistan, Somalia and Syria, the worst crisis-affected countries, holding leadership positions as UN Development Program deputy director, country director and Resident Representative. David is an AUA 2019 distinguished alumnus. Early 2021 he retired from the UN and joined the Artsakh Government as the Principal advisor to the state minister. Akopyan is also an ex officio advisor to the President of Armenia, the Chair of the Board of Trustees of reArmenia foundation, member of the Board of directors of Applied Policy Research Institute (APRI) of AGBU, and the Insurance Foundation of servicemen.



**Anna Gevorgyan** Anna Gevorgyan is a researcher at YSU and at the Center for Civilization and Cultural Studies, as well as a host of a program on Foreign Policy on Boon-TV. She received her MA in Iranian Studies from the Chair of Iranian Studies In 2009, Department of Oriental Studies, YSU. She has authored articles on internal politics and regional policy of contemporary Iran, on women's issues of Iran, Armenia-Iran relations, regional security issues, and women's rights in Islam.



**Leonid Nersisyan** is a defense analyst and research fellow at Applied Policy Research Institute of Armenia. He is the co-author of the books, *Waiting for the Storm: The South Caucasus*, as well as *Storm in the Caucasus*. His areas of focus include foreign policy and military policy in Russia and the CIS countries, defense industry analysis, armed conflict, and arms control.



**Hriar Cabayan** is currently a Visiting Scientist at the Lawrence Livermore Laboratory since 1997. He joined the Joint Staff/J-39 in 1997, where he managed the Strategic Multilayer Assessment (SMA) Program. Hriar received the Joint Meritorious Civilian Service Award from

the Office of the Chairman, Joint Chiefs of Staff in 2007 and again in 2019. He returned to Lawrence Livermore Laboratory in October 2019 and retired in 2020. Dr. Cabayan received his doctorate from the University of Illinois in Urbana. After graduating, he taught mathematical physics for four years at the Courant Institute of the New York University, Mathematical Sciences division and at McGill University.

8. **ARPA Institute Panel Discussion on “Impact of Digital Health Projects on the Healthcare in Armenia”, Panelists: Kristine Poghosyan, Ruzanna Movsesyan, Emin Manukyan and Kristine Sargsyan. Moderator: Armine Lulejian.** Held on Saturday, June 10, 2023 @ 11:00 am, PDT. Recording not available.

**Abstract:** Armenia can leapfrog the US and Europe with a workforce to build the infrastructure for Electronic Health Records (EHR), which is already being implemented. The Avetis Health Informatics Fellowship is the first such training program in Armenia, consisting of a bootcamp, an individualized training program, a capstone, and a scholarly project. Herein, the first cohort of the fellows presented their work: (1) digital health tools, e.g. Short Message Service reminders, usage of applications and digital solutions to improve International Normalized Ratio control in patients who take lifelong warfarin, (2) an electronic system for quantification, providing, and storing lab supplies was created and put into operation for tuberculosis supply management, (3) integration of laboratory data to the unified system for all active labs to be integrated into the EHR of Armenia, and (4) health informatics tools for testing, management and certification of Continuing Medical Education for healthcare professionals in Armenia.



**Kristine Poghosyan, MD, MPH**, is a Fellow of the Avetis Health Informatics Fellowship in Armenia. She is also a cardiologist at Nork-Marash Medical Centre. Dr. Poghosyan has an MD from the Yerevan State Medical University (YSMU) and MPH from the AUA.



**Ruzanna Movsesyan MS, MBA**, is a Fellow of the Avetis Health Informatics. She is also chief health IT specialist at the National Centre of Pulmonology, and Consultant for training of the EHR with the Breast Cancer and Breast Mammography Screening Pilot Program for Primary Care Physicians. Ruzanna has an MS in Engineer Programming from the State Engineering University of Armenia and MBA in Healthcare Management from YSMU.



**Emin Manukyan, Ph.D.**, is a Fellow of the Avetis Health Informatics Fellowship in Armenia. He is a senior developer at the National E-Health Operator, a Closed Joint Stock Company in Armenia. Emin has his Ph.D. in Software Engineering, Control and Automation from National Polytechnic University of Armenia.



**Kristine Sargsyan MD, MPH**, is a Fellow of the Avetis Health Informatics Fellowship in Armenia. She works at the National Institute of Health, the Ministry of Health, and Glasbo Diagnostic Clinic. Dr. Sargsyan is an endocrinologist with an MD from Yerevan State Medical University and MPH in Epidemiology from AUA.



**Armine Lulejian** is Program Director for the Avetis Health Informatics Training program in Armenia. Dr. Lulejian is Senior Director of Educational Initiatives for the USC MESH Academy, Associate Director of Informatics Education Core with USC Clinical Translational Sciences Institute, and Clinical Assistant Professor in Population and Public Health Sciences at the Keck School of Medicine of USC. Lulejian teaches undergraduates, graduates, and medical students at USC. She has an Ed.D. and MS from Columbia University, and an MPH from UCLA.

9. **ARPA Institute Panel Discussion on “The Genetic History of the Armenian Highland A Bridge to Europe”**, Panelists: **Aram Yardumian, Kristine Olshansky and Arsen Bobokhyan**, Moderator: **Peter Hrechdagian**. Held on Sunday, June 25, 2023 @ 11:00 am, PDT.

**VIDEO of the Panel Discussion:** <https://youtu.be/T7kSxeO3Ykk?si=DwLlbcnA-bUo9Ce9>

**Abstract:** For hundreds of thousands of years, humans moved across the “Southern Arc,” the area bridging Europe through Anatolia with west Asia. Genetic data are relevant for understanding linguistic evolution because they can identify movement-driven opportunities for language spread, especially during the Chalcolithic and Bronze Ages about 7000 to 3000 years ago, when Indo-Europeans with various language dialects began to migrate across the Eurasian Continent. Changing ancestral landscape of the Southern Arc, as reflected in DNA, corresponds to the structure inferred by linguistics, which links Hittite and Luwian to Indo-European, especially Greek, Armenian, Latin, and Sanskrit languages. All ancient Indo-European speakers can be traced back to the Southern Arc, as the DNA of the Bronze Age people of the region shows. There seems to be a definite link connecting the Proto-Indo-European–speaking peoples with the speakers of the languages in the Armenian highlands.



**Kristine Martirosyan-Olshansky, Ph.D.**, UC Los Angeles, 2018, is an Assistant Researcher at the Cotsen Institute of Archaeology of UCLA, where she directs the Research Program for Armenian Archaeology and Ethnography. Dr. Martirosyan -Olshansky is also an Associate Editor of ARAMAZD (Armenian Journal of Near Eastern Studies, Association for Near Eastern and Caucasian Studies) and since 2015 she has been serving on the Board of Directors of the American Research Institute of the South Caucasus (ARISC). She has been conducting fieldwork in Armenia since 2008, where she has collaborated on and co-directed a range of projects spanning from the Neolithic to the Late Bronze Ages in Armenia. She has participated in and supervised archaeological research in Israel, Egypt, and Peru. Since 2012, she has been co-directing the excavations of the Masis Blur Neolithic settlement, an 8000-year-old farming community located in the Ararat plain. Specializing on stone tools, Martirosyan-Olshansky traces the acquisition, use, and exchange of obsidian artifacts to understand how various groups made use of natural resources available to them and what these choices can tell us about human behaviors and social change.



