

IMPACT REPORT

2024-2026



A JOURNEY OF INNOVATION

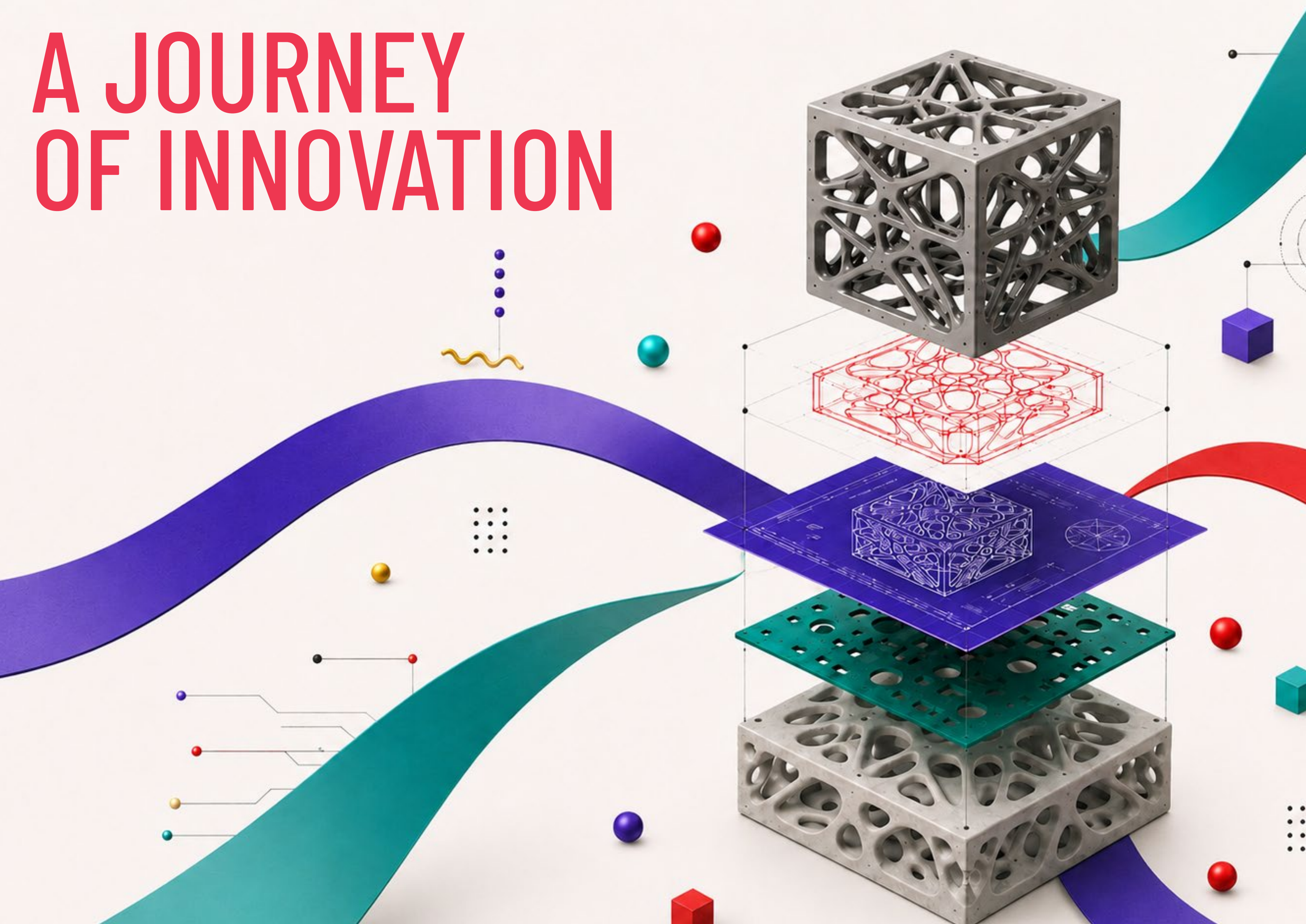


TABLE OF CONTENT

.06	FAB LAB ARMENIA BOARD MEMBERS
.08	FORWARD By Board Members of Fab Lab Armenia Education Foundation
.10	PREFACE What Fab Labs Mean for Our Shared Future By Team Members of Fab Lab Armenia Education Foundation
.36	PROLOGUE From Digital Design to Living Systems By Jacqueline Karaaslanian
.40	PART ONE FLAGSHIP PROGRAMS
.42	I. FAB ACADEMY
.80	II. FABRICADEMY: TEXTILE AND TECHNOLOGY ACADEMY
.120	III. FAB LEARNING ACADEMY
.134	IV. FAB FUTURES
.140	V. SUMMER INSTITUTE
.144	VI. LABSTER VIRTUAL SCIENCE LABS
.158	PART TWO COMMUNITY OUTREACH AND IMPACT
.160	I. TEAM PROJECTS: WHEN MAKING IS RESEARCH IN ACTION
.166	II. SCHOOLS AS PARTNERS IN LEARNING
.174	III. WORKSHOPS: WHERE POSSIBILITY BECOMES TANGIBLE
.186	IV. KIDS LAB AND COMMUNITY DAYS: SELF-DIRECTED MAKING

