NEWSLETTER
Annual Report

Լրաբեր
Տարեկան Տեղեկագիր

2025, Vol. 32

2025, Թիւ 32

Շնորհաւոր Նոր տարի Թիւ 30

Analysis Research &Planning for Armenia

Innovate Empower Transform

Email: info@arpainstitute.org
https://www.arpainstitute.org

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PRESIDENT'S MESSAGE

Armenia may be a small nation on the map, yet within its borders lives a young generation with a spirit far greater than its size. For centuries, Armenia has stood resilient between powerful neighbors, not through force of arms, but through the force of intellect, creativity, and faith. Ours is a people whose true strength lies not in conquest, but in imagination, not in domination, but in innovation, not in power, but in influence.

We must embrace this truth: Armenia's future will not be built on the pursuit of power over others, but on the pursuit of excellence within ourselves. Our mission should be to cultivate thinkers, inventors, and entrepreneurs who dare to see beyond limitations, individuals who will bring forth ideas that change lives, technologies that uplift communities, and visions that inspire nations.

Let Armenia become known not only as the land of an ancient civilization, but as a modern source of inspiration, a hub where talent and purpose converge to shape a better future for humanity. By empowering our people to dream, to create, and to lead, we can transform our small nation into a global force for progress, proving that true power comes not from size, but from the boundless potential of the human mind and spirit, THAT IS INFLUENCE!

Հայաստան գուցէ փոքր երկիր մըն է աշխարհագրական քարտէզին վրայ, բայց այնտեղ կ՚ապրի երիտասարդ սերունդ մը որ ոգիով աւելի մեծ է, քան իր տարածքը։ Դարեր շարունակ, Հայաստանը գոյատեւած է հզօր հարեւաններու միջեւ՝ ոչ թէ զէնքի ուժով, այլ բանականութեան, ստեղծագործութեան, աշխատանքի եւ հաւատքի ուժով։ Մեր ժողովուրդին իրական ուժը կը կայանայ ոչ թէ այլ ժողովուրդներու վրայ իշխելուն մէջ, այլ հեռանկարային երեւակայութեան, ոչ թէ տիրապետելուն մէջ, այլ նորարարութեան, ոչ թէ իշխելուն մէջ, այլ ազդեցութեան։

Պէտք է ընդունինք հետեւեալ ճշմարտութիւնը. Հայաստանի ապագան պիտի կառուցուի ոչ թէ ուրիշներու վրայ իշխանութիւն հաստատելու ձգտումով, այլ մեր ներքին կատարելութեան ձգտումով։ Մեր առաքելութիւնը պէտք է ըլլայ մշակել եւ խնամել մտածողներ, գիւտարարներ եւ ձեռնարկատէրեր, որոնք կը յանդգնին տեսնել սահմաններէն անդին՝ անհատներ, որոնք կը յղանան նոր գաղափարներ, որոնք կը փոխեն կեանքեր, որոնք կը ստեղծեն նորարար տեխնոլոգիաներ, որոնք կը բարձրացնեն մակարդակը ամբողջ համայնքներու, եւ տեսիլք ունեցող մարդիկ՝ որոնք կը ներշնչեն համայն սերունդներ։

Թող Հայաստանը ճանչցուի ոչ միայն որպէս հին քաղաքակրթութեան օրրան, այլ նաեւ որպէս ժամանակակից ներշնչման աղբիւր, միաւորող կեդրոն, ուր տաղանդը եւ նպատակը իրարու կը հանդիպին՝ մարդկութեան աւելի լաւ ապագայ մը կերտելու համար։ Մեր ժողովուրդը հզօրացնենք որպէսզի ունենայ երազելու, ստեղծագործելու եւ առաջնորդելու կարողութիւն։ Կրնանք մեր փոքր երկիրը վերածել համաշխարհային առաջընթացի շարժիչ ուժի՝ ապացուցելով որ իրական ուժը ոչ չափին մէջն է եւ ոչ ալ համրանքին, այլ մարդկային միտքի եւ ոգիի անսահման ներուժին մէջ — ԱՅԴ Է ՈՐ ՄՆԱՅՈՒՆ ԱԶԴԵՑՈՒԹԻՒՆ ԿԸ ՅԱՌԱՋԱՑՆԷ։

Please make a tax-deductible donation to ARPA Institute (501 c3, non-profit, charitable organization) through the website (https://arpainstitute.org/support-arpa-institute) 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 individuals who are 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 if you able to participate and assist in achieving these goals .

YEAR IN REVIEW – Strategic Highlight

- **ARPA Stemar Educational Program Expansion:** In the 2024-2025 academic year, ARPA expanded its Stemar Educational Program from 12 to 19 schools in three different regions of Armenia. A major EXPO was organized in April 2025 at the Mariott Hotel, in Yerevan, and over 300 teachers, principals and students were there from all over Armenia. During the Expo some students presented their scientific projects exhibiting advanced learning capabilities. This program has shown promise, however the Board of Directors of the ARPA Institute has examined the results and decided it is ready for adoption by the Government. Thus, the program was presented to the Government of Armenia for possible adoption or emulation, and the project was terminated.
- **New Research Facility Launch:** The ARPA Institute has funded a new Laboratory where students can carry out their work and create a team environment at the A. Alikhanyan National Laboratory. The facility promotes enhancement of capabilities for scientists and students. The Detection Laboratory continues its collaborations with prestigious institutions like Brookhaven National and Jefferson Laboratories for the Electron Ion Collider (EIC) project. Armenia is the sole participant among 13 countries globally involved in this significant scientific endeavor, and the only one from the region.
- 12 competitive invention proposals were submitted to the **ARPA Institute Adrin Gharakhani Invention Competition for Young Scientists** on various topics. The competition is in 2 phases. The first phase only extended abstracts are evaluated and a few of the better ones are asked to send full proposals. Out of the 12 only 5 were selected in the first phase. The committee of experts is evaluating the selected second phase full proposals. The single winner will be awarded with grand prize of $10K USD. The committee of experts evaluated the proposed inventions and determined the most promising one. The Board of Directors of the ARPA Institute, after discussing the committee's decision of the committee, decided to give the award to the winning invention participants, allocating $10,000.
- **Integrated Circuit Design and Modeling Lab** (National Polytechnic University of Armenia) were initiated by ARPA Institute, and together with CISCO and Cadence Design Systems, courses have been taught for the past year and continue this year. The lab provides an advanced Electronic Design

Automation program for cutting-edge circuit design. Last year 18 undergraduate and 35 graduate students and this year a total of 120 are benefiting. The modern lab paves the way for Armenia to emerge as a key player in regional technological innovation.

- The ARPA Institute has initiated and supported research on Confined Light and Advanced Photovoltaics (**Picoscience** - scientific study and manipulation of matter at scales involving picometers (pm)). An experimental effort was launched at the Alikhanyan National Laboratory which has the potential to lead to the development of highly efficient, cost-effective thin-film silicon solar cells, significantly reducing the material and cost requirements for solar energy production. Results thus are highly promising.
- The ARPA Institute modernized and equipped the ISO-6 or **Class-1000 Cleanroom** at AANL. Most recently 6 important gases were installed, with specialized pipelines, with all the necessary safety systems, to support scientific experiments. The ARPA Institute has recommended to the government of Armenia for support and a continuous budget for the necessary staff and the facility.

AIRMA (Artificial Intelligence Resilience Monitoring for Armenia) project

An AI Tool Provided by the ARPA Institute

Executive Summary

AIRMA is a standalone AI tool with modules designed to monitor the information space to detect and assess disinformation that threatens Armenia's information security, and to autonomously combat disinformation by generating and disseminating preemptive or countering information.

Vision

AIRMA is designed as an advanced tool for vigilance and shielding the Republic of Armenia and the Armenian Nation as a whole, against malign attacks in the information space. It is equipped to combat disinformation by effective dissemination of factual content to targeted world communities.

Mission

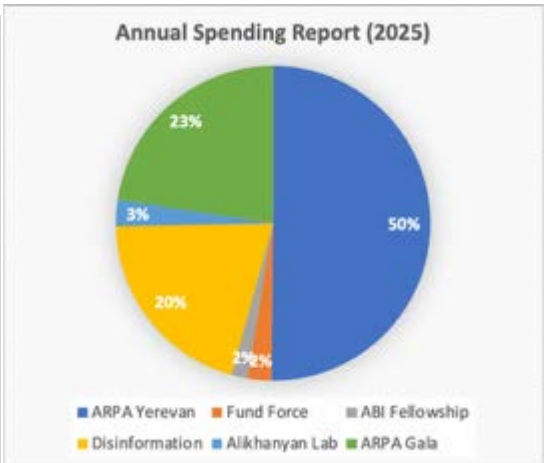
AIRMA is sponsored and owned by the ARPA Institute. The objective of this project is to equip the government of RA, trusted nongovernmental organizations and academic researchers, both in Armenia and the diaspora, with the state-of-the-art tools to monitor disinformation campaigns against Armenia or Armenians and provide the analytical tools to assess and predict the impact of recognized threats. The effectiveness of combatting disinformation will be strongly determined by the user base, the creation and maintenance of which will be a primary objective of ARPA. The ARPA Institute will control access to the program and monitor its use and potential abuse. The AIRMA Executive Committee (AEC) will provide logistics for implementation, controlled distribution, vet access, and monitor use. The AEC will rely on the AIRMA Advisory Board (AAB) for advice, feedback and support for effective execution of the AIRMA project.

AIRMA Operations

The algorithm is already under test by several organizations and researchers who provide feedback for further improvement and enhancement of capabilities of AIRMA. Fo information regarding its potential use and permissions please contact the ARPA Institute at arpainstitute@gmail.com

Financial Highlights and 2025 Donations

First Name	Last Name	Amount
JHM Foundation		$ 60,000.00
Hagop	Panossian	$ 32,000.00
Armen	Goenjian	$ 26,500.00
Ruben	Lusinyants	$ 15,205.00
Vahe	Kouzoyan	$ 10,000.00
Western Diocese of the Armenian Church		$ 10,000.00
USC Gala		$ 10,000.00
Lori	Panossian	$ 7,700.00
Ara	Apkarian	$ 7,000.00
Yervant	Demirjian	$ 5,250.00
Alice B	Abkarian	$ 5,000.00
Hriar	Cabayan	$ 5,000.00
The Tcheurekdjian De Franco Family Fund		$ 5,000.00
Vahan	Martirosian	$ 4,000.00
Ara	Keshishian	$ 3,500.00
Hasmik	Baran	$ 2,700.00
Ani	Shabazian	$ 2,600.00
Levon	Minnetyan	$ 2,500.00
Mary	Karakashian	$ 2,300.00
Aram	Adourian	$ 2,000.00
Alec	Baghdasaryan	$ 2,000.00
Hagop	Chopurian	$ 2,000.00
Sinan	Sinanian	$ 2,000.00
Ara	Zeithlian	$ 2,000.00
Armenian Missionary Association		$ 2,000.00
Armenian Engineers and Scientist of America		$ 2,000.00
Sara	Vorsganian	$ 1,856.59
Armen	Hayrapetian	$ 1,500.00
Ani	Aprahamian	$ 1,350.00
Arpi	Amirian	$ 1,250.00
Andre	Yarian	$ 1,236.00
Mark	Chenian	$ 1,050.00
Cynthia	Tusan	$ 1,050.00
Dikran & Arpy	Dalian	$ 1,000.00
Edma	Dumanian	$ 1,000.00
Derik	Ghookasian	$ 1,000.00
Hrair	Koutnouyan	$ 1,000.00
Armine	Lulejian	$ 1,000.00
Jerry	Manoukian	$ 1,000.00
Aram	Tanielian	$ 1,000.00
Sirvart	Tertzakian	$ 1,000.00
Albert D & Sandra S	Tomassian	$ 1,000.00
Ourfalian Family Foundation		$ 1,200.00
Zetlian Bakery		$ 1,000.00
Armen	Kocharian	$ 905.00
Narek	Balagyozyan	$ 850.00
Anush	Martirosian	$ 800.00
Armen	Der Kiureghian	$ 750.00
Ruben	Zadoyan	$ 705.00
Panos	Aintablian	$ 700.00
Sevag	Ajemian	$ 700.00
Ashkhen	Bagoyan	$ 700.00
Shant	Chahinian	$ 700.00
Sean R & Anna G	Coumans	$ 700.00
A.S.	Gharakhani	$ 700.00
Sargis	Sedrakyan	$ 700.00
Arletta	Shirinian	$ 700.00
Viken	Soulahian	$ 700.00
Harutiun	Surmenian	$ 700.00
Ara	Zarifian	$ 700.00
Pacific Horizon Bancorp Inc		$ 700.00
Naira	Campbell-Kyuregh	$ 555.00
Meher	Babian	$ 500.00
Serop	Beylerian	$ 500.00
Garo & Maral	Boursalian	$ 500.00
Heratch O.	Doumanian	$ 500.00
Karmen	Garakanian	$ 500.00
Sevag M	Istanboulian	$ 500.00
Gevork	Martirosian	$ 500.00
Vivian	Mutafian Fund	$ 500.00
Vartan	Nazerian	$ 500.00
Armen	Orujyan	$ 500.00
Maggie	P. Sarkuni	$ 500.00
Eric M	Shakelian	$ 500.00
Shant	Shekherdimian	$ 500.00
Vahram Leon	Shemmassian	$ 500.00
Roger	Taherian	$ 500.00
Hrair	Tashjian	$ 500.00
John	Titizian	$ 500.00
Cybergrants (Fidelity)		$ 500.00
Community FoACH Payment		$ 500.00
Levon	Marashlian	$ 450.00
Harout	Bronozian	$ 400.00
Ace	Tarakchian	$ 360.00
Emma	Arakelyan	$ 350.00
Pierre	Bardakjian	$ 350.00
James	Broussalian	$ 350.00
Meghry	Chopurian	$ 350.00
Artur	Davoyan	$ 350.00
Alfred	Eisaian	$ 350.00
Victoria	Isaacson	$ 350.00
Roger H	Kupelian	$ 350.00
Jas	Schembri-Stothart	$ 350.00
Serjik	Zadourian	$ 350.00
Shant M	Mahserejian	$ 300.00
Vahag & Talin		$ 300.00
Silvav Keheian Trustee		$ 300.00
Vahig & Talin	Yegigian	$ 300.00
Anie	Antonian	$ 250.00
Vahram	Keshishian	$ 250.00
Hratch	Toumayan	$ 250.00
Carineh	Ghafafian	$ 205.00
Patrick M.	Antonian	$ 200.00
Ani	Astourian	$ 200.00
Nazaret	Dermendjian	$ 200.00
Arsen	Haroutoun	$ 200.00
Anoosh & Edmond	Jardarian	$ 200.00
Liana	Khanoyan	$ 200.00
Robert	Salatian	$ 200.00
Maggie	Sarkuni	$ 200.00
Moin	Tayebi	$ 200.00
Dzovig	Zetlian	$ 200.00
Angineh	Zohrabian	$ 200.00
Ara	Minassian	$ 180.00
Home Services Unlimited inc		$ 150.00
Salpy	Akaragian	$ 100.00
Armine	Alyanakian	$ 100.00
SS	Bedrosian	$ 100.00
Stell	Der Vartanian	$ 100.00
Melanie	Ghazarian	$ 100.00
Hagop	Hergelian	$ 100.00
Moses	Karakouzian	$ 100.00
Nazareth & Maria	Karnikian	$ 100.00
Noushig	Karpanian	$ 100.00
Nancy	May	$ 100.00
Richard	Toumanyan	$ 100.00
Haig & Ani	Kartounian	$ 50.00
Ramona	Rostami	$ 50.00
Wells Fargo Bank		$ 50.00
Ronald H.	Carboy	$ 50.00
Margaret	Vartanian	$ 25.00
		$283,932.59



You can donate by scanning the QR Code on the left, or send a check to Dr. Sargis Sedrakyan, ARPA Inst. Treasurer, 17436 Dusty Willow Ct., Canyon Country, CA 91387.

ARPA Institute Ongoing PROJECTS IN ARMENIA

Educational and Research Laboratory of Integrated Circuit Design and Modeling

The ARPA Institute, in collaboration with CISCO and Cadence Design Systems, has launched a groundbreaking initiative to establish a state-of-the-art electronic design automation (EDA) lab at the National Polytechnic University of Armenia (NPUA). This lab will specialize in circuit design and serve as a hub for advanced education and research in this field. Under the guidance of Vatche Souvalian, a leading expert in electronic design, this project aims to transform circuit design education in Armenia by introducing specialized courses for graduate students. These courses will focus on the application of advanced software tools developed by Cadence Design Systems, equipping students with the knowledge and skills needed to excel in the semiconductor industry and internationally accepted circuit design.