**Aram Yardumian, Ph.D.**, Anthropology, University of Pennsylvania, Philadelphia, works on a large-scale genomic survey of Georgia (Caucasus) and is engaged in collecting human DNA samples from individuals in western Georgia for analysis of mtDNA, Y-chromosome, and autosomal variation, to derive a diachronic perspective on the population histories. He is also studying the impact of Upper Paleolithic and Neolithic settlers in the region, as well as the interactions between Caucasus populations and those of Anatolia, Iran, and the Mediterranean region. Dr. Yardumian has published in the American Journal of Physical Anthropology and in the Penn Museum's in-house magazine, Expedition.



**Arsen Bobokhyan** Ph.D. and MA, University of Tübingen, Germany, Doctor of History, Institute of Archaeology and Ethnography (IAE), Academy of Sciences of Armenia MA Yerevan State University, is the Director of the IAE and an Assistant Professor at YSU. His research interests are archaeology of the Caucasus, the Near East and Anatolia. Dr. Bobokhyan has participated in numerous international conferences and scientific workshops and has received several awards and scholarships. Dr. Bobokhyan has collaborated with local and international scientists in expeditions and excavations in Armenian and Georgia. Currently, in

collaboration with international partners, he directs archeological research on the eastern shores of Lake Sevan and on Mt. Aragats, investigating the phenomenon of vishaps ("Վիշապներ-dragon-stones").



**Peter Hrechdakian**, MA Cornell University, MBA Harvard Business School has been the volunteer administrator of the Armenian DNA Project at Family Tree DNA. He has lectured extensively on the subject. To name a few, the Library of Congress in Washington D.C., the ARPA Institute, several locations of the AGBU, the Armenian Research Centre at the University of Michigan-Dearborn, in Brussels, and the Haigazian University in Beirut. Peter has also funded several digs in Artsakh. Hrechdakian is a co-author of several academic articles on Armenian DNA.

**10. ARPA Institute Panel Discussion on “Scientific Research and Development in Armenia and the Academic City”, Panelists: Alasdair Reid, Göran Melin, Aram Pakhchanyan and Tigran Shahverdyan. Moderator: Naira Hovakimyan. Held on Saturday, July 22, 2023 @ 11:00 am, PDT.**

**VIDEO of the Panel Discussion:** <https://youtu.be/3F36PaUDojs?si=h5bo1YdhmCspggCe>

**Abstract:** There was a recent decision by the government of Armenia to establish a new technology-oriented university, an “Academic City”, thus aiming to consolidate all the institutes and universities into one university/research and development centre of excellence. A group of experts commissioned by the European Union and in coordination with the Government of Armenia carried out a study/analysis of the science/research system of Armenia and made recommendations in 2020 under the title “Raising the bar: a new mission for science in Armenia's development”. Armenia has a diverse network of research institutes under the National Academy of Science. However, the higher education sector is mainly focused on education with limited research activities. While reforms are taking place, the structure of the research system remains highly fragmented with over 56 research organisations, and 13 universities. The 19 recommendations of the commission, stress consolidation of the public and higher education, research, system as highly important for the benefit of large-scale scientific programs on a global level, enhancement of teamwork, efficient use of scientific resources and facilities. The panel will address abovementioned issues and will discuss the pros and cons of “The Academic City” concept with its potential consequences.



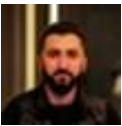
**Alasdair Reid** works on European research and innovation policy. He follows how innovation changes human life and the planet. Alasdair ensures that public policy fosters the transition of business, research and education, energy, mobility, and other systems towards more sustainable practices that hopefully help restore the Earth’s natural ecosystems on which we and future generations depend. Dr. Reid has worked for and with all sorts of people at the European Commission, the OECD, the World Bank, UNECE, and national and regional governments and agencies. Alasdair believes while a good strategy or policy is important, the real challenge is implementing it.



**Göran Melin** is Deputy Director at the Technopolis Group. He has 25 years’ experience of research, management, policy and evaluations in higher education. He holds a PhD and has extensive experience in international evaluations and investigations. Among his recent works, evaluations or studies targeting researcher mobility, international student exchange periods, multi-disciplinary research, re-organization of universities, academic careers, and international academic cooperation are noteworthy. These examples cover many countries in Europe and occasionally beyond.



**Aram Pakhchanyan** is the Chairman of the Board of Trustees of Ayb Foundation. He was the principle of the Ayb School in Armenia and is the Vice President of the ABBYY corporation. Pakhchanyan is involved in educational reform, projects, and initiatives, such as establishment of innovative learning environments, modern educational curriculum, and frameworks for professional teacher development programs. These are a part of the design of the Araratian Baccalaureate, an educational platform intended for Armenian schools. He leads the course on Leadership and Management in education, at Universal University, Moscow, and is an active Gituzh Initiative member.



**Tigran Shahverdyan** is Co-founder and Chief Technology Officer at Robomart, and Co-founder and ex-VP of Engineering at RoboCV. He is an alumnus of the Moscow Institute of Physics and Technology. His early career focused on space exploration. During the last decade he has been specializing in mobile autonomous systems. He was recognized with Armenia's Presidential Award for a discovery in theoretical physics. He is an active member of the Gituzh initiative.



**Naira Hovakimyan**, MS, YSU, Ph.D. RASc, Moscow, 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 has received numerous awards and prizes for her outstanding achievements. She is a 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.

**11. ԱՐՓԱ Հիմնարկի Քննարկում «Դասական հայերենի ներկայ վիճակը ու գործածությունը գիտական ուսումնասիրություններում եւ կրթության համար».** Մասնակիցներ՝ Աղեքսանդր Քանանեանց, Լուսինե Աւետիսեան եւ Սարգիս Մելքոնեան: Դեկավար՝ Վահագն Պաղոսեանց: Տեղի ունեցաւ Շաբաթ, Օգոստոս 12, 2023 ժամը 11:00-ին, PDT.

**VIDEO of the Panel Discussion:** <https://youtu.be/J1acAFxtAI?si=njEglNuws39rkice>

**Ամփոփում**՝ Դասական հայերենը (գրաբար)՝ որպէս հայութեան միակ ազգային գրական լեզու է դարձից ի վեր համընդհանուր կենդանի գործածութիւն է ունեցել մինչև ժժ դարի կեսը, իսկ այնու հետեւ մի քանի տասնամեակի ընթացքում իր տեղն է զիջել արդի գրականացուած արեւմտեան եւ արեւելյան աշխարհաբարներին: Լեզուի վերաբերեալ ժժ-ի դարերում դասական հայերենը հռչակուել է յետադիմական լեզու: Մինչդեռ դասական լեզուն քաղաքակրթական եւ քաղաքակրթակերտ իրողութիւն է: Իրաքանչիւր ազգային մայուն հանրութիւն, որն ունի ինքնուրոյն քաղաքակրթութիւն դառնալու եւ յարատեւելու ներուժ՝ լեզուի ընթացիկ յարափոփոխ վիճակի կողքին պետք է ունենայ լեզուական այնպիսի քերականօրէն կայուն եւ բիւրեղացած տարբերակ, որը թոյլ կը տայ սերնդէ սերունդ փոխանցել կարեւորագոյն եւ խորհրդակիր իմաստները, որոնք, ի հեճուկս հարիւրաւոր եւ հազարաւոր տարիների, առանց որեւէ թարգմանական միջնորդի ընկալելի են լինելու քաղաքակրթակիր հանրութեան ժամանակաշրջանի համար: Գիտակցելով դասական լեզուի հայեցակարգից բխող սոյն իրողութիւնը՝ Միխայիլեան Միաբանութիւնը ժժ դարում դասական հայերեն բազմաթիւ բնագիտական դասագրքեր է թարգմանել ու հրատարակել՝ ամրագոյն քաղաքակրթական հիմքերի վրայ նախապատրաստելով ազգային կրթութեան վերածնութիւնը: Այսօր եւս դասական հայերենը կենդանի է՝ անգամ եկեղեցական սրբազան ծիսակարգից դուրս: Դասական հայերենի ուսուցման, գիտական