A key objective of this initiative is to strengthen Armenia's semiconductor ecosystem. The establishment of a Cadence-certified EDA lab at NPUA is a significant milestone in this direction. Certification by Cadence Design Systems will provide NPUA with international recognition, positioning it as a leader in electronic design education and research in the region. This recognition is expected to attract international partners and stakeholders, such as NVIDIA and AMD, fostering collaborations that will further advance the field of semiconductor technology in Armenia.

To bring this vision to life, the ARPA Institute provided essential hardware for the lab, including two high-performance servers, lab equipment, and computers. The ARPA Institute helped the acquisition and installation of the necessary software tools and facilitated training programs for faculty and students. Coordination with NPUA's administration will ensure the seamless integration of this lab into the university's academic and research programs.

CISCO's involvement in the project has added a crucial dimension by providing expertise, such as Vahe Yeghyazaryan, and training to support the adoption and teaching of advanced design tools. This partnership ensures that students and researchers at NPUA will have access to cutting-edge knowledge and resources, enabling them to stay at the forefront of technological advancements.

The Cadence software tools installed in the lab serves dual purposes. They will not only be utilized for educational activities, allowing students to gain hands-on experience in electronic design but will also support research and development initiatives. This dual focus will empower NPUA to contribute significantly to the field of circuit design, both as an academic institution and as a research center.

Overall, this initiative represents a transformative step in advancing technological education and innovation in Armenia. It holds the potential to position NPUA as a key player in the global semiconductor industry, providing opportunities for students, researchers, and industry professionals alike.

The lab at NPUA where the courses are being taught.

Radio Frequency Photo-Multiplier Tube

Traditionally photons are detected in photo cathodes and converted to electrons. The electrons are multiplied and produce electrical signals with nanosecond (ns) resolution and then processed by traditional shaping electronics - amplifiers, discriminators, and time to digital converters to produce a time signal measuring the arrival of the initial photon. The challenge is in the picosecond (ps) resolution; even though modern digital circuits operate at high speeds of tens of GHz, they are not fast enough to directly count individual photons or electrons with ps resolution. Also, these devices have significant deadtimes that can be as large as 80ns. Improvements have been made by using superconducting nanowire single-photon detectors with temporal resolutions below 15ps by MIT and the Jet Propulsion Lab (JPL). The best resolution they achieved is 3.0ps and a deadtime of 100ns with a maximum data rate of 10 MHz.
Measurement of time to very high precision is a prerequisite in many fields of science and technology. A new timing processor, the Radio Frequency Timer, will be capable of ps resolution for single electron detection for high-rate electrons. Consequently, a photon sensor based on the RFT, namely the Radio Frequency Photo-Multiplier Tube (RFPMT), developed at the Alikhanyan National Laboratory (ANL) will be capable of detecting single photons with ps resolution. Currently there is no optical sensor capable of matching the combination of ultra-high timing resolution for single photons and very fast readout speed promised by the RFPMT, making it ideal for applications in ultra-high resolution optical microscopy.
The RFPMT, after some development, will be able to detect with 1 ps resolution and essentially be free from dead time, so that multiple single photons speeding, for example from a laser, the induced fluorescence could be recorded and time resolved. With fast readout from a suitably pixelated anode, the RFPMT will have enormous data throughput, potentially increasing the speed of image reconstruction by large factors.
It is expected that the RFPMT will offer major improvements to several imaging techniques. For example, in high-precision time-correlated, Stimulated Emission Depletion (STED) microscopy precise timing offers improved coordinate resolution. Similarly in time-correlated Diffuse Optical Tomography, the ability of the RFPMT to map and de-convolute scattered photon time distributions with extremely high precision would be a huge advance compared to conventional photon sensors. Ultimately, with ps resolution or better, the RFPMT offers a window of opportunity to access dynamical processes in biological molecules as they take place.

The Radio Frequency Timing Technique

In a typical timing technique, the time interval is measured between the leading edges of two electronic pulses applied to the start and stop inputs of a time-interval meter. A typical circuit might measure the difference in arrival time of two photons. The detectors, e.g. vacuum or Silicon photomultipliers, produce close to nanosecond (ns) rise time pulses, with constant-fraction discriminators providing sub-ns, time-pick-off precision for the logic pulses fed to time-to-digital converters.
The basic principle of the RFPMT is the conversion of information in the time domain to a spatial domain by means of a high frequency RF field. Streak Cameras, based on similar principles, routinely operates in the ps and sub-ps time domain, but has substantial dead time associated with the readout system.

The RFPMT Team with the device

Class-1000 Cleanroom at ANL

According to the International Organization for Standardization (ISO), a class 1000 or ISO 6 standard cleanroom is a laboratory where the number of particles of 0.5 microns and larger, in 1 cubic foot of air should not exceed 1,000.
In class 1000 Cleanroom of the Alikhanyan National Laboratory (ANL) (formerly Yerevan Institute of Physics), the construction, furnishings, provision of important gases and pipelines and most of the necessary equipment and tools for the cleanroom were fully sponsored and directed by the ARPA Institute.
ARPA Institute also provided technical and intellectual support, whereby representatives and specialists carried out projects and consultations, to significantly promote important research. Moreover, the Cleanroom is also designed to organize and coordinate the scientific activities of other research projects which require a clean environment, both for educational, research and industrial organizations in the republic of Armenia.
The cleanroom is integrated with the Nanostructures and Nanomaterials Laboratory. The latter is equipped with material science and optoelectronic research instrumentation, including plasma enrichment, modern chemical vapor deposition system, plasma etching system for graphene and other nanomaterials, a Fourier transform infrared spectrometer, an NI DAQ Data meter, and other laboratory equipment.

Scientific and technical work carried out in ANL Cleanroom

a) The "Nanostructures and Nanomaterials Research" team of the Department of Experimental Physics of the Academy of Sciences conducted research on the production and functionalization of graphene layers by the method of liquid phase exfoliation.
b) The team also conducted research on the design and fabrication of prototype photovoltaic cells with significantly improved optical absorption. Already promising experimental results are obtained. Through the ARPA Institute, capacity building of local scientists and education of the students by well-known Diaspora Armenian scientists were achieved. The team also prepared nanostructured samples that serve as a photocathode and are currently being examined by a radio frequency device that measures ultra-short times.

Build a team of professional scientists, technicians and service personnel. Equip the Cleanroom with material science research and innovative technology development equipment. Establish and pursue dual purpose research programs. Develop twisted bilayer graphene-based quantum detectors for terahertz technologies. Fabricate silicon solar energy converters with significantly enhanced optical absorption. Build capabilities for deposition of perovskite thin films by chemical sputtering and by spin coating method. Carry out preparation and properties characterization of silicon-based thermosetting layers. Carry out radio frequency timer development and studies. Prepare aerogel detectors for elementary high energy particles. Summing up, the ANL Cleanroom guaranteed the availability of a genuine Class- 1000 Cleanroom and was an important platform that contributed both to increasing the efficiency of the ANL scientific capabilities and to the organization of new, higher quality scientific and technical research in Armenia. It also encouraged other organizations to have their own Cleanroom, introducing the culture of cleanroom research in Armenia.

Cleanroom general view, special clean-suits, student study and research rooms

ԱՐՓԱ Հիմնարկի Ատրին Ղարախանի 2025-ի Նորարարութեան Մրցումին Մասնակցող Ցայտեր
ARPA Institute Adrin Gharakhani Invention Competition for Young Scientists Participants

1. 2025-1-Single Cell Protein Production from Agricultural Waste Using Saccharomyces cerevisiae Cells. Karen Trchounian, D.Sc., Prof. Director, Research-Scientific Institute of Biology, Anahit Shirvanyan, PhD, Junior Scientific Researcher, Liana Anikyan, Senior Laboratory Assistant, PhD student, Mari Gasparyan, 2nd year bachelor student, Department of Biochemistry, Microbiology, and Biotechnology. Yerevan State, University (YSU).

2. Screening of the mycelian extract cytotoxity on the 3D-based tumor spheroids. T.A. Darbinyan I.A. Avagyan, L.A. Minasbekyan, YSU.

3. Synthesis and biological activity of enantiomerically enriched β-substituted analogs of (S)-α-alanine containing 1-phenyl-1H-1,2,3-triazole groups. Emma Khachatryan: PhD student, Jr. researcher of Inst. of Pharmacy, YSU, Anna Tovmasyan: Junior researcher, SPC “Armbiotechnology” NAS RA.

4. The production of biogas using manure and seasonal household waste through mobile methane installations. Lusine Baghdasaryan, PhD student 1st year, junior researcher,1,2,3. Meri Iskandaryan, PhD, 1,2. Gevond Harutyunyan, PhD student, 3. Anush Shakhparian, 2nd year student.1. (1- Department of Biochemistry, Microbiology and Biotechnology, Faculty of Biology, YSU. 2- Scientific-Research Institute of Biology, YSU. 3- Department of Farming and Animal Husbandry, Agricultural Mechanization and Automation Research Institute).

5. Synthesis of small multifunctional molecules. Artyom Petrosyan, Senior laboratory assistant, Chemistry Research Center of YSU.

6. Natural sugar substitute. Vladimir V. Vardapetyan1 (team Lead), Artur A. Nigaryan, Anna M. Soloyan, Faculty of Chemistry, YSU.

7. Evaluation of Cholesterol-Lowering Potential of Consortium based on selected Lactic Acid Bacteria In Vivo. Tigran Soghomonyan, Team Leader, SPC “Armbiotechnology” NAS RA, Laboratory of Protein Technologies, PhD in Biology, research fellow, Lev Khoetsyan, Junior Research Fellow, Anna Gasparyan, Junior Research Fellow, Nora Tumanyan, Junior Research Fellow, Master’s student SPC “Armbiotechnology” NAS RA, Laboratory of probiotics biotechnology.

8. Telomeric Signatures in Cell-Free DNA as a Novel Liquid Biopsy Biomarker for Inflammatory Bowel Disease (IBD). Lilit Nersisyan, Nelli Vardazaryan, Lusine Adunts, Mher Kurghinyan, Armenian Bioinformatics Institute.

9. Study of IHN and VHS Viral infections in Fish using Real-Time PCR Approach. Lana Karapetyan Irina Zhukova, YSU.

10. Establishment of full-length MEFV gene analysis using nanopore sequencing for mutation detection. Lilit Ghukasyan, Gisane Lazaryan, Arpine Minasyan. Institute of Molecular Biology (IMB).

11. Pathway analysis platform for spatial transcriptomics. Siras Hakobyan, Arsen Arakelyan Bioinformatics Group, IMB, NAS RA, and RAU, Inst. of Biomedicine Pharmacy Bioengineering.

12. Synthesis of (Ti0.2Ta0.2V0.2Nb0.2Cr0.2)2AlC High-Entropy MAX Phase and its 2D Derivative MXene by Energy-Efficient SHS Approach. Syuzanna Melkonyan – Researcher, Inst. of Chem. Physics, NAS, RA.

Individual Contributions of the ARPA Institute Board Members towards 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 leads a team of experts and is involved in spearheading 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. 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 in 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 fellowship started with six new healthcare professionals.

ARPA Institute Panel Discussions and Presentations in 202

ARPA Institute organizes monthly panel discussions and/or presentations on various topics related to Armenia or Armenians.

If you have an interesting topic and are willing to make a presentation, please contact us at info@arpainstitute.org

ARPA Institute Panel Discussions/Presentations in 2025

1. Armenia in 2025: A Time of Turbulence and Uncertainty
Panellists: David Akopyan, Yeghia Tashjian and Robert Beglaryan.
Modertor: Hriar Cabayan
Held on January 25 at 10:00 AM PST

Abstract: Armenia will face turbulence and uncertainty in 2025. After the devastating 2020 war, the country experienced a significant blow in 2023 with the exodus and the ethnic cleansing of Artsakh Armenians. Peace negotiations with Azerbaijan are slow and raise doubts on their genuine interest in a lasting peace. Azerbaijan avoided war for its hosting of COP29, and for the U.S in 2024 presidential election. The new U.S. administration seems pro-Armenia, but events of 2023 indicate it does not mean pro-actions. From pro-Iranian and Russian to a pro-Turkish HTS regime change in Syria, maybe a victory for Turkey. Will Turkey build its influence in Syria, or act on expansion eastward—through the "Zangezur Corridor" to Azerbaijan? The latter sees itself as dominant in the South Caucasus, asserting itself against Armenia and even with Russia. The approach Trump takes on geopolitical issues, international storm and at the whim of Azerbaijan and will need resilience to navigate the existential pressures.

Dr. David Akopyan had dual careers, he has a PHD in physics, studied complex systems for 26 years and then worked for the UN in 15 countries across many regions. During the last 10 years of his UN career, he spent in Afghanistan, Somalia and Syria, and other worst crisis affected countries and held leadership positions as UN Development Program Deputy Director, Country Director, and Resident Representative. He is an American University of Armenia (AUA), 2019 distinguished alumnus. In 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 an ex officio advisor to the President of Armenia, 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.

Yeghia Tashjian is the Issam Fares Institute Public Policy and International Affairs- Regional and International Affairs Cluster Coordinator in AUB. His BA is from Haigazian University and MA in Public Policy and International Affairs from AUB and studied "Strategic Leadership in Global Societal Security Program" at the Swedish Defense University. Yeghia has worked in Armenian Diaspora Research Center in Haigazian. His thesis was on the geopolitical and energy security interests in Iran and the Persian Gulf and now researches Turkey-Russia competition in the MENA+ Caucasus and Russia's involvement in the North-South Transport Corridor. He contributes to local and regional newspapers, is a columnist in the Armenian Weekly, and is a part-time instructor in the Department of Political Studies and Public Administration at the AUB.

Robert Beglarian was born in Tehran in 1961. He studied physics and mathematics in Tehran and Isfahan. Robert has contributed significantly to the New Julfa cultural and political organizations. In 1989 Mr. Beglarian received his master's degree in economics from the university of Isfahan. He has worked in the Ministry of Social Welfare and Labor and has taught market economics in the Isfahan. In 2000 Robert moved to Tehran and worked in the Ministry of Social Welfare and Labor as an economist. 2002-2004 he served on the editorial board of the Payman Journal. He has been elected four consecutive terms as a Parliamentary deputy of Armenian descent. Beglarian has given numerous interviews & analyses on Armenia-Iran and Iran-Middle East.

Dr. Hriar Cabayan is a Visiting Scientist at the Lawrence Livermore Lab since 1977. In 1997 he joined the Joint Staff (Pentagon) and managed a program on operational planning. Hriar received the Joint Meritorious Civilian Service Award from the Chairman, Joint Chiefs of Staff in 2007 and in 2019. Dr. Cabayan returned to Lawrence Livermore Laboratory in October 2019. He received his Doctorate Degree from the University of Illinois in Urbana. After graduating, he taught mathematical physics for four years at New York

University's Courent Institute of Mathematical Sciences and at McGill University before joining Lawrence Livermore lab.

2. The High-Tech Ecosystem of Armenia: Prospects for the Future
Panellists: Emma Arakelyan, Yervant Zorian, Sargis Karapetyan and Ashot Arzumanyan.
Moderator: Al Eisaian
Held on March 1 at 10:00 AM PST

Abstract: Armenia's high-tech ecosystem has rapidly emerged as a key driver of economic growth and innovation, leveraging the nation's rich heritage in science, engineering, and IT. This ecosystem is characterized by a dynamic mix of startups, multinational technology firms, research institutions, and government-supported initiatives aimed at fostering innovation. With a strong emphasis on artificial intelligence, software development, semiconductor design, and cybersecurity, Armenia has positioned itself as a regional technology hub. Initiatives like the Tumo Center for Creative Technologies and the Engineering City highlight Armenia's commitment to nurturing talent and fostering entrepreneurship. The strategic geographic location, competitive labor market, and favorable investment climate of the country further enhance its appeal to global investors and tech companies. However, challenges such as limited access to venture capital, infrastructural constraints, and geopolitical instability pose hurdles to sustained growth. To address these issues, Armenia is investing in education reform, infrastructure development, and public-private partnerships to strengthen its high-tech ecosystem. The future of Armenia's high-tech sector lies in its ability to scale up innovation, deepen integration with global markets, and capitalize on emerging technologies such as blockchain, biotech, and renewable energy solutions. By fostering a culture of collaboration and embracing digital transformation, Armenia has the potential to become a global player in the high-tech industry, contributing to economic resilience and sustainable development.