ուսումնասիրության եւ արդի ազգային-պետական կեանքում պատշաճ վերածնության նպատակով միանգամայն տեղին է հրաւիրել ոլորտում աշխուժ գործունեութիւն իրականացող անհատներին եւ կազմակերպութիւններին՝ միմեանց գործունեութեանը ծանօթանալու, եւ համատեղ ծրագրերի քննարկման առիթ ստեղծելու համար:



**Արսէն Աւակեան**՝ Աստուածաբան, գրաբարի մասնագետ ու գրաբարի տարածման ջատագով: Ծնուել է ապրել է Թիֆլիս: 1989-1991 թուականներին ինքնուրոյն սովորելով հայերէն, ապա՝ ընդունուել է Գեւորգեան ճեմարան: 2001 թուականին հաստատուել է՝ Քարվաճառ: Դասաւանդում է գրաբար իրական Դպրոցում: 2021 թուականից աշխատում է Մեսրոպ Մաշտոցի անուան մատենադարանի՝ Թարգմանական մատենագրութեան բաժնում, 2022 թուականից ի վեր՝ Գիտական հետազոտութիւնների զարգացման կենտրոնում:



**Լուսինե Աղեյան**՝ Ծնուել է Ղարաբաղի Սարուշեն գիւղում: Աւարտել է Երեւանի պետական համալսարանի բանասիրական ֆակուլտետը 1996-ին: 1996-ից աշխատում է ՀՀ ԳԱԱ-ի Մանուկ Աբեղեան գրականութեան ինստիտուտում՝ որպէս աւագ գիտաշխատող: 2003-ին պաշտպանել է թեկնածուական ատենախօսութիւն՝ ստացել է բանասիրական գիտութիւնների թեկնածուի գիտական աստիճան: Նոյն ինստիտուտում՝ նրա աշխատասիրութեամբ հրատարակուել են Լեւոն Շանթի երկերի ութհատորեայ ժողովածուի ակադեմիական հրատարակութեան երկու հատորները: Այժմ տպագրութեան է պատրաստում Նիկոլ Աղբալեանի երկերի ակադեմիական հրատարակութեան Լեզուաբանական հատորը: Գրաբար է դասաւանդում համալսարաններում: 2023-ից համագործակցում է «Գիտական հետազոտութիւնների զարգացման կենտրոն» հիմնադրամի հետ:



**Սարգիս Մեյրնեան**՝ աստուածաբան, պատմական գիտութիւնների թեկնածու: Ծնուել է ՀՀ, ք. Երեւանում: Սովորել է Վահան Տերեանի անուան N 60 դպրոցում: Աւարտել է Երեւանի պետական համալսարանի աստուածաբանութեան ֆակուլտետը: 2018թ պաշտպանել է «Միակամութեան վարդապետութիւնը միջեկեղեցական երկխօսութեան համատեքստում (7-րդ դարի առաջին կես)» վերնագրով ատենախօսութիւնը՝ ստանալով պատմական գիտութիւնների թեկնածուի գիտական աստիճան: Դասախօսել է ԵՊՀ աստուածաբանութեան ֆակուլտետում, Վազգենեան Հոգեւոր դպրանոցում: ԳՀԶԿ-ի աշխատակից է եւ քաղաքական աստուածաբանութեան ծրագրի պատասխանատու: Մայր Աթոռ Սուրբ Էջմիածնի հրատարակչութեան գլխաւոր խմբագիր եւ «Etchmiadzin: Journal of Theology and Religious Studies» հանդէսի գլխաւոր խմբագրի տեղակալ:



**Վահագն Պաւղոսեան**՝ Իրական Դպրոց հիմնադրամի տնաւրէն: Վահագն Պաւղոսեանը վերադարձել է Սիլիկոնեան Հովիտից Երեւան 2006 թուականին՝ ղեկավարելու «Ինստիգեյթ» ինժեներական ընկերութիւնը: Instigate-ն առաջին ՏՏ ընկերութիւններից էր, որը դուստր ձեռնարկութիւն հիմնադրեց Գիւմրիում: 2007 թուականին այն հիմնեց ևս մեկ դուստր ձեռնարկութիւն՝ աւգտագործելով «Կառուցել-Գործարկել-Փոխանցել» բիզնես մոդելը: 2008 թուականին Instigate-ը իր արտադրանքի մշակումը տեղափոխեց գերմանական վեչուրային ֆինանսավորվող EDA ստարտափ՝ ProximusDA GmbH: 2011 թուականին ստեղծուել են դուստր ձեռնարկութիւններ Վանաձորում և Ստեփանակերտում: 2012 թուականին ստեղծուել է Exergy ՓԲԸ-ն, որը նոր սպին-օֆֆ է, մասնագիտանալու է բարձր արդիւնաւետութեան հաշուողականութեան ոլորտում

**ԳՐԱԲԱՐ ՏԱՐԲԵՐԱԿ:**



**Չամառաւտագիր՝** Դասական լեզու Չայոց իբրեւ միակ գրական լեզու ազգային ի համընդհանուր կենդանի գործածութեան էր ի հիմնդրորդէ դարէ ցմիջինս իննեւտասներորդի դարու, ապա յընթացս երից-չորից տասնամեակից գտեղի իւր տայ արդի գրականացելոց արեւմտեայց եւ արեւելեայց աշխարհաբարացն: Ազդեցութեամբ յիննեւտասներորդ եւ ի քսաներորդ դարս ընդ ամենայն ուրեք սփռելոց թիւրից եւ արիեստականաւրէն գաղափարականացելոց զլեզուէ պատկերացմանց՝ դասական լեզու Չայոց յետադիմական եւ ի պէտս արդի գիտութեան եւ կրթութեան անպիտան եւ աննպատակ «մեռեալ» ինչ հռչակեցաւ լեզու: Այդ քաջայայտ է, զի լեզու դասական՝ է քաղաքակրթական եւ քաղաքակրթակերտ իրողութիւն: Արդ՝ իւրաքանչիւրում ազգայնոյ կամ կուռ կառուցուածով ներկայուն հանրութեան, որոյ ըստ առարկայականաց նախադրելոց է ներոյժ զաւրութեան լինելոյ եւ յարամաւոյ իբրեւ զինքնակայ քաղաքակրթութիւն, առընթեր հանգունակ կենդանեաց խաւսից յարափոփոխ վիճակաց լեզուի, պարտ է ունել եւ զայնպիսի քերականաւրէն հաստատուն եւ բիւրեղացեալ լեզուակարգ, որ ի զաւրու եղիցի սերնդենէ ի սերունդ փոխանցել եւ ժառանգեցուցանել զկարեւորագոյն եւ զխորհրդակիր իմաստս, որք ի հեճուկս հարիւրաւորաց եւ հազարաւորաց ամաց ընդ մէջ անցելոց ժամանակաց անջրպետի, առանց թարգմանական իսկ իրիք միջնորդի ըստ ամենայնի իմանալի եղիցին իւրաքանչիւրում նորում սերնդեան՝ յորում կայն եւ գործէ ժամանակաշրջանի: Քաջ գիտացեալ զսոյն՝ ի հայեցակարգէ դասական լեզուի բխեալ իրողութիւնս, հարք Միաբանութեան Միութարեանց յիննեւտասներորդի դարու զբազում առաջատար ուսումնական մատնանս ի դասական լեզու Չայոց թարգմանեցին եւ հրատարակեցին իսկ՝ ի վերայ ամրագունից հիմանց կամելով վերահաստատել զհամապարփակ վերածնութիւն համակարգի ազգայնոյ կրթութեան: Այսաւր եւս դասական լեզու Չայոց կենդանի է՝ նա՛ եւ արտաքոյ սրբազան եկեղեցական կարգաց: Վասն պատշաճ ուսուցման, գիտական ուսումնասիրութեան եւ ակուննելի վերածնութեան դասական լեզուի Չայոց յամենայն ոլորտս արդի ազգային-պետական կենաց Չայութեան՝ յիրաւի բարի է ի մի հրաւիրել՝ զորս յայսմ ոլորտի գուն գործեն՝ զանծիսս եւ զկազմակերպութիւնս՝ առ ի ծանալթ միմեանց գործունեութեան լինելոյ եւ զի զառիթ քննութեան միաբան ծրագրաց արասցուք ի միջի:

**12. ARPA Institute Panel Discussion on “The Sarkis Cabayan Small and Emerging Business Development Program for Women”.** Panelists: **Elza Ginetsyan, Anahit Yeprikyan, Lusine Avagyan, and Nune Alaverdyan, Moderator: Anoush Yedigaryan.** Held on Saturday, September 9, 2023 @ 11:00am, PDT.

**VIDEO of the Panel Discussion:** <https://youtu.be/totU1ipRAoI?si=q9qrrJA1RWhAFSJf>

**Abstract:** Launched in November 2022 in the AUA, the Small and Emerging Business Development Program for Women is designed to bolster business growth in the rural regions of Armenia by empowering women entrepreneurs. The curriculum, devised by the faculty of AUA Manoogian Simone College of Business & Economics, offers a comprehensive two-semester course covering entrepreneurship, business management, financial strategies, and market expansion. Highlighting the event will be the remarkable voices of women entrepreneurs: Elza Ginetsyan, Anahit Yeprikyan, Lusine Avagyan, and Nune Alaverdyan, who will provide valuable insight into the dynamic business landscape of Armenia and its role in driving economic development, especially in the rural areas. The focal point of the discussions will be the far-reaching implications of the OE program on the overall economic impact of the intricate web in the rural communities. OE is implemented across several Marzes in Armenia, including Shirak, Lori, Tavush, Vayots Dzor, and Syunik, as well as Artsakh, contributing towards the strategic planning of the country amidst geopolitical challenges and opportunities within the South Caucasus.



**Elza Ginetsyan** co-founded Zebra Driving School, providing diverse services to instill safe and confident driving skills. Originating in Gyumri and later expanding to Kapan, these schools are pivotal in enhancing Armenia's driving culture. This advancement benefits various sectors like tourism and transportation in fostering economic growth. Prior to the blockade in Artsakh, a new branch of the driving school was opened in Stepanakert, but it didn't get the chance to start its operation.

**Anahit Yeprikyan** is the founder of Rhapsody, Vanadzor-based teahouse. She blends her passions for tea and community to create authentic experiences. With degrees in linguistics and pedagogy, her journey has taken her from teaching in schools to exploring our nation's beauty. Interweaving tea culture, artistry, and literary discussions, Anahit forges harmonious connections among like-minded individuals.



**Lusine Avagyan** is the co-founder of "CreateOn" hospitality Academy and an enthusiastic tour guide hailing from Armenia's cultural gem, Gyumri. With expertise in elevating tourism, she crafts unforgettable guest experiences. Dedicated to ongoing learning, she advocates for Shirak's prosperity and youth empowerment. Adept at dynamic collaboration, she is fueled by enriching the ever-evolving tourism landscape.



**Nune Alaverdyan** is the founder of Noreni, an innovative clothes upcycling enterprise. The primary mission of the company revolves around fostering the concept of 'slow fashion' and promoting sustainable practices within Armenia. This is particularly crucial considering the fashion industry's ranking as the world's second-largest contributor to pollution.



**Anoush Yedigaryan** is the Director of the Open Education program at AUA. Anoush has worked with international organizations, throughout Eurasia, the Middle East, and Africa and with AED, CoAF and USAID. Ms. Yedigaryan has taught at AUA and graduate courses at the Yerevan State University, as well as conducted corporate training and professional development programs in various capacities.

**13. ARPA Institute Panel Discussion on “Armenians as a Spatial and Digital Global Nation”, Panelists: **Gevorg Poghosyan, Khachig Tölölyan, David Akopyan, Hasmig Seropian and Nerses Kopalyan. Moderator: Hriar Cabayan.** Held on Saturday, November 4, 2023 @ 11:00am, PDT**

**VIDEO of the Panel Discussion:** <https://youtu.be/hbcYcit2bcl?si=-f6nFdX--3sFfobk>

**Abstract:** It is estimated that there are 3 million Armenians in Armenia and 7 million in the diasporas. The Armenian Nation is spread around the globe, with a major hub in Armenia and multiple hubs everywhere else. The Panel will focus on the realities of the global Armenian community and how well the Armenian Nation writ large can navigate in this new era, where the virtual and the spatial worlds interact and evolve. Furthermore, how can this new existence contribute to innovative ways of defining and preserving the Armenian identity in the future. One of the key questions and challenges to be addressed by the Panelists is: should we think of the Armenian Nation in new ways?



**Mr. Gevorg Poghosyan** has more than 25 years of entrepreneurial experience. He co-founded the first and largest e-payment system in Armenia: Idram. In 2016, he co-founded

TCF, the world's leading marketing agency in the field of crowdfunding. Since 2021, he has been engaged in social entrepreneurship. He is the CEO of reArmenia collaboration platform.



**Dr. Khachig Tölölyan** was born in a family of teachers and intellectuals in Aleppo, Syria, in 1944. He grew up there, in Cairo and Beirut, emigrating to the USA in 1960. He received his BA from Harvard in Molecular Biology and his PhD from Brown in Comparative Literature. He was a Professor of Literature and the Humanities at Wesleyan University, in Middletown, CT, for 47 years, with visiting appointments at the University of MichiganAnn Arbor, Johns Hopkins, Columbia, and Oregon State University. He is the founding editor of two periodicals. One of them, named *Diaspora: a journal of transnational studies*, played a foundational role in the creation of diaspora studies as a field. He has published in Armenian over a thousand pages of articles and columns on diaspora issues, and a book titled *Spyurki Mech (In the Diaspora)*. He co-edited a volume on *Diaspora, Identity and Religion* (2004, Routledge), and published much-cited scholarly articles on diasporas, exile, nationalism, and other Armenian topics. He retired at the end of 2020 but continues to have an abiding interest in how migrant dispersions become consolidated as diasporas and transnational communities, usually with networks and nodes, of which the most important is the homeland.



**Dr. David Akopyan** had dual careers- PHD in physics studied complex systems, after for 26 years worked for the UN in 15 countries across many regions. Last 10 years of his UN career spent in Afghanistan, Somalia and Syria, worst crisis affected countries, holding leadership positions as UN Development Program Deputy Director, Country Director and Resident Representative. He is also AUA (America University of Armenia), 2019 distinguished alumnus. Early 2021 David retired from the UN and joined the Artsakh Government as the Principal advisor to State Minister helping to coordinate humanitarian and development assistance. He is also an ex officio advisor to the President of Armenia, the Chair of the Board of Trustees of reArmenia foundation, member of APRI (Applied Policy Research Institute/AGBU) Board of directors and the Insurance Foundation of servicemen.