Emma Arakelyan is a world-class management consulting executive, angel investor, author, speaker, entrepreneur, philanthropist, coach and professor. Emma brings more than 20 years of experience in leadership strategy across businesses, in IT Architecture & Transformation, M&A, governance and compliance, credentialed by global professional services and technology companies as a Partner at Ernst & Young and Managing Director at Accenture. Emma is the Co-founding Partner of New York startups funding and growth BAJ Accelerator and since 2022 Emma is a Venture Partner and LP at New York based Covenant Venture Capital. She is the CEO and Founder of Orion Worldwide Innovations, LLC, offering Intellectual Property Management & Acquisition to innovators and investors globally.

Yervant Zorian holds an MS in Computer Engineering from the University of Southern California, a PhD in Electrical Engineering from McGill University, and an MBA from Wharton School of Business, University of Pennsylvania. Dr. Zorian is a fellow and the Chief Technologist of Synopsys Corp, and the President of Synopsys Armenia. He was Vice President and Chief Scientist of Virage Logic Inc, and a Distinguished Member of the Technical Staff at AT&T Bell Laboratories. He has authored more than 350 scientific papers, four books and holds 42 US patents. A Fellow of the Institute of Electrical and Electronic Engineers (IEEE), he was selected by Electronic Engineering Times among the top 13 influencers on the semiconductor industry in the past fifty years. Dr. Zorian was the recipient of the prestigious Industrial Pioneer Award, the IEEE Hans Karlsson Award for diplomacy, and he was the recipient of the National Medal of Science from the Republic of Armenia. He served as the General Chair 50th Design Automation Conference and of the 50th International Test Conference. Since 2008, he has served as a member of the AGBU Central Board; served as the chair of AGBU Silicon Valley, the President of the AGBU Armenian Virtual College, and a trustee of the AUA.

Sargis Karapetyan is the CEO of the Union of Advanced Technology Enterprises-*UATE* in Armenia. He is also the Co-Founder and CEO at Embry Technologies and has previously Worked at Aarki Inc. Sargis studied entrepreneurship and management at Draper University and received a Bachelor of Scienece Degree in Computer Science from the National Polytechnic University of Armenia. He has a robust knowledge skill set that includes Git, Subversion, Arduino, Jinja2, jQuery and more.

Ashot Arzumanyan is a co-founder and partner at SmartGateVC, a venture capital firm operating from California and Armenia, with a proven track record of early investments in artificial intelligence. Since 2017, Ashot has led investments in 33 cutting-edge startups, including SuperAnnotate, the fastest annotation platform for AI, and Deep Origin, a pioneer in quantum-accurate drug discovery. With a focus on transformative technologies such as Brain-Computer Interfaces, AI in Life Sciences, and AI for the Physical World, Ashot passionately supports scientists and entrepreneurs disrupting the status quo. He also spearheads initiatives like Hero House in Armena and Los Angeles, Armenia Startup Academy, and the Hero House Angel Network, which serve as vital platforms for scaling Armenian tech globally. Ashot holds a PhD in economics and splits his time between the U.S. and Armenia, taking part in AI-powered innovation in both ecosystems.

Al Eisaian is CEO and Board Member of Cognaize 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.

3. AI in Armenia: Impact, Opportunities, and the Role of the Armenian Diaspora
Panelists: Chinar Movsisyan, David Baghdasaryan, Joseph Simonian and Tatevik Davtyan.
Moderator: Samvel Shoukourian.

Held on SUNDAY, March 23, 2025, at 11:00 AM PDT

Abstract: Artificial Intelligence (AI) is rapidly transforming industries and economies worldwide, and Armenia is no exception. As the country positions itself into a growing tech hub, AI presents both challenges and opportunities for economic growth, innovation, and societal development. This panel will explore the impact of AI in Armenia, examining its role in sectors such as industry, healthcare, and finance, as well as the education and infrastructure needed to support its advancement.
A key focus will be the role of the Armenian Diaspora in shaping this transformation. From investments in AI-driven startups to knowledge transfer and strategic partnerships, the Diaspora has played a crucial role in fostering Armenia's AI ecosystem. The discussion will highlight success stories, ongoing initiatives, and the potential for deeper collaboration to ensure Armenia remains competitive in the global AI landscape. Bringing together experts from academia and industry, this panel will provide insights into how AI can drive Armenia's future and how the global Armenian network can contribute to this emerging ecosystem.

Chinar Movsisyan is the founder and CEO of Feedback Intelligence (formerly Manot), an LLMOps company based in San Francisco that enables enterprises to make sure that Large Language Model-based products are reliable and that the output is aligned with end-user expectations and needs. Chinar has extensive experience in building AI solutions from 0 to 1 in different mission-critical applications including drones, satellites, and healthcare. She has led engineering and research initiatives at different venture-backed startups (Amaros, Vineti) and research labs (LCIS Lab at Grenoble University). Her PhD is in Machine Language in healthcare supervised by Sos Agaian in CUNY. Feedback Intelligence, a UC Berkeley SkyDeck alum, is expanding across industries. The company has secured $1.2M in pre-seed funding from Hustle Fund, Berkeley SkyDeck Fund, Argonautic Ventures, and SmartGateVC.

Davit Baghdasaryan is a co-founder and the CEO of Krisp AI, an advance Artificial Intelligence company that has recently acquired $19 million investment. Krisp builds Voice AI Technologies and products. He has an MS degree from the Yerevan State University in Computer Science and has co-founded DeepSat, is a co-founder of and one of the three Partners of BigStory VC. BigStory has invested in 25 startups with Armenian co-founders around the world. Davit is also a Board Member of Bazoomq Space Research Laboratory and has been the Head of Product Security at Twilio Inc. Mr. Baghdasaryan is a highly motivated and solution oriented, creative engineer with excellent professional skills and architectural and inventive thinking.

Joseph Simonian, Ph.D. from the University of California, Santa Barbara, is the Head of Equity Portfolio Design and Analytics at CalPERS. He is an investor and researcher who has conducted research in quantitative finance, machine learning, factor investing, and portfolio construction. Joseph has held senior portfolio management and research positions at several leading investment firms. He is the founder of Autonomous Investment Technologies, a contributor to finance journals and speaker at investment events worldwide. He is the co-editor of The Journal of Financial Data Science, on the editorial board of The Journal of Portfolio Management, and the chairman of the Financial Data Professional Institute. Dr. Simonian has authored over 40 publications and is co-author of the books Quantitative Global Bond Portfolio Management and of Computational Global Macro. Joseph has experience teaching in both academia and industry.

Samvel Shoukourian has received a Doctor of Science in Physics and Mathematics and a rank of a Professor of Computer Science and Software Engineering from the Supreme Certification Board in Moscow. Dr. Shoukourian was elected a Member of the National Academy of Sciences of Armenia in 1996 and is a Scientific Leader of IT Educational and Research Center at YSU since 2007. He is also a Professor Emeritus at YSU. Simultaneously he has served as Chief Scientific Advisor and Development Director in multinational companies, at Synopsys since 2010. Dr. Shoukourian is the recipient of the National Medal of Science of Armenia, has authored more than 100 peer reviewed articles, and holds 1 Russian and 12 U.S. patents. His current research interests include test and repair of electronic devices and systems, formal models and efficient algorithms for distributed systems, information technologies and architectures for multimedia virtual environments.

4. Empowering the Next Generation: The Impact of the TUMO Center for Creative Technologies
Discussant: Pegor Papazian, Moderator: Ani Shabazian.

Held on Saturday, April 12, 2025, at 11:00 AM PDT

Abstract: This discussion will explore the TUMO Centre for Creative Technologies as a pioneering model of education that blends self-learning, mentorship, and hands-on experience to equip teenagers with skills in technology and design. The futuristic approach of bringing together educators, industry leaders, and alumni TUMO educates and prepares students for the future. The centre's curriculum fosters creativity, problem-solving, and digital literacy. The conversation will highlight TUMO's strategic partnerships with global tech companies and educational institutions, which enhance learning opportunities and career pathways for students. Additionally, examined will be TUMO's expansion beyond Armenia, its adaptability in diverse cultural contexts, and the broader implications of its model for reshaping education.

Pegor Papazian is the Chief Development Officer of TUMO Centre for Creative Technologie. He graduated from The Booth School of Business of the University of Chicago and has a Master of Science from MIT where he worked on Artificial Intelligence and design automation. He has been CEO of the National Competitiveness Foundation of Armenia and Head of Program Development at the United States Agency for International Development. Pegor has played a lead role in developing TUMO's educational content and user interface.

Ani Shabazian, Ph.D., B.A., History and Psychology, UCLA; M.A. Human Development and Psychology, Harvard University, 2ed M.A. UCLA, PhD, Urban Schooling. Ani has served on the faculty of several universities, trained in orphanages in Budapest, Hungary and Reggio Emilia, Italy. She has been the Executive Director of the UCLA Infant Development Program and now she is a Loyola Marymount University tenured Associate Professor School of Education and Director of the Children's Center. Dr. Shabazian has received the UCLA Distinguished Faculty Teaching Award and the LMU Crimson and Blue Distinguished Teaching Award. She has done training, conference presentations, and has peer-reviewed journal publications. Ani has authored three books and co-authored an international orphanage assessment, that is an international research tool and developed into an APP by Duke University. Further, Ani has traveled with Whole Child International, UK, developing training programs for vulnerable children. Ani has served as a Board member for many organizations, and with the Ministry of the Diaspora for vulnerable children in Yerevan and Gyumri. She has served on many university committees, now serves on the Board of Trustees of the Hovnanian School and on the Board of Directors of Child360.

5. Պատմութիւն Տէր Հովհաննիսի Թովմաճանեան որ զամս երեսուն ի կեանս իւր շրջեցաւ Յեւրոպիայ, Յասիա, ի Հնդիկս եւ Յափրիկէ, ի Հապեշստան
Ներկայացնողներ՝ Մերուժան Կարապետեան եւ Էլիզաբէթ Թեջիրեան:
Ջրուցավար՝ Սեպուհ Ասլանեան

Held on Շաբաթ, Մայիս 24, 2025, Ժամը 11:00 AM PDT

Ամփոփում՝ Մերուժան Կարապետեանի եւ Էլիզաբէթ Թաջիրեանի աւելի քան 20 տարուան խնամքով ու նուիրմով կատարուած աշխատանքին արդիւնքն է՝ Յովհաննէս Թովմաճանեանի (1717-1806) «Պատմութիւն Տէր Հովհաննիսի Թովմաճանեան որ զամս երեսուն ի կեանս իւր շրջեցաւ Յեւրոպիայ, Յասիա, ի Հնդիկս եւ Յափրիկէ, ի Հապեշստան», գոհարավաճառ հեղինակի «երեսուն պետութիւններ» կատարած ճանապարհորդութիւններու՝ մանրամասնութիւններով յագեցած ուղեգրութիւն-նկարագրութիւնը: «Պատմութիւնը» ԺԸ. դարու վերջին քառորդը գրուած եւ առաջին անգամ հրապարակուող հայ մատենագրական կարեւորագոյն յուշամատեաններէն մէկն է: Գիրքը իր հսկայ աշխատանքով իրականացուած ուսումնասիրութիւններով, ծանօթագրութիւններով,

քարտէզներով, բառարանով ու ժամանակուան պատկերներով կը նկարագրէ վաղ արդի շրջանի Եւրոպա, Ասիա եւ Աֆրիկա ցամաքամասերու պատմութիւնը եւ առեւտրա-տնտեսական յարաբերութիւնները, թէ՛ մասնագէտներու, եւ թէ՛ ընթերցող հանրութեան համար: Այս գիրքը կը ներկայացնէ ոչ միայն բացառիկ պատմագրական աշխատանք, այլ նաեւ հսկայ մարդկային եւ համաշխարհային արժէք՝ յիշողութեան, ճանապարհորդութեան, մշակութային, եւ յաղորդակցութեան: Պատմութիւն ոչ միայն հայոց աշխարհի, բայց մանաւանդ տարբեր ազգերու եւ ժողովուրդներու կենցաղավարութեան, վարք ու բարքի, եւ ապրելակերպի մասին: Երբ անցեալի պատմութիւնը հանրութեան կը վերադառնայ այսպիսի անվերապահ նրբութեամբ ու ճշգրտութեամբ, ան կ՛ըլլայ շատ աւելին, քան կարեւոր հետազօտական աղբիւր՝ բայց նաեւ բացայայտումը համաշխարհային շատ մը կարեւոր երեւոյթներու:

Մերուժան Կարապետեան. մատենագէտ, Հայաստանի ամերիկեան համալսարանի «Հայ մատենագրութեան թուանշային գրադարան»ի (www.digilib.aua.am) գիտական ղեկավարն է: Հետաքրքրութիւնների եւ ուսումնասիրութիւնների շրջանակը ԺԷ-ԺԸ դարերի Հայաստանի էթնոդաւանական կազմի ու կառուցուածքի, հայ-լատին փոխյարաբերութիւնների պատմութեան, հայկական բնագրագիտութեան հարցերն են:

Սեպուհ Դաւիթ Ասլանեանը Պատմութեան փրոֆեսոր եւ UCLA-ի Պատմութեան Բաժանմունքի Ռիչարտ Յովհաննիսեանի անուան արդի Հայոց Պատմութեան ամբիոնին վարիչն է: Ասլանեան հրատարակած է բազմաթիւ գիտական յօդուածներ վաղ արդի հայոց եւ համաշխարհային պատմութեան շուրջ հանրածանօթ հանդէսներու մէջ: Ան հեղինակն է մրցանակակիր *«Հնդկական Ովկիանոսէն մինչեւ Միջերկրական: Նոր Ջուղայի Հայ Վաճառականներու Համաշխարհային Առեւտրական Յանցերը»* (Պըրքլի՝ Քալիֆորնիոյ Համալսարանի Հրատարակչութիւն, 2011) գիրքին, ինչպէս նաեւ *«Վաղ Արդիականութիւն եւ Շարժունակութիւն. Նաւահանգստային Քաղաքներ եւ Տպագրիչներ Հայկական Սփիւռքի Մէջէն, 1512-1800»* գործին որ լոյս տեսած է Եէյլի Համալսարանի Հրատարակչութեան միջոցով 2023-ին եւ շահած է Հեղինակութեան, Ընթերցման եւ Հրատարակչութեան Պատմութեան Ընկերակցութեան կողմէ լաւագոյն գիրքի միջազգային մրցանակը (SHARP book History award):

6. “Sequencing infrastructure and genomics projects in Armenia”
Panelists: Arsen Arakelyan, Levon Yepiskoposyan, Kristine Margaryan, and Lilit Nersisyan.
Moderator: Vahan Martirosian

Held on Saturday, June 28 at 11:00 AM PDT

Abstract: The panel discussion will delve into pivotal topics at the intersection of genomics, history, agriculture, and public health activities in the Molecular Biology Institute in Armenia. The session will highlight the advancements in sequencing infrastructure and genomics projects, including the establishment of the Armenian National Grapevine Collection, which conserves indigenous grape varieties through DNA-based characterization and bio-conservation efforts. A significant focus was placed on debunking the long-held "Balkan migration theory" of Armenian origins, with recent whole-genome studies revealing no substantial genetic link between Armenians and Balkan populations, challenging historical narratives. The conversation will also touch upon the "Grapes of Armenia" book, emphasizing the rich viticultural heritage in Armenia and the importance of preserving grape genetic resources. Additionally, microbial bioinformatics emerged as a critical tool in understanding antibiotic resistance in Armenia, with studies indicating a high prevalence of multidrug-resistant pathogens and highlighting the need for enhanced surveillance and stewardship programs. Collectively, these discussions underscore Armenia's commitment to integrating scientific research into cultural preservation and public health strategies.

Dr. Arsen Arakelyan, PhD, DSc is the Director of the Institute of Molecular Biology NAS RA (IMB), Head of the Bioinformatics Group, and Co-manager of the Sequencing Core Facility at IMB. With over 23 years of experience in both wet-lab molecular biology/genetics and dry-lab bioinformatics, his current research is focused on high-throughput data analysis, systems biology, and telomere bioinformatics. He coordinates several large-scale genomics projects in Armenia, including the Armenian Genome Project and Armenian Cancer Genome Atlas initiatives.