**Dr. Hasmig Seropian** was born in Aleppo, a graduate of Karen Yeppe Armenian High School and the American University of Beirut. MA thesis: *A Generative/ Transformational Grammar of Armenian*. Ph.D. in linguistics and cognitive science from UC, Berkeley. Dissertation: *The Abstract/Concrete Distinction in Language*. Seven years of research in AI as applied to language, followed by working at Apple Computer in the formative years of the Mac. Next, head of a very successful consulting firm named *Technology for Humans* and several years of teaching Armenian at Stanford and Berkeley. Current Projects: (1) the development of a global virtual centre for all things concerning Armenian, the language; (2) A semantically oriented grammar of Western Armenian; (3) A book entitled *The Abstract and the Concrete* of it.



**Dr. Nerses Kopalyan** is an assistant professor-in-residence of Political Science at the University of Nevada, Las Vegas. His fields of specialization include international relations, geopolitics, political theory, and philosophy of science. He has conducted extensive research on polarity, superpower relations, and security studies. He is the author of *World Political Systems After Polarity* (Routledge, 2017) and the co-author of *Sex, Power, And Politics* (Palgrave Macmillan, 2016). He also authored two policy papers for the Republic of Armenia, "*Transitional Justice Agenda for the Republic of Armenia*" (Ministry of Justice) and "*Changing the Paradigm in Armenia-Diaspora Relations* (Office of the High Commissioner for Diaspora Affairs). He serves as an advisor to the Office of the High Commissioner for Diaspora Affairs. His current research concentrates on geopolitical and great power relations with an emphasis on Eurasia. He has also done extensive work

on political developments in Armenia prior and after Velvet Revolution, articles of which are published with EVN Report.



**Hriar Cabayan** is currently a Visiting Scientist at the Lawrence Livermore Laboratory. He joined the Laboratory in 1977. In 1997 he joined the Joint Staff (Pentagon) where he managed a program to support operational planning. In 2007, He received the Joint Meritorious Civilian Service Award from the Office of the Chairman, Joint Chiefs of Staff in 2007 and again in 2019. He returned to Lawrence Livermore Laboratory in October 2019. He received his doctorate degree from the University of Illinois in Urbana, Illinois. After graduating, he taught mathematical physics for four years at New York University's Courant Institute of Mathematical Sciences and McGill University before joining Lawrence Livermore laboratory.

**14. ARPA Institute Panel Discussion on “Armenian-Russian Relations in the Past and Present”**  
**Panelists: Tom de Waal, Artyom Tonoyan and Stephen Badalyan Riegg, Moderator: Arpi Movsesian.** Held on Wednesday, November 22, 2023 @ 10:00am, PST.

**VIDEO of the Panel Discussion:** <https://youtu.be/zN3xZUS4qQ?si=2kQBV7vO-dMB33-f>

**Abstract:** Inaction by Russia during Azerbaijan's recent conquest of Artsakh/Nagorno-Karabakh surprised some observers, reinforced the convictions of others, and prompted wide-ranging questions from many about the nature of Russo-Armenian political relations. How can ties between the Armenians of the South Caucasus and the Russian Empire in the 1800s help us understand today's circumstances? Why did the Soviet ecosystem of nationalities produce a social and political environment that was ripe for explosion in the twilight of the Communist experiment? How can we explain the tangled advantages and disadvantages Armenia has derived from its association with the Russian Federation in the twenty-first century?



**Mr. Tom de Waal** is a senior fellow with Carnegie Europe, specializing in Eastern Europe and the Caucasus region. He is the author of numerous publications about the region. The second edition of his book *The Caucasus: An Introduction* (Oxford University Press) was published in 2018. He is also the author of *Great Catastrophe: Armenians and Turks in the Shadow of Genocide* (Oxford University Press, 2015) and of the authoritative book on the Nagorny Karabakh conflict, *Black Garden: Armenia and Azerbaijan Through Peace and War* (NYU Press, second edition 2013). From 2010 to 2015, de Waal worked for the Carnegie Endowment for International Peace in Washington, DC. Before that he worked extensively as a journalist in both print and for BBC radio. From 1993 to 1997, he worked in Moscow for the *Moscow Times*, the *Times of London*, and the *Economist*, specializing in Russian politics and the situation in Chechnya. He co-authored (with Carlotta Gall) the book *Chechnya: Calamity in the Caucasus* (NYU Press, 1997), for which the authors were awarded the James Cameron Prize for Distinguished Reporting.



**Dr. Artyom Tonoyan** is a native of Gyumri, Armenia, is a sociologist and a Visiting Professor of Global Studies at Hamline University, Minneapolis, Minnesota. His research interests include sociology of religion, religion and politics in the South Caucasus, and religion and nationalism in post-Soviet Russia. His articles have appeared in *Demokratizatsiya: The Journal of Post-Soviet Democratization*, *Society*, and *Modern Greek Studies Yearbook*. He has been a frequent guest on the BBC, Deutsche Welle, France 24, and other outlets. He is the editor of *Black Garden Aflame: The Nagorno-Karabakh Conflict in the Soviet and Russian Press*, as well as articles and book reviews. He received his Ph.D. from Baylor University.



**Dr. Stephen Badalyan Riegg** is Associate Professor of History at Texas A&M University. He teaches courses on the history of Russia, Eastern Europe, and comparative empires. Riegg is dedicated to uncovering the nuances of the non-Russian experiences of empire. His book, *Russia's Entangled Embrace: The Tsarist Empire and the Armenians, 1801-1914* (Cornell University Press, 2020) won the Best Book Award from Ab Imperio and the Dr. Sona Aronian Book Prize for Excellence in Armenian Studies from the National Association for Armenian Studies and Research, among other recognitions. His current research connects tsarist methods of rule to the wider world.



**Dr. Arpi Movsesian** is a scholar researching on literary history and performance in English, Russian, and Armenian. As an Assistant Professor of Russian at the University of Notre Dame, Movsesian examines the 19th century political and radical movements in the Russian Empire and the blueprints for revolutionary activity and atrocities in the 20th century. Arpi has book and article publications on Dostoevsky, Shakespeare, and other writers, as well as on Soviet Armenian literature, and is currently examining the directionality between the center and the periphery in colonial and postcolonial contexts in the South Caucasus. Movsesian's second book project is entitled, *Bloodied Ballads, Living Empires: Transculturality in Armenian Lyrical Verse*.

**15.ARPC Institute Panel Discussion on “Armenia and Space Technology” Panelists: Mher Mehrabyan, Masis Kumrikian and Avetik Grigoryan. Moderator: Tigran Shahverdyan**  
Thursday, December 21, 2023 @ 10:00am, PST

**VIDEO of the Panel Discussion:** <https://www.youtube.com/watch?v= aeY0LGYIB4>

**Abstract:** Space technology is very important for Armenia, now more than ever. Recently, a domestically built satellite, HayaSat-1 was launched into space, proving Armenia can participate in this domain. Space technology capabilities. It will potentially enhance both domestic and international communication networks and play a crucial role in connectivity, internet access, and data transmission. Moreover, space technology can help in effective resource management and disaster response and management, as well as agricultural production. Most importantly, space technology is integral to national security, to monitor its borders, track potential security threats, and gather intelligence. In addition, it fosters scientific research and innovation, opens opportunities for collaboration with other nations and participation in international space programs, which could involve joint space missions, research projects, and partnerships with other countries and space agencies, thus leading to scientific innovations, enhanced knowledge base and economic growth. Finally, space technology can inspire the next generation of scientists, engineers, and researchers and contribute to new educational initiatives, promoting STEM, archaeology, and other fields, with potential impact on various aspects of development.



**Mher Mehrabyan** is the founder and executive director of the Armenian AeroSpace Agency (AASA); CEO, and founder of Engined Inc.(California, USA) and Engined AM (Yerevan, Armenia), as well as CEO and co-founder at “AREN MEHRABYAN” Charitable Foundation. He has received an MS degree in Physics from the Yerevan State University and a second MS degree from the Polytechnic University of Armenia in theoretical physics of semiconductors and microelectronics. Mher has written numerous reports on the need for space technology in Armenia and advancement of science education.



**Masis Kumrikian** is the Technical Director of Space Programs at the Centre for Scientific Innovation and Education (CSIE) and helped lead the HayaSat-1 mission, launched recently by Space-X and now undergoing spacecraft initialization. Masis has an educational background in Electrical Engineering and 22 years of professional experience spanning RF, space systems, hardware development, systems integration, and engineering management across multiple large satellite programs ranging from development through operations.



**Avetik Grigoryan** is the CEO and Co-Founder of Bazoomq Space Research Laboratory in Armenia and one of the key players of in the development and testing of the HayaSat-1. Avetik is an Astrophysicist, has worked as a researcher in Byurakan Observatory, led a Laboratory of Special Technics and founded the AYAS Aerospace society for students. Some of his graduates has worked on the HayaSat-1 program. Avetik is teaching an introductory aerospace course for master's program of the National Academy of Sciences of Armenia. Grigoryan has received several awards and has publications and technical reports.



**Tigran Shahverdyan** is Co-founder and Chief Technology Officer at Robomart, Co-founder and Member of BoT at Bazoomq Space Research Laboratory, and Co-founder and ex-VP of Engineering at RoboCV. He is an alumnus of the Moscow Institute of Physics and Technology. His early career focused on space exploration. During the last decade he has been specializing in mobile autonomous systems. He was recognized with Armenia's Presidential Award in 2016 for a discovery in theoretical physics. He is an active member of the Gituzh initiative.

## TRIP REPORT

[The President of the ARPA Institute travels to Armenia every year to work on ARPA's active projects being implemented in Armenia. Below please see the report:](#)

### **September-October 2023**

1. September 15: CLEAN ROOM VISIT: A meeting was held with Narek Markaryan, Director of the AANL Cleanroom to Discuss the status and the needs of the cleanroom, as well as the issue of shipment of the donated equipment reaching Armenia. Also met with Amur Margaryan, who showed his latest work and indicated that they have new young scientists/students in their team and that their new results show great potential for publication of high-level articles.
2. September 16: CLEAN ROOM EXPERIENCE: Visited AANL and had the experience of the proper way to enter the cleanroom, wearing formal suit and cap, shoe cover and goggles. Noticed a couple of small cracks in the walls, but all-in-all it was in good condition with the air system working all the time.



Left: Ara Apkarian, Hagop Panossian. Right: Gevorg Karyan (Director AANL), Narek Margaryan

3. September 16: VISIT OF PHYSICAL RESEARCH LAB: Visit of the Physical Research Lab in Ashtarak: Aram Manukyan took me to his lab in Ashtarak and showed all his new acquisitions and discussed his plans. They are getting a Tunnelling Electron Microscope from Thermo Fisher for \$800K. There was a conference of lasers and application going on in their facilities and we briefly met with the Director of the Institute, Aram Papoyan.

4. Monday, September 18: CLEAN ROOM VISIT: Visited AANL with Ara Apkarian. He sat down with Narek Margaryan and discussed Narek's experiments on the silicon chips that we sent him. The results of tests without

nanoparticles and the ones with showed significant improvement of light absorption. Ara suggested a few new tests and, especially to try to introduce a large current through one end and see if the particles on the other end will illuminate. If successful, we could have a new source of light emitting material from silicon, which could have huge technological and industrial impact. Prof. Apkarian met with Dr. Gevorg Karyan, Director of AANL to discuss the new initiative "Confined Light" with AANL. Also present were Narek Margaryan and Hagop Panossian. Issues related to experimentation and support from the AANL were brought up and Dr. Karyan was in full support of the project and promised to do all he can for the success of the experimentation.



L: Ruben Lusinyants, Hagop Panossian, Sargis Asatryants, (Pro-Rector) Vahe yeghiazaryan

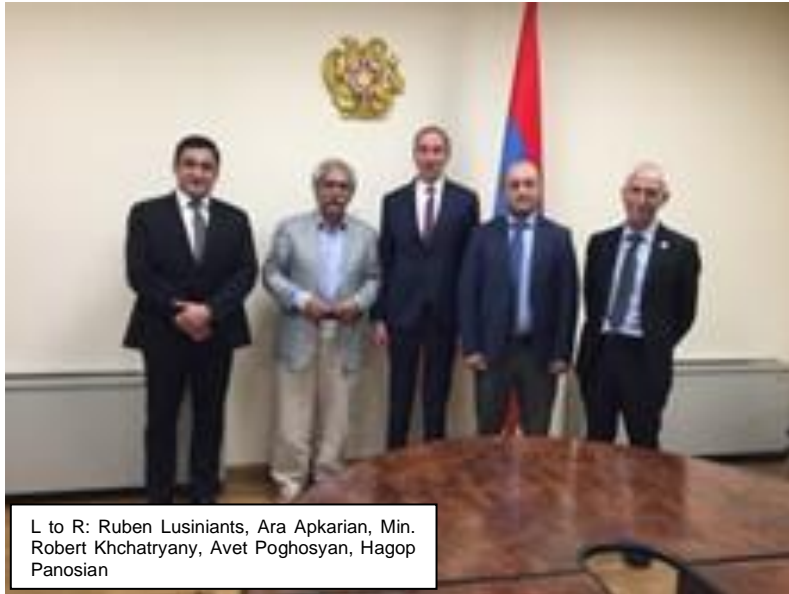
5. September 18: MEETING AT NPUA: The ARPA Institute representatives, Ruben Lusinyants and Hagop Panossian had a meeting with Vahe Yeghiazaryan and the Prorector of the National Polytechnic University of Armenia (NPUA), Sargis Asatryants in his office. Discussed were the ARPA Institute Project on "Center of Excellence in Circuit Design" (CECD), to be implemented at NPUA. Asatryants was presented with the plan to implement the CEDC, which will involve the acquisition of two powerful servers, that will house the CADENCE software to allow students and researchers to do advanced circuit design, as well as 20 computers for students

to work on. The administration of NPUA will allocate the proper space for the servers, computers, and classrooms and take care of their maintenance. Training of the professors who will teach courses in circuit design will be carried out by CISCO Systems Armenia, in particular Vahe Yeghiazaryan. ARPA will make sure the courses and software are all properly licensed and the quality of materials taught are of global level.

6. September 19: MEETING WITH DIRECTOR OF Alikhanyan National Lab: A meeting was held with Gevorg Karyan, the Director of the Alikhanyan National Lab, Ruben Lusinyants and Hagop Panossian. Discussed were the issues related to the research project on silicon chips, directed by Prof. Ara Apkarian and the cleanroom operations, budget, as well as the completion of the gas system pipeline. Dr. Karyan promised to address these issues and make sure it is implemented as soon as possible.

7. September 19: VIDEO INTERVIEW WITH GITUZH: Gituzh organized a video-session of discussion between Ara Apkarian and Hagop Panossian. We addressed the issues facing

science, education and especially advanced research in Armenia, the new ARPA Institute projects in YSU and Alikhanyan, as well as what needs to be done to raise the standards of science in Armenia.