Levon Yepiskoposyan is a senior researcher at IMB and the head of the Institute of Man. He received his Doctor of Science from the Institute of Common Genetics, Russian Academy of Science. He has served as professor at Yerevan State University and IMB. Dr. Yepiskoposyan is also the President of Armenian Anthropological Society and is the head of the Laboratory of Evolutionary Genomics at IMB. He is the author of books and numerous articles. His main research is in the comprehensive analysis of whole-genome data from Armenians, focusing on their genetic history and variation. The main results are that Armenians share significant genetic similarities, and that there was genetic input from a Levantine source in the region following the Early Bronze Age.

Vahan Martirosian is a CIRM-BSCRC post-doctoral fellow at UCLA. He received his B.S. in Biology from the UC Irvine, with the Excellence in Research distinction for studying the therapeutic benefits of stem cell transplantation in the brain, M.S. in Molecular Microbiology and Immunology and Ph.D. in Medical Biology from the University of Southern California. His current interest includes development of high-throughput screens for personalized medicine and the contribution of metabolism to pluripotent stem cell differentiation and glioblastoma recurrence.

7. The Transformative Transition, Western Alignment, Geopolitical and Internal Ongoings in Armenia

Presenter Prof. Nerses Kopalyan
Moderator: Hriar Cabayan
Held on Saturday, July 26, 2025, at 11:00 AM PDT

Abstract: Armenia is navigating a complex and transitional period: a peace process with Azerbaijan struggling to gain pace, a normalization package proposed by the United States that is garnering momentum, Western alignment that supersedes dependence on Moscow, and institutional reforms that are in motion. Domestically, the government is attempting to combat hybrid threats from antagonistic neighbors, which has implicated opposition leaders and ecclesiastical figures, raising concerns of domestic instability. With parliamentary elections scheduled for 2026, Armenia's ability to uphold democratic norms while pursuing geopolitical realignment will define its trajectory in the coming months. These issues and the internal political developments will be addressed, and predictive assessments will be provided regarding future developments.

Dr. Nerses Kopalyan is an associate professor-in- residence of Political Science at the University of Nevada, Las Vegas. His fields of specialization include international security, 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), the co-author of Sex, Power, And Politics (Palgrave Macmillan, 2016), co-author of Latinos in Nevada: A Political, Social, and Economic Profile (Nevada University Press, 2021), and co-author of Armenia, Azerbaijan, and the 2020 Nagorno- Karabakh War (Taylor and Francis, forthcoming 2023). He is a contributor to EVN Report. He has contributed publications with Le Figaro, The Times of Israel, and The National Interest. His current research and academic publication concentrate on geopolitical and great power relations within Eurasia, its impact on small state security, and the broader implications for democratic breakthroughs within authoritarian orbits. He has conducted extensive field work in Armenia on the country's security architecture and its democratization process. He has authored several policy papers for the Government of Armenia and served as voluntary advisor to various state institutions.

Dr. Hriar Cabayan is a Visiting Scientist at Lawrence Livermore Laboratory. He joined the Laboratory in 1977 and then, in 1997 he joined the Joint Staff (Pentagon) and managed operational planning. Hriar received the Joint Meritorious Civilian Service Award from the Office of the Chairman, Joint Chiefs of Staff in 2007 and in 2019. Dr. Cabayan returned to Lawrence Livermore Laboratory in 2019. He received his Ph.D. from the University of Illinois, Urbana. Hriar has taught mathematical physics at the Courent Institute of Mathematical Sciences, New York University, and at McGill University before joining Lawrence Livermore laboratory.

8. Armenian Music: Modern Interpretations of Traditional Sounds
Panelists Movses Pogossian, Greg Hosharian, and Baruir Panossian
Moderator: Hasmig Baran
Held on Saturday, August 23, 2025, at 11:00 AM PDT

Abstract: Abstract: The Panel Discussion will explore the dynamic evolution of Armenian music through modern interpretations of traditional sounds. Rooted in a rich cultural heritage characterized by distinctive modal systems, folk

instruments like the duduk and kanun, and liturgical chants, Armenian music has undergone significant transformation in the 21st century. Contemporary Armenian musicians and composers are reimagining traditional motifs by fusing them with global genres such as jazz, electronic, rock, and classical music. This synthesis not only preserves the essence of Armenian identity but also revitalizes it, making it relevant to younger generations and international audiences. Through case studies of notable artists, analysis of musical techniques, and exploration of sociocultural influences, the panel will highlight how modern interpretations serve as both a tribute to and a reinvention of the musical legacy of Armenia. It will ultimately underscore the role of innovation in sustaining cultural continuity in an increasingly globalized world.

Movses Pogossian is a violinist who has made his American debut in 1990, performing T chaikovsky's Concerto with the Boston Pops at Symphony Hall. Pogossian has performed with the Brandenburger Symphoniker and the Halle Philharmonic in Germany, the Sudety Philharmonic in Poland, the Tucson Symphony, the El Paso Symphony, the Scandinavian Chamber Orchestra of New York, Los Angeles Chamber Orchestra, and the Toronto Sinfonia. He is the First Prize winner of the 1985 USSR National Violin Competition, has performed with numerous members of string quartets, and with famous artists. A committed champion of new music, Pogossian has premiered more than 100 works, and collaborated with world renown composers. In Los Angeles, Pogossian performs on Monday Evening Concerts, and is the recipient of the 2011 Forte Award from Jacaranda. Movses was the Founding Artistic Director of the Dilijan Chamber Music Series in downtown Los Angeles. He has composed numerous pieces for soprano and violin and among his video releases is the unique performance of the Schoenberg String Trio (with Kim Kaskashian). Pogossian earned his degrees from the Komitas Conservatory in Armenia and the Tchaikovsky Conservatory of Music in Moscow. Pogossian has taught at Duquesne, Bowling Green, Wayne State, and SUNY Buffalo Universities. Movses Pogossian is Distinguished Professor of Violin and Chair of Strings at the UCLA Herb Alpert School of Music, as well as Founder/Advisor of the UCLA Armenian Music Program.

Greg Hosharian is a musician, composer, conductor, pianist & orchestrator, He began playing the piano at four, his father, composer/conductor Edward Hosharian, was his first music teacher. Greg studied under pianist Akiko Dohi and began to compose music, winning piano competitions. Hosharian has a BA in composition from California Institute of the Arts and a MA in composition and orchestration from California State University, Northridge. On his 2004 graduation he conducted a 15-piece symphonic ensemble performing his composition "Symphony No. 1 - Instance." Active in orchestration and teaching, Greg also composes soundtracks for film, television, animation and video-game projects. Greg has toured across Europe and North America, formed three bands and performed an exceptionally well-received concert in Yerevan, Armenia. Hosharian founded The Armenian Pops Orchestra in 2010, which debuted his composition "Symphony No. 2 - The Waters of Lake Sevan" at Zipper Hall in LA.

Baruir Panossian, known professionally as **Bei Ru**, is an Armenian American record producer, singer, songwriter, and multi-instrumentalist. Bei Ru's sound is marked by a melding of airy, syrupy electronic, soul, psych, house & funk influences. He scored music for the 2014 film *A Girl Walks Home Alone At Night*, an Iranian vampire western produced by Elijah Wood and distributed by Vice Films, as well as 2015's *I Smile Back* starring Sarah Silverman and others. Bei Ru first made waves with his 2010 debut *Little Armenia,* with samples culled from vintage Armenian music and influenced by Los Angeles' underground hip-hop scene, it was a love letter to both his heritage and his hometown. Bei Ru's second album Saturday Night at The Magic Lamp is inspired from an Armenian bandleader and has futuristic and vintage influences. Bei Ru's 3rd album explores new sounds, placing his beats over psychedelic jazz samples and funky harmonic melodies. In Custom Made Life Bei Ru also sang on the album and collaborated with vocalists such as Roc Marciano, Seven Davis Jr., Peyton, Jimetta Rose, Blu, Old Man Saxon, and Sebu of Capital Cities. Stylistically, it combined elements of funk, melodic house, hazy, filtered lo-fi electronic, grainy hip hop, and more.

Hasmig Baran, Ed.D. is an educator with a Doctor of Education Educational Psychology from the USC, an M.A. in Educational Leadership and Policy Studies from CSUN, and B.S. from the AUB. Her dissertation was on "The Role of Ethnic Culture in Work-Family Balance Among Armenian Women in Leadership Positions in Higher Education". Dr. Baran is a lecturer at CSUN, the Chair of Haigazian University Board of Trustees, in the Near East Committee of Armenian Missionary Association of America, Board member of Avedissian School in Armenia and of the Regents of Prelacy Armenian Schools in Southern locally, a member of Western Association of Schools and Colleges, Association of California School Administrators and of Prelacy Armenian Language Revitalization Committee. She has published articles in journals, has participated in academic conferences, given public talks on "Women's Leadership and Cultural Identity", "Armenian Organizations as Vehicles for Identity Preservation", "Armenian Diaspora Relations", "Is Maintaining Armenian-ness in the Diaspora Possible?" "Teacher Training for the 21st Century", "Content and Pedagogy of Genocide Education in the 21st Century: The Armenian Case". She is a Board member of the ARPA Institute.

9. "Renaissance of the Wine Industry in Armenia and Application of New technologies"
Panelists: Vahe Keushguerian, Mary Hovhannisyan, Adam Kablanian, and Hovakim Saghatelyan. Victoria Aslanian. Moderator: Vahan Zanoyan
Held on Sunday, September 7, 2025, at 11:00 AM PDT

Abstract: The Armenian wine industry is experiencing a remarkable renaissance, revitalizing its ancient winemaking heritage with the integration of modern technologies. Once a cradle of viticulture dating back over 6,000 years, Armenia is now re-emerging on the global wine map through a fusion of tradition and innovation. New technologies such as precision viticulture, climate-resilient grape cultivation, and advanced fermentation and aging techniques are being applied to enhance quality and efficiency while preserving the unique characteristics of indigenous grape varieties. This revival is not only boosting the local economy but also positioning Armenia as a competitive and culturally rich player in the international wine market.

Vahe Keushguerian is a pioneering Armenian winemaker, entrepreneur, and advocate for the revival of Armenia's ancient wine culture. With decades of experience spanning Italy, California, and Armenia, he has been instrumental in introducing modern winemaking practices while preserving indigenous grape varieties. As the founder of WineWorks, a leading incubator for Armenian wine startups, and founder of groundbreaking projects such as Zulal and Keush, he has helped put Armenia on the global wine map. Through his vision and mentorship, Keushguerian continues to shape the country's growing wine industry, bridging Armenia's 6,000-year winemaking heritage with contemporary innovation. He is the Co-founder of Impact Hub Yerevan, EVN Report and EVN Wine Academy and served as Chairman of the Board.

Mary Hovhannisyan is a dedicated wine manager and cultural ambassador with experience in Armenia's wine and wine tourism. She has expertise in wine education, marketing, and hospitality through work at Voskevaz Family Winery. Mary is a staff trainer, guides tastings and has done educational tours. She has represented the winery at expos, festivals, and events, locally and abroad. Hovhannisyan has an MA in Public Relations and a BA in Sociology from Yerevan State University, complemented by professional certifications in marketing and wine tourism. These qualifications have enabled her to effectively bridge the gap between Armenia's rich wine traditions and contemporary branding and communication strategies. Mary continues to be inspired by the power of wine as a means for connecting, history, and identity.

Adam Kablanyan is an entrepreneur who has a B.A. in Physics from the University of California, Berkeley, and an M.S. in Electrical Engineering from Santa Clara University. In 1996, Kablanian co-founded Virage Logic, a groundbreaking provider of embedded memory solutions for System-on-Chip, it went public on NASDAQ in 2000, later acquired by Synopsys. He opened a branch in Armenia placing Armenia on the tech innovation map. Following Virage Logic's success, Kablanian led a series of high-tech ventures focused on display and semiconductor innovation. As CEO of PlasmaSi, he helped develop cutting-edge OLED encapsulation technology, which Aixtron later acquired. He also served as CEO of Memoir Systems (acquired by Cisco) and launched iCON Communications, one of the first companies to bring broadband internet to Armenia. He also transformed Cynora, a German-based company, into a leader in OLED emitter materials, and successfully sold it to Samsung Display in 2022. In 2017, Kablanian founded Alexandrea Winery in Armenia to support local agriculture, create jobs, and elevate Armenian winemaking on the global stage. Combining traditional viticulture with modern techniques, Alexandrea Winery was the first in the country to produce international wine varieties.

Victoria Armen Aslanian studied Art History in Florence, Italy, and continued at UC Berkeley to receive her BA. In 2009, with her father, she developed the agricultural, wine & brandy, and tourism sectors. Victoria received the Best Brand by a Woman Entrepreneur award in 2014 and has promoted The Renaissance of Armenian Wine at The Council of Europe in Strasbourg, at The Davos du'Vin, Italy, at AGBU's 88th General Assembly, as a guest lecturer at AUA in 2015 and 2025. Victoria has been a speaker at the 2025 UN Wine Tourism Conference and Global Summit in Armenia, and at the wine and tourism promotional events and conferences in the US, Europe, UK, Canada, Russia, China and Thailand. In 2015 Victoria was among the spokesmen for Teach for Armenia, and an ambassador for AYWA (Armenian Young Women's Association) and supports the EVN Wine academy. She was among the first Female Armenian Role Models named by The Embassy of Sweden and participated in the U.S. Embassy's Women's Mentoring Program and was a speaker at TEDX Yerevan. In 2017, Victoria was awarded the medal of honor of Armenia, and received "Agro-Product Female Hero," from the Ministry of Agriculture. She has served on the Board of Directors of Orran Benevolent NGO and ICARE, International Center for agribusiness Research and Education. Victoria has an Executive MBA from Skolkovo, Russia and was featured in Wine Enthusiast Magazine. In 2023, Forbes magazine published an article highlighting Victoria's achievement at ArmAs and in Armenia. She is currently the CEO of both ArmAs Armenia and ArmAs USA.

Vahan Zanoyan is a writer, traveler, retired executive, and anti-trafficking advocate. He has published two volumes of poetry in Armenian; and four novels in English. Zanoyan served as global energy consultant to numerous international and national oil companies, banks, and other private and public organizations throughout the United States, Europe, the Middle East, the Far East and Latin America. He also served as a senior economic and oil policy advisor to many oil producing governments. He was President and CEO of PFC Energy for ten years, based in Washington, DC; the Chairman and Chief Executive of PFC Energy International, in Lausanne, Switzerland; and the founding Chief Executive Officer of First Energy Bank, based in Bahrain, founder at Wharton Econometric Consulting Associates. Zanoyan was educated at The American University in Beirut and at the University of Pennsylvania.

10. Armenia Azerbaijan: Confrontation, Competition, Cooperation & Armenian National Security Communication Center
Panelists: Nerses Kopalyan, Anna Ohanyan, David Akopyan, Scott Fisher, and Mike Schwille. Moderator: Hriar Cabayan
Held on Saturday, September 6, 2025, at 10:00 AM PDT

Abstract: Discussed and explored will be key geopolitical developments in the South Caucasus following the Washington Summit, offering insights into the negotiations that culminated in the formal agreements signed at the event. It will also examine the recently signed memorandums of understanding that significantly enhance the U.S.-Armenia partnership. Another focus will be a proposed concept for an Armenian National Security Communication Center, aimed at strengthening Armenia's strategic communication capabilities to shape its national narrative, bolster democratic resilience, and counter the fragmented and reactive nature of its current information environment. The session will conclude with a discussion on how these two themes, geopolitical strategy and strategic communication, mutually reinforce each other.

Dr. Nerses Kopalyan is an associate professor-in-residence of Political Science at the University of Nevada, Las Vegas. His fields of specialization include international security, 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), the co-author of Sex, Power, And Politics (Palgrave Macmillan, 2016), co-author of Latinos in Nevada: A Political, Social, and Economic Profile (Nevada University Press, 2021), and co-author of Armenia, Azerbaijan, and the 2020 Nagorno-Karabakh War (Taylor and Francis, forthcoming 2023). He is a contributor to EVN Report. He has contributed publications with Le Figaro, The Times of Israel, and The National Interest. His current research and academic publication concentrate on geopolitical and great power relations within Eurasia, its impact on small state security, and the broader implications for democratic breakthroughs within authoritarian orbits. He has conducted extensive field work in Armenia on the country's security architecture and its democratization process. He has authored several policy papers for the Government of Armenia and served as voluntary advisor to various state institutions.

Dr. Anna Ohanyan is the Richard B. Finnegan Distinguished Professor of Political Science and International Relations at Stonehill College, and two-time Fulbright Scholar to South Caucasus. Her latest three books are Russia Abroad: Driving Regional Fracture in Post-Communist Eurasia and Beyond, edited (Georgetown University Press, 2018), Networked Regionalism as Conflict Management (Stanford University Press, 2015), and Armenia's Velvet Revolution, co-edited with Laurence Broers (I.B. Tauris, 2020). She has also published numerous articles in journals and contributed to the Washington Post, Foreign Policy magazine, The National Interest, Al Jazeera, and Wilson Quarterly and others. Prof. Ohanyan served as a doctoral fellow at the Kennedy School of Government at Harvard University. Her research has been supported by IREX, the Woodrow Wilson International Center for Scholars, the German Marshall Fund, the U.S. State Department and Eurasia Foundation. She has consulted for numerous organizations such as the United Nations Foundation, the World Bank, the National Intelligence Council Project, the U.S. Department of State, the Carter Center, and USAID. Her fieldwork has taken her to Russia, Northern Ireland, the South Caucasus, and the Balkans.

Dr. David Akopyan had dual careers- PHD in physics tudied 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.

Scott Fisher, Ph.D., is an Assistant Professor and Co-Chair of the Professional Security Studies department has been accepted into the Krulak Center Non-Resident Fellows Program at the Marine Corps University in Quantico, Virginia. Dr. Fisher also serves as a Major in the Army Reserves. The Krulak Center is a think tank at the Marine Corps University focused on creating enhanced educational opportunities for students and faculty engaged in Professional Military Education (PME). The Center's mission is to enable an interdisciplinary approach to supporting all students and faculty through complex problem solving, fostering an environment that enhances collective warfighting capability, and facilitating and encouraging novel solutions to current and future warfighting challenges to expand the Corps' competitive edge and improve warfighting effectiveness. Krulak Center Non-Resident Fellows will support the mission of the Krulak Center as needed and able.

Michael Schwille has been a defense researcher with RAND for over 10 years. In that time his research has focused on the U.S. military's engagement in the Information Environment, with a specific emphasis on capability design and
implementation. He has contributed to the Joint Concept for Operations in the= Information Environment, Capability Based Assessments and worked on numerous Information Operations-related projects for a variety of sponsors. His current research is focused on achieving effects in the information environment at the tactical level thru strategic levels of war and developing capabilities to monitor, maneuver and act in the information environment. Mike is also a qualified Civil Affairs, Psychological Operations and Information Operations officer with the US Army Reserves. He currently serves with the 91st Training Division where he works to incorporate informational aspects of military operations into exercises and training events. He has deployed multiple times to the Middle East and Africa.

11. Being Armenian Today: Negotiating Identity Between Homeland and Diaspora
Panelists: Irina Ghaplanyan, Hratch Tchilingirian, Razmig Panossian, & Ara Sanjian. Moderator: Ani Shabazian
Held on Saturday, October 11, 2025, at 11:00 AM PDT

Abstract: The national identity of Armenians has evolved through a complex interplay of historical, cultural, political, and diasporic forces, shaped by centuries of survival under empires, genocide, exile, and statehood. In an era marked by global movement and cultural blending, Armenian identity is no longer bound by a single geography or language. Explore will be how Armenians across the world, whether in Yerevan, Los Angeles, Beirut, or Paris, express and redefine their identity across geographic, linguistic, and cultural boundaries. Addressed will be, among others, hybrid identities, generational shifts, and the struggle to balance cultural preservation with modern adaptation, as well as the various ways in which "Armenian-ness" is lived today. Can a shared Armenian identity endure across diverse realities, and if so, what form does it take in today's interconnected world?

Irina Ghaplanyan, Ph. D. is a political scientist, climate negotiator and published author. She holds a Doctorate degree in political science from the University of Cambridge. Her main areas of expertise are political leadership, states in transition, climate politics, environmental management, gender and gender in conflict as well as security studies. Irina has an MA in Diplomatic Studies from the Diplomatic Academy of London and a BA in International Relations from the University of Malta. Dr Ghaplanyan served as Deputy Minister of Environment for the Republic of Armenia and now acts as a Senior Advisor on Climate Change to the World Bank Group and as International Expert on Climate Change to the FAO, she also teaches at the American University of Armenia. She has worked in UNDP, Georgetown University, Eurasia Foundation, and Chatham House. Irina has been a catalyst for change in the sustainable business and social entrepreneurship in Armenia. Dr. Ghaplanyan was awarded a top social venture entrepreneurs by the Global Good Fund Leadership program in Washington DC in 2015. She has several academic and media publications, among which the most recent is a Routledge published book titled "Post-Soviet Armenia: The New National Elite and the New National Narrative".

Dr. Hratch Tchilingirian is an intellectual entrepreneur and an activist sociologist. In recent years he has drawn attention to the plight of minorities and Christian communities in the Middle East, especially in academic and policy-making circles. As a public intellectual, his research, thinking and projects aim to make heritage identity, culture and language a living experience, especially in diasporic life. Following his PhD at the London School of Economics, he was director of research on Eurasia and lecturer at Cambridge University's business school (2003-2012). Since 2012, he is an Associate of the Faculty of Oriental Studies at University of Oxford. He has lectured internationally and is the author of numerous studies and publications (www.hratch.info). Dr. Tchilingirian has held executive positions in academic institutions and charitable organizations and has served communities in various capacities and leadership positions in the United States and the United Kingdom. He remains deeply engaged in community life and takes active part in civic and professional projects.

Razmik Panossian is the Director of the Armenian Communities Department since 2013. He is the author of *The Armenians: From Kings and Priests to Merchants and Commissars*. Panossian received his PhD from the London School of Economics and Political Science, and his MA from York University in Toronto, Canada, and BA from McGill University. Razmik has taught at the London School of Economics and at the School of Oriental and African Studies (University of London). He has served as Director of Policy, Programs and Planning at the International Centre for Human Rights and Democratic Development, then as an international consultant, including at UNDP in New York. He has delivered numerous lectures and conference papers throughout the world, has participated in Turkish Armenian workshops and the Armenia-Diaspora conferences. He has published many academic articles on Armenian national identity and nationalism, as well as on Armenia-diaspora relations.

Ara Sanjian, Ph.D., School of Oriental and African Studies, University of London, is Associate Professor of History and the Director of the Armenian Research Center at the University of Michigan-Dearborn. He received his MA in history from Yerevan State University. From 1996 to 2005 Sanjian was the Chairman of the Department of Armenian Studies, History and Political Science at Haigazian University in Beirut. In fall 2003, he was the Henry S. Khanzadian Kazan Visiting Professor in Armenian Studies at California State University, Fresno. He joined the University of Michigan-Dearborn in January 2006. Sanjian's research interests focus on the post-World War I history of Armenia, Turkey and the Arab states of Western Asia. More recently he has also become interested in the development of Armenian historiography.

Ani Shabazian, Ph.D., B.A., History and Psychology, UCLA; M.A. Human Development and Psychology, Harvard University, 2ed M.A. UCLA, PhD, Urban Schooling. Ani has served on the faculty of several universities, trained in orphanages in Budapest, Hungary and Reggio Emilia, Italy. She has been the Executive Director of the UCLA Infant Development Program and now she is a Loyola Marymount University tenured Associate Professor School of Education and Director of the Children's Center. Dr. Shabazian has received the UCLA Distinguished Faculty Teaching Award and the LMU Crimson and Blue Distinguished Teaching Award. She has done trainings, conference presentations, and has peer-reviewed journal publications. Ani has authored three books and co-authored an international orphanage assessment, that is an international research tool and developed into an APP by Duke University. Further, Ani has traveled with Whole Child International, UK, developing training programs for vulnerable children. Ani has served as a Governance Board member for the Ararat Charter School, the Paros Foundation, the Society for Orphaned Armenian Relief, and with the Ministry of the Diaspora for vulnerable children in Yerevan and Gyumri. She has served on many university committees, now serves on the Board of Trustees of the Hovnanian School and on the Board of Directors of Child360.

12. Psychological Assessment of Ilham Aliyev Based on Speeches and Interviews
Presenter: Brad Morrison and Peter Suedfeld Moderator: Nerses Kopalyan
Saturday, October 25, 2025, at 10:00 AM PDT

Abstract: The presentation will address the psychological assessment of Azerbaijani president Ilham Aliyev through a systematic analysis of his public speeches and interviews. Using established content analysis methodologies, the research examines linguistic and rhetorical patterns to infer aspects of his cognitive, emotional, and interpersonal functioning. Key variables such as dominance, control, conflict orientation, and emotional intensity are measured across different contexts and time periods, particularly in relation to regional conflict and domestic political developments. The findings provide insights into Aliyev's leadership style, decision-making tendencies, and the psychological underpinnings of his communication strategies. This approach highlights the utility of political-psychological profiling in understanding how leaders' psychological dispositions shape both national policy and international relations.

Bradford H. Morrison is a PhD candidate and researcher, in social psychology, at the University of British Columbia, and has an MA in political science from McGill University. He specializes in political psychology, especially the study of the decision-making of political leaders in times of stress, such as international crises, war, international negotiations, and peace processes. He uses content analysis to score real-world political texts for psychological constructs such as complexity of cognition (i.e., integrative complexity), motivations, and moral foundations, and to relate them to real-world political events and decisions, to better understand the psychology of political actors and political decision-making. He is currently working on his dissertation, which is a study of whether, and how, a head of government's tendency towards high or low complexity of thinking (integrative complexity) is associated with behaviors, interactions, and outcomes in international crisis. He has built a corpus of texts from the heads of government of the United States, Soviet Union / Russia, and United Kingdom, and has used content analysis to score it, to build a dataset of the cognitive complexity of these leaders over their political careers. He plans to expand this dataset and to add other psychological variables that can be scored using content analysis, such as motive imagery, and moral foundations. This dataset will be a novel and valuable resource for research in the psychology of political leaders.

Peter Suedfeld is an experimental social/environmental/political psychologist, Dean and Professor, Emeritus, at the University of British Columbia in Vancouver, B.C., Canada. He was educated in Hungary, Austria, and the U.S. (BA, Queens College of the City University of New York, MA and PhD, Princeton). He taught at the University of Illinois and Rutgers. He is a veteran of the U.S. Regular Army and the U.S. Air Force Reserve. His research, described in over 300 publications, deals primarily with psychological adaptation and resilience during and after challenging, dangerous, and/or traumatic environments and experiences. These have included laboratory experiments on restricted environmental stimulation and field research in both polar regions, as well as studies of high-level political and military decision-making and information processing under stress, and the effects of spaceflight, solitary confinement, persecution, and genocide. He is a Fellow of the Royal Society of Canada and many other scientific societies. Among his awards are the Antarctica Service Medal of the U.S. National Science Foundation, the highest awards for distinguished scientific achievement from the Canadian Psychological Association (CPA) and the International Society of Political Psychology, an honorary doctorate from the Université de Nîmes, the CPA Gold Medal for lifetime contributions to Canadian psychology, and Queen Elizabeth II's Diamond Jubilee Medal. In 2019, he was invested as an Officer of the Order of Canada.

Dr. Nerses Kopalyan is an associate professor-in-residence of Political Science at the University of Nevada, Las Vegas. His fields of specialization include international security, 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), the co-author of Sex, Power, And Politics (Palgrave Macmillan, 2016), co-author of Latinos in Nevada: A Political, Social, and Economic Profile (Nevada University Press, 2021), and co-author of Armenia, Azerbaijan, and the 2020 Nagorno-Karabakh War (Taylor and Francis, forthcoming 2023). He is a contributor to EVN Report. He has contributed publications with Le Figaro, The Times of Israel, and The National Interest. His current research and academic publication concentrate on geopolitical and great power relations within Eurasia, its impact on small state security, and the broader implications for democratic breakthroughs within authoritarian orbits. He has conducted field work in Armenia on the country's security architecture and its democratization process. He has authored several policy papers for the Government of Armenia and served as voluntary advisor to various state institutions.

13. "Genomics and AI Applications on Projects in Armenia"
Panelists: Kristine Margaryan, Lilit Nersisyan, and Hovakim Zakaryan. Moderator: Sargis Sedrakyan
Held on Sunday, November 23 at 9:00 AM PDT

Abstract: The panel discussion will present pivotal topics at the intersection of applications in genomics, agriculture, and public health activities in in Armenia. Highlighted will be advancements in sequencing infrastructure and genomics projects, including the establishment of the Armenian National Grapevine Collection, which conserves indigenous grape varieties through DNA-based characterization and bio-conservation efforts. The panel will focus on "Grapes of Armenia" book, emphasizing the rich viticultural heritage in Armenia and the importance of preserving grape genetic resources. Additionally, microbial bioinformatics emerged as a critical tool in understanding antibiotic resistance in Armenia, with studies indicating a high prevalence of multidrug-resistant pathogens and highlighting the need for enhanced surveillance and stewardship programs. It will also address the importance of integrating research in computational approaches for drug design and discovery, optimization, and development of new broad-spectrum antiviral agents and public health strategies.

Kristine Margaryan is the Head of the Research Group on Plant Genomics at the IMB, a Senior Researcher at the Laboratory of General and Molecular Genetics at Yerevan State University, and the manager of the Armenian *VITIS* Database (www.vitis.am), a national platform dedicated to the documentation, characterization, and preservation of Armenia's grapevine genetic resources. Dr. Margaryan's research focuses on the comprehensive characterization of *Vitis* genetic diversity, with special emphasis on molecular fingerprinting, resistance and molecular breeding, and grapevine adaptation to climate change. She leads several national and international research projects as PI and her work contributes significantly to the sustainable use and conservation of native grapevine varieties, supporting both scientific progress and the preservation of Armenia's rich viticultural heritage.

Lilit Nersisyan, PhD is a computational biologist and the founding director of the Armenian Bioinformatics Institute (ABI). Her research focuses on telomere biology, host–microbiome interactions, and the development of computational tools for genomics and systems biology. She has received training in Armenia, Germany, and Sweden. She returned to Armenia to establish ABI. Under her leadership, ABI has grown into a leading research and training center in Armenia, advancing bioinformatics capacity through international collaborations, education, and applied research in human, bacterial, and plant genomics and precision medicine.

Hovakim Zakaryan holds a Ph.D. from the Institute of Molecular Biology (IMB) of NAS, Armenia. He is an antiviral drug hunter, co-founder and CEO of Denovo Sciences. Hovakim has served as Research assistant, Junior researcher, and as Researcher in the Institute of Molecular Biology. He has also worked in the Yerevan State Medical University as Assistant Professor and is now Head of the Antiviral Research Group at IMB. Dr. Zakaryan has over 20 Research papers in local and international journals. He has received trainings in the Centre of Molecular Biology, Severo Ochoa, Madrid, Spain, Yerevan State Medical University, Yerevan, Armenia. Hovakim's academic activities include Secretary of organizing committee of FEBS Advanced Lecture, Organizer of Nobel Prize Laureates Lectures in Yerevan, and the FEBS Advanced Lecture Course "Current Advances in Pathogen Research". He holds several awards and is actively involved in drug discover using AI.

Sargis Sedrakyan is a Children's Hospital Los Angeles and Saban Research Institute Investigator and Assistant Professor of Urology at University of Southern California. Sargis received his undergraduate degree in Biology at Brooklyn College, City University of New York, his PhD in Stem Cells and Regenerative Medicine from Padova University, Italy and completed postdoctoral research training in Developmental Biology and Regenerative Medicine at The Saban Research Institute, CHLA. He is a member of the American Society of Nephrology. Sedrakyan's laboratory investigates the pro-fibrotic events driving the initiation and progression of chronic kidney disease and uses non-traditional stem cell-based strategies as an alternative therapy to treat disease progression. He established the first evidence that stem cells derived from amniotic fluid have clinical potential to suppress renal fibrosis, promote regeneration and improve kidney function. Moreover, he has shown that stem cell activities are mediated through secretion of extracellular nano-vesicles loaded with bioactive molecules. This work provided the first evidence of nano-vesicle mediated regulation of "vascular endothelial growth factor signaling in kidney vascular cells by a tapping mechanism. Currently, Sedrakyan is working on the development of nano-vesicles as a translational therapeutic strategy to treat kidney diseases. In the Armenian community, Sargis worked with Unified Young Armenians organization to encourage the Diaspora and especially the youth to take active role in many Armenian related issues and to promote the Armenian heritage through education of Armenian history, language and culture.