L to R: Ruben Lusinyants, Ara Apkarian, Min. Robert Khachatryan, Avet Poghosyan, Hagop Panossian

8. September 19: MEETING WITH HIGH\_TECH MINISTER: A meeting was held at the Ministry of High-Technology Industry, with the Minister Mr. Robert Khachatryan and Mr. Aved Poghosyan, his deputy, Ruben Lusinyants and Hagop Panossian. The activities of the ARPA Institute in Armenia were briefly presented, and the latest projects of the ARPA Institute were discussed, especially the Center of Excellence in Circuit Design to be implemented in the NPUA and the two research projects directed by Prof. Ara Apkaryan with the YSU and

the Alikhanyan National Lab. Mr. Khachatryan was very interested in both undertakings and promised to follow up with concrete steps. We promised to send him a summary proposal with information on the approximate budget required.

9. September 20: TRIP TO DAVUSH SCHOOLS: A trip was organized by STEMAr to the Davush region of Armenia where an educational program has been initiated with 10 schools with ARPA Institute funding implemented by the STEMAr staff directed by Ruben Lusinyants. We visited three schools, in Ijevan, Achajur and Gedahovid, where students presented their science projects on green houses and modeling and 3-D printing. Two of the schools had quite good presentations by students and one seemed not to be well prepared. Comments were made on how to improve, and they were encouraged to participate in the Armenia science fair.
10. September 21: A meeting was held with Ruben Lusinyants, Hagop Panossian and the Founder of Armenian Wounded Heroes, Razmig Arzoumanian to discuss the issues facing the Armenian soldiers and the situation in Artsakh and the borders of Armenia.
11. September 21: I had a meeting with Sebouh Aslanian, The UCLA Chair of Armenian History and discussed issues facing the Armenian studies and the Promise Institute.
12. September 22: MEETING FOR COMMERCIALIZATION OF RESEARCH: I met with Dr. Mihran Aroian, an expert in commercialization of innovations from the University of Texas, who is spending time in Armenia, coordinated by the I-Gordz program, to train new experts who can work with scientists with new and help them in commercializing their concepts.





L to R: Sargis Hayotsyan (Head of SHEC), Ruben Lusinyants, Min. Zhanna Andreasyan, Hagop Panossian

13. September 22: MEETING WITH MINISTER OF SECS: Hagop Panossian and Ruben Lusinyants met with Ms. Zhanna Andreasyan, Minister of ESCS and Mr. Sargis Hayotsyan, Head of the Higher Education and Science Committee in the Ministry. Presented were the NPUA Center of Excellence for Circuit Design, the two ARPA Institute initiated projects on “Confined Light”, directed by the Distinguished Professor of UCI, Prof. Ara Apkarian and underlined the importance of this highly novel and cutting-edge technology, which Prof. Apkarian want to carry out in Armenia. We stressed the need for high-level support from the Government and commitment for long-term funding. The Minister and Mr. Hayotsyan both agreed on the significant importance of such a project and promised to support it, suggesting its implementation to be in well-defined steps, where young scientists will spend time under Prof. Apkarian’s mentorship and receive the necessary training, as well as creation of

opportunities for Prof. Apkarian to spend some time

in Armenia and work with the young scientists and create a well-rounded and capable team. Also discussed were the issues related to the cleanroom and was suggested to allocate a special budget for the proper operation and maintenance of the laboratory. The Minister suggested presenting a budget with justifications and the Ministry will act on it. Finally, discussed was the science fairs and the need for expansion to the rural areas of Armenia, as well as the findings of STEMAr from the experiences with schools in the Davush region. Ruben stressed the need for support from the ministry and the plans of StemAr to expand the program first to more schools in the north and eventually to all of Armenia. The message from the minister was their budget is overloaded for developing new science labs and renovation of schools. She suggested participating in an upcoming RFP to develop guidelines and procedures for the proper use of laboratory equipment and tools. Overall, the meeting was successful.

14. September 23: MEETING FOR CECD: Had a Zoom meeting with Vatche Souvalian and Dr. Armond Hayrapetian. Armond is an entrepreneur who has formed a semiconductor manufacturing company and sold it to Broadcom and now has formed another one called Terasignal. He wants to help ARPA Institute in developing the “Center of Excellence in Circuit Design” (CECD) at NPUA. He will talk with his colleagues and try to bring in expertise to help develop a modern program and advanced courses in circuit design at NPUA.

15. September 24: MEETING WITH YOUNG SCIENTISTS: Met with Hrant Khachtryan, Arshak Ulubabyan and Vazgen Hakobjanyan and discussed the possibility of networking, advancing science and research, improving school system and education. Arshak would like to cooperate with ARPA/STEMAr in improving school system education and reform. Vazgen is involved in AI as is Hrant and they are both highly knowledgeable in the overall science and technology environment in Armenia and had concrete suggestions for improvement.
16. September 25: Met with Vahe Yeghyazaryan, of CISCO Systems, Yerevan, to discuss issues related to the servers, CADENCE software licensing, training of professors, development of courses, ect., related to the “Center of Excellence in Circuit Design” at the NPUA.
17. September 26: Apo Boghigian, Director of Civilnet Armenia had an interview with me on ARPA Institute activities and the issues related to the Cleanroom in the Alikhanyan National laboratory, Science Fairs in Armenia, and other activities of the ARPA Institute.
18. September 27: CLEAN ROOM VISIT: Met with Narek Margaryan, the Director of the Alikhanyan Cleanroom and went over the necessary steps to make Dr. Aram Tanielian’s visit to Alikhanyan productive and efficient. However, it turns out there were huge issues related to the donated Instruments and tools for the Cleanroom held in the Customs of Armenia for over 3 weeks. We had to meet with the Director of Alikhanyan, Dr. Gevorg Karyan and expressed our concern and disappointment. Mr. Karyan indicated that they must follow the rules and regulations and that they have done everything possible. I had to write to Ms. Andreasyan, the Minister of SECS and beg for her assistance in resolving the customs’ issue, and explained to her that we had specially invited Dr. Tanielian, the cleanroom expert who has devoted numerous hours of his time to help in the development of the AANL cleanroom, and that he will arrive on September 28 to train the Cleanroom operators the use of the instruments, while these are gathering dust in the Customs facilities.
19. September 28: CLEAN ROOM VISIT: Dr. Tanielian and I visited with Mkhayil Martirosyan, the Engineering Director of the Cleanroom and Narek Markaryan, the Scientific Director of the Cleanroom, to discuss important issues related to maintenance, operation, and proper use of the cleanroom, as well as the items and devices necessary for optimal use of the instrumentation. Aram suggested to purchase an air compressor, a vacuum pump and proper installation of a gas pipeline for Argon, Hydrogen, Oxygen, and Methane, as well as deionized water. Dr. Tanielian was upset and disappointed when he saw one of his donated instruments, the aligner, sitting in the corridor dismantled and covered with dust. He explained the way to clean it and, with the necessary items, for him to be able to test it and show its proper operation.
20. September 29: MEETING WITH NPUA FOR CECD: Vahe Yeghyazaryan and I met with Dr. Sargis Asatryants, Prorector of NPUA, Dr. Oleg Petrosyan and Dr. Gor Martirosyan and discussed the issues of operation, management, implementation of a proper educational and research program in relation to the “Center of Excellence in Circuit Design”. They were told that the server and computers and in the process of procurement and that the CADENCE Licenses for the temporary usage of their software for the professors who will be trained to teach the program will be ready soon and they can start the training, while to equipment will take around 2 months to be shipped from the USA to Armenia. In the meantime, the rooms that will house the instruments and will serve as classrooms should be renovated and ready for use.
21. September 29: CLEAN ROOM VISIT: Aram Tanielian, Narek, Mikhayil and I had a long meeting with the Director of AANL, Dr. Karyan. Aram explained all the necessary items and steps needed

for the proper operation of the cleanroom, its maintenance, management, and cleanliness. While in the meeting, I received a call from the Income Committee deputy Chairmen, who had received instructions to interfere on the customs issue and who asked for details and documentation, which was already sent to the customs officials. On the spot, all the requested items were forwarded to him. Later, we received information that, even if the instruments are donated and are second-hand, they are still taxable, and that they have special codes for each item and accordingly decide on the price and amount of taxes to be paid. They were told our main goal is to release the instruments and transport them to Alikhanyan so that the expert can work with them and try to teach their operation and proper use to the scientists.