14. Reflections on the Orbeli Forum – a New Path Forward for Armenia and the Caucasus.
Panelists: David Akopyan, Hrair A Balian, and Scott Fisher and Mikayel Yalanuzyan. Moderator: Hriar Cabayan
Held on Saturday, December 13, 2025, at 10:00 AM PST

Abstract: This panel will examine the shifting geopolitical landscape of the Caucasus following the August 8 White House agreements between Yerevan and Baku. Drawing inspiration from the discussions held on 4–5 November, organized by the Orbeli Research Center of Armenia, where government officials, journalists, and scholars from across the region and beyond convened. The discussions will explore emerging opportunities and persistent challenges for peacebuilding and regional cooperation. The conference brought together experts from Armenia, Azerbaijan, Turkey, and Russia, as well as voices from the United States, China, and India, to evaluate potential pathways toward stability and peace. By reflecting on the candid and often intense exchanges among regional representatives, the panel will highlight both the fragile nature of the current peace and the critical importance of sustained dialogue in shaping the future of the Caucasus.

Dr. David Akopyan had dual careers- he has a PHD in physics, studied complex systems for 26 years and then worked for the UN in 15 countries across many regions. During the last 10 years of his UN career, he spent in Afghanistan, Somalia and Syria, and other worst crisis affected countries and held leadership positions as UN Development Program Deputy Director, Country Director, and Resident Representative. He is an American University of Armenia (AUA), 2019 distinguished alumnus. In 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 an ex officio advisor to the President of Armenia, 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.

Hrair Balian is a seasoned peacebuilding and conflict resolution practitioner with over three decades of international experience in negotiation, mediation, and diplomacy across the Balkans, Caucasus, Eastern Europe, Central Asia, the Middle East, and Africa. He has held senior leadership roles at the United Nations, OSCE/ODIHR, International Crisis Group, Geneva Centre for Security Policy, and The Carter Center, where he served as Director of Conflict Resolution from 2008 to 2022. His achievements include contributing to Bosnia's Brčko arbitration decision, supporting Montenegro's peaceful independence, facilitating Serbia–Kosovo discussions, and developing UN-adopted proposals to end Syria's war deadlock. A former practicing attorney in the U.S., he has taught conflict resolution and negotiation at Emory University Law School and Georgia Tech. His forthcoming book, *Anatomy of Peacemaking: The Nagorno-Karabakh Conflict and Missed*

Opportunities (Palgrave/Macmillan, 2026), builds on his lifelong commitment to human rights and peace. Balian holds a Juris Doctor degree and an honorary Doctor of Laws for his dedication to the dignity and the right to self-determination of all peoples.

Scott Fisher, Ph.D., Assistant Professor and Co-Chair of the Security Studies Professional department has been accepted into the Krulak Center Non-Resident Fellows Program at the Marine Corps University in Quantico, Virginia. Dr. Fisher also serves as a Major in the Army Reserves. The Krulak Center is a think tank at the Marine Corps University focused on creating enhanced educational opportunities for students and faculty engaged in Professional Military Education (PME). The Center's mission is to enable an interdisciplinary approach to supporting all students and faculty through complex problem solving, fostering an environment that enhances collective warfighting capability, and facilitating and encouraging novel solutions to current and future warfighting challenges to expand the Corps' competitive edge and improve warfighting effectiveness. Krulak Center Non-Resident Fellows will support the mission of the Krulak Center as needed and able.

Mikayel Yalanuzyan, Ph.D., was educated at the Yerevan State University's Faculty of History (1991–1996) and did his postgraduate studies at the Institute of History of the National Academy of Sciences. He has worked in media and public communication, including the Armenian branch of the "Mir" Intergovernmental TV and Radio and in senior positions at the Public Relations and Information Centre, leading the "Orbeli" analytical group and coordinated the "Orbeli Dialogues" series. Dr. Yelanuzyan has created and hosted programs for Public Radio of Armenia, published widely in leading Armenian media outlets, and taught media literacy, media law, and propaganda studies in the Master's Public Relations program at Brusov State University. He has organized and participated in international conferences on regional relations and demographics, presented at global forums, and completed media and public relations trainings in Amsterdam, Switzerland, Tbilisi, Berlin, India, and Hungary. Mikayel is the author of more than 500 radio programs and articles, 32 television programs, and 18 documentaries.

Dr. Hriar Cabayan is a Visiting Scientist at the Lawrence Livermore Lab since 1977. In 1997 he joined the Joint Staff (Pentagon) and managed a program on operational planning. Hriar received the Joint Meritorious Civilian Service Award from the Chairman, Joint Chiefs of Staff in 2007 and in 2019. Dr. Cabayan returned to Lawrence Livermore Laboratory in October 2019. He received his Doctorate Degree from the University of Illinois in Urbana. After graduating, he taught mathematical physics for four years at New York University's Courent Institute of Mathematical Sciences and at McGill University before joining Lawrence Livermore lab.

Armenia Trip Report - The President and Members of the ARPA Institute travel to Armenia every year to work on various projects that is currently being implemented in Armenia:

On Octobe 2, 1:00 PM, a meeting was held with Gor Tsarukyan and Armen Petrosyan, Director and Deputy of the RA Prime Minister's Office – "Public Relations and Information Center" SNCO / Economic Research Service, in their office. Discussed were issues related to disinformation and the strong, widespread campaign waged against Armenia, as well as the need for Artificial Intelligence (AI) tools to counter it. There was also talk about the ARPA Institute's recent initiative of creating a special algorithm for combating disinformation algorithm and the possibilities of cooperation with the RA government. The algorithm is being tested by the center, various researchers, and organizations. This effort was qualified as a very important undertaking, with great potential to be officially adopted and used.

Գոր Ծարուկյանի եւ Արմէն Պետրոսյանի, Տնօրէն եւ Տեղակալ ՀՀ վարչապետի աշխատակազմի - «Հանրային կապերի և տեղեկատվության կենտրոն» ՊՈԱԿ / Տնտեսական հետազոտությունների ծառայության հետ տեսակցութիւն մը տեղի ունեցաւ հոկտեմբեր 2ին, ժամը 1:00 իրենց գրասենեակին մէջ։ Արծարծուեցան ապատեղեկատուութեան եւ Հայաստանի դէմ ծաւալուած զօրաւոր եւ համատարած պայքարի եւ անոր դէմ օգտագործուող Արհեստական Բանականութեան (ԱԲ) գործիքներու օգտագործման կարիքներուն մասին։ Խօսուեցաւ ԱՐՓԱ Հիմնարկի ձեռնարկած ապատեղեկատուութեան դէմ պայքարելու յատուկ ալկորիթմի մը ստեղծման եւ ՀՀ կառավարութեան հետ գործակցութեան հարցերուն մասին։ Ալգորիթմը արդէն իսկ փորձառկման ընթացքի մէջ է տարբեր հետազօտողներու, կազմակերպութիւններու եւ Կառավարութեան այս կէդրոնին կողմէ։ Շատ կարեւոր ձեռնարկ որակուեցաւ այս գործը եւ որդեգրելու մեծ կարելիութիւններ կան զայն պաշտօնապէս օգտագործելու համար։

On October 4, during the Teachers Day celebration, the Minister of Education Science Culture & Sports, Zhanna Andreasyan awarded the President of ARPA Institute, Dr. Hagop Panossian, with the gold medal of the Ministry in the Yerevn State University. Also, present were the Rector of YSU and over 300 teachers and principals from all over Armenia and other guests. A few of the teachers received awards.

Հոկտեմբեր 4ին, Ուսուցիչներու օրուան առիթով, Գիտութեան, Կրթութեան, Մշակոյթի, եւ Մարմնամարզութեան Նախարար՝ տիկ. Ժաննա Անդրէասեանը պարգեւատրեց ԱՐՓԱ Հիմնարկի Նախագահ՝ Յակոբ Փանոսեանը Նախարարութեան Ոսկի մետալով։ Նաեւ ներկայ էին Երեւանի Պետական Համալսարանի Նախագահը, 300է աւելի ուսուցիչներ եւ տնօրէններ Հայաստանի տարբեր մարզերէն, եւ այլ հիւրեր։ Ուսուցիչներէն ու տնօրէններէն մի քանին ստացան պարգեւներ։

Mrs. Antreasyan handing over the Gold Medal of the Ministry of Education, Science, Culture, and Sports.

On October 6 a meeting was held at the Center for Integrated Circuit Design and Modeling of the Polytechnic University, which was initiated by the ARPA Institute and the project was led by Vatche Souvalian of Cadence Systems and Vahe Yeghiazaryan of Cisco Inc. Present were Prof. Oleg Petrosyan, the Dean of Electrical Engineering School, Narek Avtalyan, the Lecturer who is one of the teachers teaching the course, and students.

Հոկտեմբեր 6ին հանդիպում մը տեղի ունեցաւ Հայաստանի Պետական Պոլիտեխնիկ Համալսարանի Ինդեկրալ Սխեմաների Դիզայնի եւ մօտելաւորման Լապարաթորիայի մէջ ԱՐՓԱ Հիմնարկի նախաձերնած եւ Վաչէ Սուվալեանին, Քէյտընս Ընկերութեան աշխատակից, ու Վահէ Եղեազարյանին Սիսկո Ընկերութեան աշխատակից, առաջնորդութեամբ կազմակերպուած Փոլիտեխնիկ Համալսարանի Ցանցային Սխեմաներու Տիզայնի եւ Մօտելաւորման Կեդրոնին մէջ։ Ներկայ էին Փրոֆ. Օլեկ Պետրոսեանը, (Ելեկտրական Ճարտարագիտութեան Տեքան) Նարեկ Աւտալեանն (Դասախօս) ու ուսանողներ։


On October 9 a visit was made to the modern, newly renovated Optical Research Center at Yerevan State University, with the young Director, Dr. Mushegh Raphaelyan. The lab has all the best of equipment and facilities for advanced research and a host of young scientists and graduate students working with Mushegh on different advanced technologies, including optical computing, liquid crystal technology among other fields. ARPA Institute is trying to help, both technically and instrumentation wise. Anyone interested in helping please reach out to the ARPA Institute by sending a note to arpainstitute@gmail.com.

Հոկտեմբեր 9-ին այցելութիւն կատարուեցաւ Երեւանի Պետական Համալսարանի ժամանակակից, նորոգուած Հայաստանի Պետական Համալսարանին Օպտիկական Հետազօտութեան Կեդրոն, որու երիտասարդ տնօրէնը՝ դոկտ. Մուշեղ Ռաֆայէլեանն է։ Լաբորատորիան օժտուած է առաջաւորագոյն սարքերով եւ հարմարութիւններով գիտական յառաջադէմ հետազօտութիւններու համար։ Այնտեղ Մուշեղի հետ կը գործակցին բազմաթիւ երիտասարդ գիտնականներ եւ ասպիրանտներ՝ զբաղելով նորագոյն արհեստագիտութիւններով, ներառեալ Օպտիկական հիւսակրիչներու (optical computing) եւ հեղուկ բիւրեղային (liquid crystal) տեխնոլոգիաներու ոլորտներուն մէջ։ ԱՐՓԱ հիմնարկը կը փորձէ աջակցիլ՝ թէ՛ տեխնիկական, թէ՛ գործիքային առումներով։ Անոնք, որոնք կրնան եւ կը փափաքին օգնել, կրնան կապ հաստատել ARPA հիմնարկին հետ՝ նամակ ղրկելով հետեւեալ հասցէին՝ **arpainstitute@gmail.com**:

On October 10, A meeting was held with Mr. Hakob Arshakyan, Vice President of the National Assembly of Armenia and the Chairman of the Board of Trustees of the Armenian Innovation Foundation. The ARPA Institute activities in Armenia were presented and discussed, the scientific approach of ARPA, namely Analysis, Research, and Planning for Armenia, was explained and the implementation methodology was expanded. Mr. Arshakyan was very impressed and highly supportive, especially he stressed the need for capacity building for such scientific approaches.

Հոկտեմբեր 10-ին, հաճելի հանդիպում մը տեղի ունեցաւ Հայաստանի Ազգային Ժողովի փոխնախագահ եւ Հայկական Նորարարութեան Հիմնարկի Վարչական Խորհուրդի նախագահ պարոն Յակոբ Արշակեանի հետ։ Ներկայացուեցան եւ քննարկուեցան Հայաստանի մէջ ԱՐՓԱ Ինստիտուտի գործունէութիւնը։ Պարոն Արշակեանը ծանօթացաւ ԱՐՓԱ-ի գիտական մօտեցումին՝ այսինքն Վերլուծութիւն (Analysis), Հետազօտութիւն (Research) եւ Ծրագրաւորում (Planning) Հայաստանի համար,

ինչպէս նաեւ մանրամասն ներկայացուեցաւ անոր գործադրութեան մեթոտաբանութիւնը։ Պարոն Արշակեան խորապէս տպաւորուած էր։ Ան յատկապէս ընդգծեց, որ նման գիտական մօտեցումներու համար անհրաժեշտ է Հայաստանի մէջ կարողականութիւններու զարգացումը եւ այդ ուղղութեամբ վերապատրաստումը։

On October 13 a visit was made to the biotechnology lab in the YSU and viewed, with the Director of the lab, Dr. Karen Trchunyan all the recent acquisitions of super modern instruments and devices for advance research in environmental, bioengineering and various other areas. The ARPA Institute has helped Karen in the past years by providing funding for necessary instrumentation, materials acquisition and scientific guidance.

Հոկտեմբեր 13-ին կատարուեցաւ այցելութիւն մը Երեւանի Պետական Համալսարանի կենսատեխնաբանութեան լաբորատորիա։ Լաբորատորիայի տնօրէն՝ դոկտ. Կարեն Թոչունեանի հետ միասին տեսնելու համար նորագոյն եւ գերարդիական գործիքներն ու սարքերը, որոնք բնապահպանական, կենսաբանական ճարտարագիտութեան եւ այլ առաջատար ուսումնասիրութիւններու համար պիտի օգտագործուին։ ԱՐՓԱ Հիմնարկը անցնող տարիներուն աջակցած է դոկտ. Թոչունեանին խումբին՝ անհրաժեշտ սարքաւորումներ եւ նիւթեր ձեռքբերելով եւ մասնագիտական օգնութիւն տրամադրելով։

On October 15, a productive meeting was held with the EVN Report team in ther office in Yerevan. Present were the head of EVN Report, Ms. Maria Titizian, Roubina Markossian, and their technical specialist, Hovhannes Nazaretyan. They were introduced to the ARPA Institute Disinformation algorithm, AIRMA, which they considered highly useful for their research and predictions capabilities. Later, Roubina interviewed the President of the ARPA Institute, Dr. Hagop Panossian. Discussed were the history, the activities of, and the operational approach of the ARPA Institute. You can listen to the Podcast by clicking on the link below:

Հոկտեմբեր 15-ին արդիւնաւետ հանդիպում մը տեղի ունեցաւ Երեւանի մէջ EVN Report-ի գրասենեակին մէջ։ Ներկայ էին EVN Report-ի ղեկավարը՝ տիկին Մարիա Դիդիզեան, Ռուբինա Մարկոսեան, եւ անոնց տեխնիկական մասնագէտը՝ Յովհաննէս Նազարէթեան։ Անոնք ծանօթացան ԱՐՓԱ հիմնարկի ապատեղեկատուութեան դէմ մշակուած ալգորիթմին՝ AIRMA-ին, զոր անոնք շատ օգտակար նկատեցին իրենց հետազօտութիւններուն եւ կանխատեսման կարողութիւններուն համար։ Հետագային Ռուբինան հարցազրոյց ունեցաւ ԱՐՓԱ հիմնարկի նախագահ Տոքթ. Յակոբ Փանոսեանի հետ։ Ներկայացուեցան ԱՐՓԱ հիմնարկի պատմութիւնը, գործունէութիւնները եւ գործնական մօտեցումները։ Կարելի է ունկնդրել podcast-ը սեղմելով ներքեւի հղումը։

https://evnreport.com/podcasts/evn-talks/arpas-data-driven-mindset/

On October 27 a meeting was held with Civilnet to introduce the ARPA Institute Disinformation algorithm, AIRMA and discuss its applications and benefits for their research. The interest was high, and it was planned to have a test run for their experts. A meeting was held with Eric Hacopian, the main anchor of Civilnet, to discuss progress and potential needs.

Հոկտեմբեր 27-ին հանդիպում մը տեղի ունեցաւ CivilNet-ի հետ՝ ներկայացնելու համար ԱՐՓԱ հիմնարկի ապատեղեկատուութեան դէմ մշակուած ալգորիթմը՝ AIRMA-ն, եւ քննարկելու անոր կիրառութիւնները ու օգտակարութիւնը իրենց հետազօտութիւններուն համար։ Հետաքրքրութիւնը մեծ էր, եւ որոշուեցաւ փորձնական գործարկում մը կատարել իրենց մասնագէտներուն կողմէ։ Հանդիպում մը նաեւ տեղի ունեցաւ CivilNet-ի հաղորդավար Էրիկ Հակոբեանի հետ՝ քննարկելու առաջընթացը եւ հնարաւոր կարիքները։

On October 27 meetings were held at the Chemical Physics Institute (CPI) to talk with the Director, Dr. Seyran Minasyan, the team of Innovation in Nanoscience and Technology, its leader, Dr. Mkrtich Yeranosyan, and his team members` Dr. Vardan Hayrapetyan, Dr. Mkrtich Minassyan, Derenik Petrosyan, and Dr. David Hayrapetyan. Also met with the head of Quantum Materials and Nanophotonics Lab, Dr. Paytsar Mantashyan, the head of Quantum Optics and Nanophotonics Group, and Dr. Marina Aghayan, the head of 3D Printing Lab, and their Post Doc Sevag Abadian. These young scientists in different teams do their research and development projects, working separately. ARPA Institute always has the objective of establishing relationships with scientists abroad and looking for possibilities to help advance science in Armenia. There is a new initiative at the CPI to build a second modern Cleanroom, like the one ARPA Institute established in the Alikhanyan National Lab. This one will have three different rooms, a class ISO-

10, ISO-8 and ISO-5. They have received an ultra-modern Lithograph system. Unfortunately, due to the governmental bureaucratic system, it has been sitting in boxes for a year! Same with the Cleanroom project, they have been waiting for governmental funding for over a year.
The most amazing/unbelievable information was the following: Each scientist is supposed to publish a certain number of articles in international journals to receive funding. If the article is co-authored by two different teams in Armenia, then the articles are counted as half a credit to each author. However, if they publish articles with foreign authors, then that is considered as full credit to the Armenia author. So, they would rather publish with foreign authors than local scientists! Moreover, two teams from different Institutes of universities stay away from working together on a project because of the above-mentioned problem and, which is more amazing, there are bureaucratic restrictions which also prohibits cooperation!

Հոկտեմբեր 27ին Հանդիպումներ տեղի ունեցաւ Քիմիական Ֆիզիկայի Ինստիտուտին (CPI) մէջ՝ տնօրէնին՝ դոկտ. Սէյրան Մինասեանին, Նանոգիտութեան եւ Տեխնոլոգիայի Նորարարութիւններու խումբին, անոր ղեկավար դոկտ. Մկրտիչ Երանոսեանին, ինչպէս նաեւ դոկտ. Վարդան Հայրապետեանին, դոկտ. Մկրտիչ Մինասեանին, Դերենիկ Պետրոսեանին եւ դոկտ. Դաւիթ Հայրապետեանին հետ: Նաեւ Քուանտային Նիւթերու եւ Նանոֆոտոնիկայի Լաբորատորիայի ղեկավար դոկտ. Պայծար Մանդաշեանին, Քուանտային Օպտիկայի եւ Նանոֆոտոնիկայի խումբի ղեկավարին, եւ իրենց աւագ աշխատող՝ Սեւակ Ապատեանին: Նաեւ՝ դոկտ. Մարինա Աղայեանին հետ, որ 3D Տպագրութեան Լաբորատորիայի պատասխանատուն է: Այս երիտասարդ գիտնականները, տարբեր խումբերու մէջ, կը կատարեն իրենց հետազօտական ծրագրերը: **ԱՐՓԱ Հիմնարկի** հիմնական նպատակը միշտ եղած է կապեր հաստատել արտասահմանեան գիտնականներու հետ եւ փնտռել միջոցներ՝ նպաստելու Հայաստանի գիտութեան զարգացման: CPI-ին մէջ նոր նախաձեռնութիւն մը կայ՝ կառուցելու երկրորդ ժամանակակից **Մաքրասենեակ** մը, նման **ԱՐՓԱ Հիմնարկի** հիմնած Ալիխանեան Ազգային Լաբորատորիոյ մէջ: Նոր հաստատութիւնը պիտի ունենայ երեք տարբեր սենեակ՝ ISO-10, ISO-8 եւ ISO-5 դասակարգումներով: Անոնք արդէն ստացած են գերհամակարգուած լիթոգրաֆիական սարքաւորում, որը պետական բիւրոկրատական միջամտութիւններու պատճառով, սարքաւորումը մէկ տարի է որ տուփերու մէջ կը մնայ: Նոյնը նաեւ Մաքրասենեակին կը պատահի նաեւ նախագծին հետ է՝ աւելի քան մէկ տարի է կ՛սպասեն պետական ֆինանսաւորման:
Ամէնէն զարմանալի եւ անհաւատալի տեղեկութիւնը հետեւեալն էր. իւրաքանչիւր գիտնական պէտք է որոշ թիւով յօդուածներ հրապարէ միջազգային ամսագրերու մէջ՝ պետական ֆինանսաւորում ստանալու համար: Եթէ յօդուածը կը ստորագրուի Հայաստանի մէջ գործող երկու տարբեր խումբերու գիտնականներու կողմէ, այն ատեն իւրաքանչիւր հեղինակին կը հաշուուի կէս միաւոր: Իսկ եթէ յօդուածը համահեղինակուած է օտարերկրացի գիտնականներու հետ, այդ պարագային ամբողջ միաւորը կը տրուի հայ հեղինակին: Արդիւնքը այն է, որ անոնք կը նախընտրեն հրատարակել օտար գործընկերներու հետ, քան թէ տեղացի գիտնականներու: Աւելին՝ տարբեր համալսարաններու ինստիտուտներու երկու խումբեր կը խուսափին միասին նախագիծ կատարելէ՝ վերոյիշեալ պատճառով, եւ՝ ինչ որ աւելի զարմանալի է, գոյութիւն ունին բիւրոկրատական սահմանափակումներ, որոնք նոյնպէս կ՛արգիլեն համագործակցութիւնը:

On October 23 a productive meeting was held with the head of the AUA Agopian Environmental Center, Alen Amirkhanian, the Dean of Sonia of the Zaven Akian School of Engineering, Dr Reza Melikian, and the President of AUA Dr Bruce Boghossian. Discussed were the ARPA Institute's AIRMA algorithm and its potential use in the university activities. There was significant interest in possible testing.

Հոկտեմբեր 23ին Արդիւնաւէտ հանդիպում մը տեղի ունեցաւ **ՀԱՀ-ի (**Ակոբեան Շրջակայ Միջավայրի Կեդրոնի ղեկավար՝ Ալէն Ամիրխանեանի, Զաւէն եւ Սոնիա Ագեան Ինժեներական Դպրոցի, դոկտ. Ռեզա Մելիքեանի եւ **ՀԱՀ-ի** նախագահ՝ դոկտ. Պրուս Պօղոսեանի հետ։ Քննարկուեցան **ԱՐՓԱ Հիմնարկի AIRMA ալգորիթմը** եւ անոր հնարաւոր գործածութիւնը համալսարանի գործունէութեան մէջ։ Ակնյայտ հետաքրքրութիւն յայտնուեցաւ փորձարկման կարելիութիւններու նկատմամբ։

On October 24 a meeting was held at the Polytechnic University of Armenia, with the Vice Rector Sargis Asatryants to discuss the plans forward of the Integrated Circuit Design and Modeling Center. Discussed were the potential to have direct relationships with Cadence Systems administration to get more benefits in organizing workshops, training, etc., as well as development of student competitions on special projects in circuit design.

Հոկտեմբեր 24-ին հանդիպում մը տեղի ունեցաւ Հայաստանի Պոլիտեխնիկական Համալսարանին՝ փոխռեկտոր Սարգիս Ասատրյանցի հետ իր գրասենեակը, նպատակ ունենալով քննարկել Ինտեգրալ Շղթայաձեւ Նախագծման եւ Մոդելաւորման Կեդրոնի յառաջիկայ ծրագիրները։ Քննարկուեցան Cadence Systems-ի տնօրէնութեան հետ ուղղակի յարաբերութիւններ հաստատելու հնարաւորութիւնը՝ աւելի մեծ օգուտներ ստանալու համար՝ սեմինարներու եւ վերապատրաստման դասընթացներու եւ այլ նախաձեռնութիւններու կազմակերպման, ինչպէս նաեւ ուսանողական մրցոյթներու նախագծման յատուկ ծրագրերու վերաբերեալ։

On October 25 a similar meeting was held with Vahe Yeghyazaryan to talk about the status regarding the Integrated Circuit Design and Modeling Lab at the Polytechnic University. Also, what needs to be done to make the courses more effective. Vahe has been the key person organizing and teaching the circuit design courses, as well as Vatche Souvalian, the main architect of this program under the ARPA Institute. Vahe suggested to provide funds for a full-time teacher and technical lead for the lab for it to be more efficient and effective.

Հոկտեմբեր 25ին նմանօրինակ հանդիպում մը տեղի ունեցաւ նաեւ Վահէ Եղիազարեանի հետ՝ քննարկելու Հայաստանի Պոլիտեխնիկական Համալսարանի Ինտեգրալ Շղթայաձեւ Նախագծման եւ Մոդելաւորման Լաբորատորիայի ներկայ վիճակը։ Քննարկուեցաւ նաեւ, թէ ինչպէ՞ս կարելի է դասընթացքները աւելի արդիւնաւէտ եւ գործնական դարձնել։ Վահէն եղած է գլխաւոր կազմակերպիչը եւ դասաւանդած է դասընթացքները՝ Վաչէ Սուվալեանին հետ, որ ԱՐՓԱ Հիմնարկի հովանաւորութեամբ այս ծրագրին գլխաւոր ճարտարապետն է։ Վահէն առաջարկեց ֆինանսաւորում տրամադրել լաբորատորիայի համար՝ դասախօսի եւ տեխնիկական ղեկավարի մը նշանակման

նպատակով, որպէսզի աշխատանքը դառնայ աւելի արդիւնաւէտ եւ կազմակերպուած։

On October 26 we had a great discussion with the Director of the Molecular Biology Institute, Dr Arsen Arakelyan, and the Director of the Armenian Bioinformatics Institute, Lilit Nersisian about the various projects they are currently working on and ways and means the ARPA Institute can help. Both MBI and ABI have made huge strides in genomics, cancer research, virology, advanced modeling and DNA analysis. The instrument with Arsen, the two young scientists and me is the original Sequencer that the ARPA Institute had donated to the MBI years ago and it served for quite a while as their main Sequencer. Now they have a very modern state-of-the-art Next Generation Sequencer that they use both for diagnostics and research purposes. The graduate student standing next to me in the picture is Tatev, who the ARPA Institute is supporting to continue her education in ABI and whose article was published in Nature.

Հոկտեմբեր 26 Շատ հետաքրքիր քննարկումներ ունեցանք Մոլեկուլային Կենսաբանութեան Ինստիտուտի տնօրէն՝ դոկտ. Արսէն Առաքելեանի, եւ Հայկական Բիոինֆորմատիկայի Ինստիտուտի տնօրէն՝ Լիլիթ Ներսիսեանի հետ՝ իրենց ներկայիս իրականացուող տարբեր ծրագրերու շուրջ, եւ թէ ինչպէ՞ս **ԱՐՓԱ Հիմնարկը** կրնայ օգտակար ըլլալ։ Ե՛ւ MBI-ը, ե՛ւ ABI-ը մեծ առաջընթաց արձանագրած են գենոմիկայի, քաղցկեղի հետազօտութեան, վիրուսաբանութեան, բարձր մակարդակի մոդելաւորման եւ ԴՆԹ-ի վերլուծութեան բնագաւառներուն մէջ։

Նկարին վրայ գտնուող գործիքը՝ Արսէնին, երկու տիկնանց եւ ինծի հետ, այն սկզբնական Սեքվենսերն է, որ **ԱՐՓԱ Հիմնարկը** տարիներ առաջ նուիրած էր MBI-ին, եւ որ երկար ժամանակ ծառայած էր իբրեւ անոնց հիմնական Սեքվենսերը։ Այժմ անոնք ունին շատ ժամանակակից, գերժամանակակից «Հաջորդ Սերունդի Սեքվենսեր» (Next Generation Sequencer), զոր կը գործածեն թէ՛ ախտորոշման, եւ թէ՛ հետազօտական նպատակներով։ ԱՐՓԱ Հիմնարկը կը հովանաւորէ ճիշդ իմ կողքս կեցած Տաթեւի, որպէսզի կարողանայ շարունակել իր յառաջատար հետազօտութիւնները ABI-ի մէջ Լիլիթին հետ։ Իրենց յօդուածը տպուեցաւ նշանաւոր Nature պարբերականին մէջ։

On October 27 a visit was made to the Institute of Physical Chemistry in Ashtarak and had a very productive discussion with Dr. Alex Mukasyan and the Director of the Materials Laboratory, Dr. Aram Manukyan. They have very successfully acquired quite a few modern scientific instruments, such as this high-precision Thermo-Scientific electronic microscope) in the picture) and many other devices. The instrument shown in the picture is a high-temperature oven that the ARPA Institute has donated to the PC Institute.

Հոկտեմբեր 27-ին Աշտարակի Ֆիզիկական Քիմիայի Ինստիտուտին մէջ, դոկտոր Ալեքս Մուքասյանին եւ Նիւթերու քննարկման լաբորատորիայի տնօրէն՝ դոկտոր Արամ Մանուկեանին հետ շատ հետաքրքրական քննարկումներ տեղի ունեցան։ Անոնք մեծ յաջողութիւն արձանագրած են՝ ձեռք բերելով գիտական արդի գործիքներ, ինչպէս ձախ կողմի նկարին մէջ ցոյց տրուած բարձր ճշգրտութեամբ «Thermo Scientific» էլեկտրոնային մանրադիտակը, եւ ուրիշ շատ սարքեր։ Աջ կողմի նկարին մէջ երեւցող փոքր սարքը բարձր ջերմաստիճանի վառարան մըն է, զոր ԱՐՓԱ Ինստիտուտը նուիրած է ՖՔ-ի ինստիտուտին։

October 28: ARPA Institute has a long-time relationship with Dr. Amur Margaryan, supporting his team in providing instrumentation, guidance as well as technical assistance. His innovative research involves the RadioFrequency PhotoMultiplier Tube, which is a device that is essentially a photon-counter, able to detect a laser pulse down to a picosecond accuracy, which is a world record. Its aplications could be in Positron Emission Tomography-like diagnostic instruments, in advanced electronic microscopes, and so on. ARPA Institute has now paid the development cost for a more advanced prototype to improve the accuracy even more. The prototype was recently completed by Photek of London and shipped to the Alikhanyan National Lab. Unfortunately, it was broken on its way there and now it is under repair.

Հոկտեմբեր 28: ԱՐՓԱ հիմնարկը երկարատեւ համագործակցութիւն ունի Տոքթ. Ամուր Մարգարեանի հետ, օժանդակելով անոր խումբին՝ գործիքաւորումի, ուղեցոյցի եւ տեխնիկական աջակցութեան տրամադրմամբ: Անոր նորարարական հետազօտութիւնը կը վերաբերի Ռատիօ-Հաճուժային Լուսապատկառ բազմապատկիչ խողովակին (RadioFrequency PhotoMultiplier Tube), որ հիմնականին մէջ electron հաշուող սարք է, եւ կրնայ լազերային զարկ մը չափել մինչեւ մէկ փիքո-երկվարկեան ճշգրտութեամբ, որ աշխարհի մէջ աննախադէպ նուաճում է: Անոր կիրառութիւնները կրնան ըլլալ Պոզիտրոն Արձակող Տոմոգրաֆիայի (PET) ախտորոշիչ գործիքներու, գերյառաջացած էլեկտրոնային մանրադիտակներու եւ այլ ոլորտներու մէջ: ԱՐՓԱ հիմնարկը ցարդ նուիրած է քանի մը սարքաւորումներ: Վերջերս աւելի կատարելագործուած նախատիպի զարգացման ծախսը՝հոգացած է ճշգրտութիւնը աւելի բարձրացնելու նպատակով: Նախատիպը Լոնտոնի «Photek» ընկերութեան կողմէ պատրաստուած եւ առաքուած է Ալիխանեանի Ազգային Լաբորատորիա: Ցաւօք, ան ճանապարհին վնասուած է եւ այժմ կը գտնուի վերանորոգման մէջ:

THE LATEST DEVELOPMENTS ABOUT THE RFPMT: Please see the report below from Mihran Aroyan:

December 12, 2025 – Meeting with Photek, Hastings, UK

Session 1 – RFPMT Device Status

The meeting began with Amur Margaryan and Vanik Kakoyan presenting the demountable RFPMT that Photek had shipped to Armenia. The primary focus was the mechanical stability and ability of the device to withstand the required vacuum levels, as it had arrived with a separation between one ceramic component and a metal part. Two of the three assemblies were able to hold the required vacuum, and additional testing will determine whether the remaining component is acceptable or must be returned to the UK for repair. Amur also highlighted discrepancies between the original design and the delivered RFPMT, and Photek expressed a clear commitment to resolving these issues.