22. September 30: I met with Dr. Naira Campbel Giureghyan and Dr. Molly Freeman and discussed ways and means of cooperating towards educational and scientific reform in Armenia. Dr. Campbel was told about prosthetic research and development in Armenia, and she was very interested to contribute, especially because of her background in Bioengineering and extensive experience in the field.
23. October 1: I met with Dr. Dikran Babikian and Mr. Vahan Zanoian, the first of whom is an industrialist in Armenia producing hygienic products and has had 10 years of experience in cleanrooms, and the second has extensive experience in energy and security policy. Discussed were issues related to the cleanroom and the security and strategic policy of Armenia.
24. October 2: CLEAN ROOM VISIT: Dikran Babikian and I visited the Alikhanyan Cleanroom and Narek Margaryan showed Dikran the newly delivered Cleanroom instruments and various devices and Dikran relayed some information regarding cleanroom maintenance, operations rules and general issues related to proper instrument usage. Then we visited his factory in Brishyan and saw the newly established facility and its meticulous operation.
25. October 3: CLEAN ROOM VISIT: I visited the Cleanroom and discussed the issues related to the improper settings of the newly delivered Cleanroom instrumentation and the problems related to the necessary remodeling/renovation and the installation of the gas system pipelines. Especially problematic was the delivery of the Glovebox from China, which had reached Poti and, for an unknown reason offloaded in the port. Now the port authority was asking storage and transit fees of more than \$5000. The Director of the AANL, Dr. Karyan was informed and asked to try to have someone resolve this issue because the ARPA Institute has already paid for its shipment all the way to Yerevan and that this situation is not acceptable. Also, Mikhayil Martirosyan was asked to expedite the installation of the gas system, as well as the renovations so that the instrumentation can be installed in the Cleanroom.



L to R: Ropael Gevorgyan, Hagop Panossian, Min. Vahan Kerobyab, Narek teryan.

five scientists in YSU are working on the theoretical aspects of

"Confined Light". A team in the Alikhanyan National Lab is working on the development/testing of silicon chips (which are used as solar panel cells) using a new approach that will use the concept of "Confined Light" and increase the efficiency of these cells from 20%, for commercially available cells, up to 50%. When light is focused on nano-scale materials their characteristics change drastically. Thus, an indirect band-gap material, like Silicon turns into direct-bandgap and hence gets tremendous enhancement in absorption. This gives a significant edge for solar energy, for then the cost of solar energy will be in competition with petroleum! The President of the ARPA Institute, Dr. Hagop Panossian met with the Minister of Economy of Armenia and his Deputies, Mr. Raphael Gevorgyan, and Mr. Narek Teryan and presented the concept and informed them that this will lead to world-class, cutting-edge science and technology and Ara Apkarian will teach a team of young scientists how to do modern cutting-edge research and experimentation using the most advanced devices and tools. For such a project to be implemented around \$50 million will have to be invested, a specialized group needs to be selected, trained, taught with the advanced science involved and will take around 10 years to achieve. The intent is to manufacture these cells in Armenia and commercialize the technology, thus making a significant impact on the economy of Armenia. Enthusiastic support and positive response were received from the Minister, who indicated that "research and development in solar technologies is a top priority for the Ministry".

27. October 4: CLEAN ROOM VISIT: Dr. Aram Tanielian, Dr. Onnig Dzerounian and Hagop Panossian visited the AANL and talked with Narek Margaryan and Eduard Aleksanyan and the graduate students working with them. Moreover, Aram showed the operational procedures for the various instruments that he has donated for use in the cleanroom and other labs for experimental research purposes. He also repaired an instrument which was damaged during shipment.
28. October 5: CLEAN ROOM VISIT: Spoke with Narek Margaryan and Mikhayil Martirosyan regarding the gas pipelines for Hydrogen, Methane, Oxygen, Argon, Nitrogen, Water, and pressurized air. Moreover, the instruments for the Cleanroom were still sitting on the first-floor lobby in the open air. They were told to move them to the second floor and cover them, so they are not damaged by dust.
29. October 6: CLEAN ROOM VISIT: A contractor came to assess the repairs necessary for renovating two rooms for housing experimental equipment. His price was too high.
30. October 9: CLEAN ROOM VISIT: A contractor came to assess the necessary repairs and of opening a door to the Cleanroom. He was provided with the necessary dimensions and information. He will give an estimate to completion by tomorrow.
31. October 10: VISIT OF MOLECULAR BIOLOGY INSTITUTE: I met with Dr. Arsen Arakelyan, the Director of the Molecular Biology Institute. He discussed all the new features that he and his team have brought about in the Institute and all the excellent programs they are pursuing. He also indicated that the Sequences that the ARPA Institute had donated several years ago has now been refurbished and is being used for research in various kinds of indigenous Armenian grapes. We then visited the various labs of the Institute, and he showed the newly acquired computer servers that are being used for various modeling and analyses, as well as the new instrumentation and devices they have acquired. The changes during the past year have been impressive. I also briefly met with the Director of Armenian Bioinformatics Institute, Dr. Lilit Nersisyan and discussed their donations through ARPA Institute and means of streamlining it.

32. October 10: CLEAN ROOM VISIT: Aram Tanielian and I visited the Alikhanyan National Lab, where Aram showed a video that described the various procedures of doping, aligning, etching, etc. We then discussed with the gas system contractor, Hayk Harutyunyan the details of what needs to be done and how 7 pipes need to be installed, while carefully making sure that not dust or other particles enter the Cleanroom while working.



33. October 10: MEETING WITH PRESIDENT OF AUA: I had a strategic planning session over a nice dinner with Dr. Bruce Boghossian, the newly elected President of AUA. We discussed the various planned improvements and new program expansions. We also discussed the various ARPA activities in Armenia and the potential for establishing a degree program in Electrical Engineering.

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# **ARPA Institute Adrin Gharakhani Annual Invention Competition 2024**

All Armenian young graduate students, engineers, and scientists under 35 in Armenia are invited to submit applications for the ARPA Institute Invention Competition 2024. Applicants should present an innovation of an existing or similar item. The winner will receive the Honorary Award of \$10,000 in memory of Dr. Adrin Gharakhani. The award should be used to continue and advance the invention into a potential commercial product.

The competition will be conducted in two phases:

**Phase I:** Submission of an online executive summary of the invention/innovation (**Due June 30, 2024**).

- The summary should explain the novelty, significance, impact, and possible practical applications of the invention/innovation.
- Provide references and an outline of how you will continue to improve the innovation/invention in the future.
- Executive summary (ES) is limited to 1 page, with an additional 1 page allowed for graphs and figures. A short video (5 minutes) is also welcome.
- The ES should be in PDF format, following the application guidelines on the ARPA Institute website: <https://www.arpainstitute.org/invention-competition/>

**Phase II:** Selected individuals will be asked to submit a full proposal (**Due August 31, 2024**).

- Full proposal guidelines and requirements will be sent to the selected applicants.

To submit the application or for any questions, please send your submission or contact ARPA Institute, to the Invention Competition Committee, at [inventions.arpainstitute@gmail.com](mailto:inventions.arpainstitute@gmail.com)