Session 2 – Armenia and AANL Overview

Mihran gave a high-level overview of Armenia, its scientific landscape, and, more specifically, physics in Armenia and the activities of AANL. The presentation drew on data from Web of Science, SCImago Institutions Rankings, and the EU Horizon reports. Joining remotely was Paul Murtagh from Tibidabo Scientific Industries, Photek's parent company for the past five years; Tibidabo currently owns eight scientific instrumentation companies. Mihran and Paul may meet in person in early January to continue the discussion.

Session 3 – Photek Facility Tour

Mihran received a tour of the Photek facility. Photek has expanded three times over the past 30 years in the same location and is now preparing to move to a new site to improve workflow and capacity. The tour covered detector assembly, manufacturing, and testing processes; much of the technical content was audio recorded for later review. Photek employs 62 people, most of whom work in manufacturing, and most of their work is custom rather than standard off-the-shelf products. A significant portion of their current activity is driven by satellite requirements, and they are increasingly engaged in defense-related projects.

Session 4 – Funding, Applications, and Armenia Manufacturing

The final session focused on three main themes: current funding efforts, target applications, and the long-term plan to establish manufacturing in Armenia. One of the first points raised was recent UK–Armenia political developments: on August 26, the UK and the Republic of Armenia signed an agreement upgrading their relationship to a "strategic partnership," which included lifting the UK arms embargo on Armenia. Last week, the UK Minister of State for Defence visited Yerevan to inaugurate the first permanent UK Defence Department presence in Armenia, with a stated aim of helping Armenia diversify away from Russian markets. In this context, Photek may be able to finance equipment for an Armenian factory through UK Export Finance, positioning the project as part of the UK's strategic support for Armenia's technological diversification. The RFPMT was discussed as a dual-use technology, while stressing that no defense-related engagements have been initiated yet and that such opportunities are viewed as long-term.

In the near term, the priority is to identify and secure a lead customer, which would address validation, funding and revenue needs. As an example, the discussion focused on Horiba and (**Fluorescence Lifetime Imaging Microscopy)** FLIM: Horiba, a mid-market FLIM manufacturer, had asked for a comparison between the RFPMT and the theoretical limits of the Hamamatsu APD they currently use. Although current RFPMT specifications already exceed the theoretical

performance limits of the Hamamatsu detector, Horiba was reluctant to proceed without pricing and a fully vacuum-sealed detector. The group discussed strategies for identifying potential customers and partners, how to approach them, and how to navigate large multinational organizations to reach key decision-makers—a process Fenton was particularly interested in, given Photek's own challenges in this area. He acknowledged the importance of delivering a sealed RFPMT and establishing clear pricing.

Our focus is to pursue shorter-term, niche opportunities where the RFPMT can have an immediate impact and help legitimize the business, such as high-end FLIM. The primary FLIM targets are Zeiss, Leica, Bruker, Horiba, and other manufacturers. While these markets remain relatively small, upgrading FLIM performance could be very attractive to at least one major player. We are confident that one such company may be willing to adopt the technology even before final pricing and a fully sealed RFPMT are in place, to gain a first-mover advantage in high-end FLIM applications.

The longer-term ambition is to enter medical imaging, particularly Diffuse Optical Tomography (DOT) and PET, where RFPMT performance could offer a significant advantage. Photek showed strong interest in this direction, as they currently have very limited exposure to medical imaging markets.

Finally, the group discussed the possibility of a strategic partnership in which Photek would support the establishment of RFPMT manufacturing in Armenia, with a view to eventually localizing production. Potential models include Photek taking an equity stake in the Armenian entity, which could help them expand into the Eurasian market. This concept generated interest, though it was noted that the ultimate decision-makers were not present at this meeting. Over the course of the day (from 08:30 to 15:30), there were interactions with roughly a dozen Photek staff, with Fenton, Tim, Gurman, and Joe from sales and marketing present throughout.

November 6, Board members of the ARPA Institute had an on-line meeting with the Minister of High-Tech Industry of Armenia, Mr. Mkhitar Hayrapetyan. A brief introduction of the history of the ARPA Institute was given to his excellency and then the important current projects were presented and discussed. Minister Hayrapetyan was especially interested in the Polytechnic Integrated Circuit Design and Modeling Project, the special treatment of silicon chips with nanoparticles, and the Disinformation project, AIRMA. He promised to investigate these and see how he can help.

Նոյեմբեր 6-ին՝ ԱՐՓԱ Հիմնարկի վարչութեան անդամները առցանց հանդիպում մը ունեցան Հայաստանի Բարձր Տեխնոլոգիական Արդիւնաբերութեան Նախարար՝ պարոն Մխիթար Հայրապետեանին հետ: Պարոն Նախարարին ներկայացուեցաւ ԱՐՓԱ Հիմնարկի համառօտ պատմութիւնը, ապա ներկայացուեցան եւ քննարկուեցան ներկայիս կատարուող կարեւորագոյն ծրագրերը: Նախարար Հայրապետեանը յատկապէս հետաքրքրուած էր Պոլիտեխնիկ Համալսարանի Ինթէգրալ Սխեմաների Նախագծման եւ Մոդելաւորման Ծրագրով, նանոմասնիկներով սիլիքոնի թաղանթներու յատուկ մշակման աշխատանքով, որ բազմապատիկ կլանման արդիւնք կ՚ընծայէ, ինչպէս նաեւ (AIRMA) ապատեղեկատուութեան ծրագրով: Ան խոստացաւ ուսումնասիրել այս բոլորը եւ տեսնել, թէ ինչպէս կրնայ օժանդակել:

Know Your Enemy

Joint Chiefs of Staff Advisor Hriar Cabayan on his post-9/11 counterterrorism experience

Interview by Laura L. Constantine

Dr. Hriar Cabayan, also known as “Doc” by nearly everyone who works for the Joint Chiefs of Staff, never imagined the radical turn his career would take on that fateful morning of September 11, 2001.

When the hijacked American Airlines Flight 77 crashed into the west wall of the Pentagon, everything changed in an instant—not only for millions in New York, Pennsylvania, and Washington, D.C., the targets of the three attacks, but for the United States and the world. Dr. Cabayan was among those working on the Pentagon premises—far enough from the crash site to be safe, but close enough to directly experience the aftermath.

Not only had Dr. Cabayan dodged this unfathomable act of evil, but he was staggered as to how the perpetrators pulled off such a deliberate and deadly series of mass murders. With a doctorate in physics and 20 years’ experience working on the effects of nuclear weapons, strategic defense initiatives, and energy programs, Dr. Cabayan had been recruited by the Joint Chiefs several years before 9/11. Ironically, the very purpose of the assignment was addressing the emergent challenge of terrorism coming out of Afghanistan.

Dr. Hriar Cabayan at work, reflecting the scientist-turned-strategist who helped the Joint Chiefs of Staff reimagine counterterrorism through a multidisciplinary lens after 9/11.

Dr. Cabayan agreed to share his improbable transformation from a “hard science guy” to the ultimate humanist in service to his adopted country, the United States. In his role as Science Advisor at Joint Chiefs of Staff, Cabayan orchestrated a team of as many as several hundred specialists representing an array of fields. Under his direction, these experts worked in concert to solve one of the biggest challenges in U.S. military history: understanding the mind, motivations, culture, and behaviors of terrorists and terrorist groups, and the civilians caught in their grip. In appreciation of his 20 years of service, Cabayan received the Joint Meritorious Civilian Service Award from the Office of the Chairman of Joint Chiefs of Staff in 2007 and again in 2019.

Born in Damascus, Syria, Dr. Cabayan moved with his family to Beirut and completed his undergraduate degree at the American University of Beirut (AUB). He left for the U.S. to earn his doctorate in physics from the University of Illinois. After graduating, he taught mathematical physics for four years at New York University's renowned Courant Institute of Mathematical Sciences and at McGill University.

In 1977, Dr. Cabayan joined Lawrence Livermore National Laboratory (LLNL) outside Oakland, California. Twenty years later, in 1997, he relocated from California to Arlington, Virginia to work for the Joint Chiefs. He returned to LLNL as a Visiting Scientist in 2019 and retired in 2020. He continues to work on special projects: writing papers, analyses, and presentations for professional and civilian audiences, sharing his unique insights on strategic defense around the world, including the Republic of Armenia.

The whole upheaval with 9/11 taught me that I had to learn who it is I am fighting. I realized that I was going down the wrong path just pushing hardware.

Q: It's an honor to learn about your illustrious career, especially your time at the U.S. Department of Defense. Let's start at the beginning. As a hardcore civilian scientist, how did you wind up at the Pentagon?

A: It's a question I am asked often. To try to put it simply, it was the late 1990s; the Cold War had ended, the world was relatively quiet, and life was good. I was working at Lawrence Livermore Laboratory in California and very focused on my work in nuclear physics. Some of that work involved working remotely for the Pentagon on the physical side of strategic defense, mainly the technology of weapons. Then, after 20 years, a contact of mine at the Joint Staff mentioned that they could use a science guy and would I be interested. Unlike my position at Livermore, which was with civilian scientists, this new opportunity was on the military side. This is where intelligence, defense policy, and operations fell under the same command. This appealed to me because in operations things move much faster than in the science lab. I decided the time was right to try something new. My assignment was only for two years and was focused on terrorism, which, during the Clinton years, was already on our radar screen. However, I was covering it purely from the science and technology side. Then 9/11 happened. The two years turned to 20 and my career went in a whole new direction.

Q: Tell us about your experience on September 11th when Flight 77 crashed into the Pentagon.

A: That morning, I was in the Pentagon. Fortunately, my side of the structure wasn't hit like the other side. All the same, I was traumatized by the magnitude of the destruction and death toll. However, I was also in deep shock. I had spent the past two years of my career trying to get Osama Bin Laden and his network in Afghanistan. Then, out of nowhere, he drops a bomb on my head! My main thought was, 'Hey, how did we fail so badly?' And honestly, I don't know what I did for several days after that. I recall we couldn't drive our cars, because the Pentagon parking lot was hit. How I got home, what I did after, I don't remember—the trauma must have blocked it out.

Q: What changed for you and your Joint Staff colleagues post 9/11?

A: When I returned to the office, I was told to drop what I was doing and focus only on countering terrorism. It was my responsibility to work the terrorist threats coming out of Afghanistan. We were now under the Bush administration and in the middle of all this, the war on Iraq started. Then came the insurgency.

Remember, I was coming from the physical sciences. In those years, pretty much everything was rooted in technology. I thought that with technology, we could go and kill these guys. So, I put a large network together. But it was still hardware [weapons] oriented; the thinking in the Pentagon was that we were going to solve the terrorism problem with technology. Then I met an old friend of mine who had become a general. He had just returned from Baghdad. I went to meet him right away. I asked him what he needed from us. He looked at me and said, "Doc, I've got all the hardware I need, but I have no idea what's happening on the ground." I didn't know what he was talking about, I was still clinging to the physical side of things. Slowly, it began to dawn on me. We're going about this in the wrong way.

Dealing with terrorism was not something you could learn in the universities at the time. Over time I learned that, with counterterrorism, you need a network of your own to unlock what's going on in the mind of a terrorist. Not just the person but the group. By this I mean a network of anthropologists, sociologists and political scientists, in addition to the physicists, neuroscientists, and other disciplines. That's what it means to have a multidisciplinary approach. It reminded me of an ancient Greek saying that 'a hedgehog knows one big thing, but a fox knows many things.' That's when I realized I had to become a fox.

Q: How did you make the shift from scientist to generalist?

A: First, I called in a very well-known anthropologist. She spent several hours trying to explain to me that to do counterinsurgency, you must understand the people. That was the pivot point in my career. Fortunately, it was easy for me to assemble networks, in large part, because the Joint Chiefs were desperate for answers, as so much was at stake. I worked very hard getting up to speed. Over time, I would know many, many things, but none of them to any great depth. For that, I had to rely on the best experts out there. They came from various places, but they set up a network very quickly, as the urgency could not withstand the slow-moving bureaucracy involved in hiring. I interface with the network to this day.

Q: Did the multidisciplinary approach work out as a counter-insurgency strategy?
A: Before I answer that, let me also say that, by necessity, I had to make sure that whatever we were producing was correct. If you do an assessment and at the end somebody dies because it was wrong, that is a heavy burden. I had to make sure that we produced the absolute very best advisory services. Even though I read up on everything, I could never truly catch up. Let's say it was on a sociological assessment of ISIS, but there were political aspects, cognitive aspects, issues of culture and geography. For that, I needed the specialists to help put the puzzle pieces together. So yes, the multidisciplinary approach was essential.
At the same time, I informed the folks at the Joint Staff that if they wanted a one hundred percent correct answer, they should ask someone else. You see, I concluded that, in cases like this, you had to speak truth to power, admitting that nothing was guaranteed. When there is so much uncertainty in the world, you must live with uncertainty.

Q: What lessons can you share about making such tough decisions?
A: Foremost is this: Never go to a meeting where key decisions are being made and impose your own views. I always entered the room with a complete open mind and no ego. I learned to listen, listen, listen. To everybody. I can give you an example. This one general told me he was worried that a particular country was vulnerable to instability. He wanted to know if his concerns were valid. I asked him to give me some time to give him an answer. This question was so critical that I brought in many people who knew the country, its social networks and such. Finally, after several months of intense work, they gave me their consensus: It was not going to happen.
I reported back to the general and could sense that on some level he wanted us to prove his instincts right, but of course, he was very relieved by the opposite verdict. The lesson here? Never tell your superiors only what they want to hear. That is the kiss of death for anyone who wants a good position in the government. You are on the path to disaster if you are not strong enough to speak truth to power. Whether you are on the civilian side or the military side, you must tell it to them straight. And I can say now that, eight years later, what I told the general has stood the test of time.

Q: Though you said technology was not the answer to fighting insurgents, what about AI? Does that change the game?
A: Well, I am no AI expert. When I went to school, we used the computer to do our own calculations. There is lots of hype about AI and we need to be very careful. But those who say AI is not useful or reliable are also wrong. AI has many potential benefits. Recently, it proved to be beneficial in following the Azeri disinformation campaign against Armenia. I wanted to know how the Armenian government was responding to the 24/7 media assaults but could not get too far. Then I teamed up with several students at Ohio State University, led by a brilliant Armenian student. They devised a resilience monitoring system for Armenia, using AI technology. I was extremely impressed. Nevertheless, for strategic defense, I consider AI as something only to add to the multi-disciplinary mix, not replace it.

Q: How did your position expand your worldview and enlighten you to how power works behind the headlines?
A: When I started out, I was quite naive. I had a rather limited knowledge base of what's going on globally. The whole upheaval with 9/11 taught me that I had to learn who it is I am fighting against. I realized that I was going down the wrong path just pushing hardware. Time was of the essence. There were soldiers killed every day in Afghanistan and Iraq, and we didn't know how to stop it. We didn't understand the insurgency. The U.S. would send down bombs and all of that, but it made no difference. The insurgents kept fighting. This new reality caused a huge shift in my thinking.

Q: If you were to advise a young person on the benefits of serving in government, what personal characteristics should they possess to succeed?
A: Some people want to go corporate and make lots of money in the private sector. Others want to pursue technology development. I say more power to them. But if you want to serve your country, it starts with some introspection. What are you good at? Are you a fox or a hedgehog? If you're a hedgehog, then there are many government positions that align well with doing one big thing well. You can go into the Department of Defense and develop the next best aircraft or whatever. You can go into the State Department and develop the next strategy to deal with a foreign country. Or, if you are more of a fox and you don't want to just do one thing day in and day out, but you're good at a variety of things, there are opportunities that require that flexibility. You don't have to be a master in everything.
In my case, I started out as a hedgehog and was forced to become a fox. Here I am 20 years later, and I haven't looked back.
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