.194	PART THREE REGIONAL OUTREACH AND STRATEGIC PARTNERSHIPS
.196	I. A NEW FAB LAB ARMENIA AT THE STATE ACADEMY OF FINE ARTS IN GYUMRI
.202	II. STRATEGIC PARTNERSHIPS AND PHILANTHROPIC ENGAGEMENT
.204	III. FAB LAB ARMENIA AT THE GLOBAL STAGE – FAB24 AND FAB25
.214	IV. FELLOWSHIP: EXPLORING THE BRUSSELS FAB LAB ECOSYSTEM
.216	PART FOUR MISSION EXPANDED
.217	I. GROWING INTO A NATIONAL HUB
.218	II. SHARED OBJECTIVES AND STRATEGIC DIRECTION
.220	III. TEAM AND CONTRIBUTORS
.224	GRATITUDE

FAB LAB ARMENIA

BOARD MEMBERS



MICHEL DAVOUDIAN
CEO OF APAGA TECHNOLOGIES AND BOARD
MEMBER OF CCIFA FRENCH-ARMENIAN
CHAMBER OF COMMERCE



ARMEN NURBEKYAN
DEPUTY GOVERNOR OF CENTRAL BANK
OF ARMENIA



JACQUELINE KARAASLANIAN
CEO AND CO-FOUNDER OF LEARNING
LEARNING ARCHITECTS LLC.



ARA BARSAM
GLOBAL EXECUTIVE DIRECTO
OF CHILDREN OF ARMENIA FUND



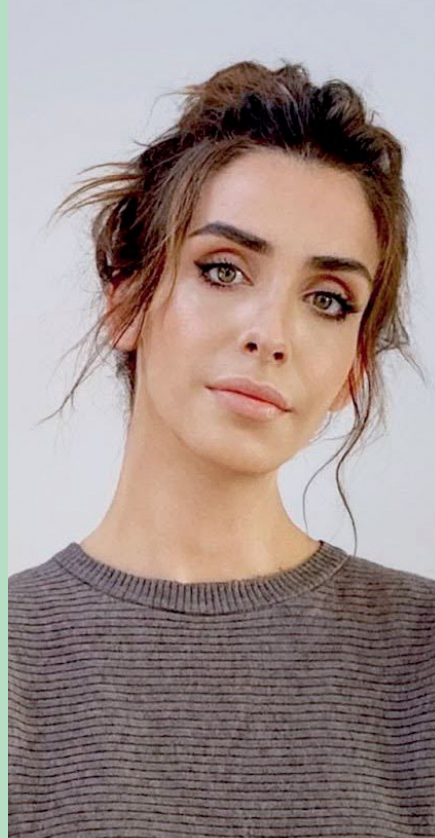
ANNA GARGARIAN
HEAD OF AGBU-KATAPULT CREATIVE
ACCELERATOR PROGRAM



NERSES YERITSYAN
DIRECTOR OF INFORMATION SYSTEMS AGENCY
OF ARMENIA



TATEVIK KHACHATRYAN
DEPUTY CHAIRMAN OF THE MANAGEMENT
BOARD FOR EVOCA BANK



LINN PARAVYAN
SERIAL ENTREPRENEUR AND EXPERT IN
STRATEGY DEVELOPMENT FOUNDER AND
CEO OF OWS THINK TANK

FORWARD



By The Board Members of Fab Lab Armenia Education Foundation

As members of the Board of the Fab Lab Armenia Education Foundation, we are pleased to present this Impact Report at a time when global development is shifting decisively from technology access toward capability-driven growth.

Economic research increasingly shows that long-term prosperity depends not on the diffusion of technology alone, but on the capacity of societies to transform it into productive capability.

As global systems become more interconnected, value creation is shifting toward locally embedded creativity, applied skills, and entrepreneurial capacity. Fab Lab Armenia operates within this structural transformation.

Our mission extends beyond the diffusion of new technologies. It is centered on the development of capability systems—enabling individuals and communities to design, build, and develop solutions grounded in local realities while remaining fully connected to global knowledge networks.

Artificial intelligence, computing, and digital fabrication should therefore not be understood as growth drivers in themselves. Rather, they function as enabling infrastructures whose economic impact depends on whether societies can convert access into productive use. This shift is essential for the formation of new markets. Markets do not emerge through imported solutions alone, but through locally rooted problem-solvers capable of translating knowledge into economic and social value.

This perspective echoes the widely cited observation of economist Robert M. Solow, Nobel Prize in Economic Sciences (1987), who noted that “you can see the computer age everywhere but in the productivity statistics.” His productivity paradox underscores a central insight of modern growth theory: technological progress does not automatically translate into economic productivity without the parallel development of skills, institutions, and adaptive capacity.

Fab Lab Armenia responds directly to this gap by focusing on capability formation—supporting the transition from users of technology to designers of solutions and emerging entrepreneurs.

In this context, our ecosystem has expanded through the establishment of a Fab Lab Armenia extension within the State Academy of Fine Arts of

Gyumri, strengthening the connection between creative education, digital fabrication, and applied innovation practice.

Through this distributed model of learning and production, Armenia’s regions become active nodes in a global innovation network, where local experimentation connects to global knowledge flows.

Fab Lab Armenia is not only an education initiative, but also foundational infrastructure for a future economy built on distributed intelligence, local production capacity, and globally connected entrepreneurship.



WHAT FAB LABS MEAN FOR OUR SHARED FUTURE!

By Team Members of
Fab Lab Armenia

As we reflect on past years, we need to remind people that Fab Lab Armenia is more than a creative space for digital fabrication — it is part of a global movement ! Everywhere in the world more and more people are sharing belief in the power of making, learning, and creating together. Every achievement and milestone has been guided by the mission to empower individuals through access to tools, knowledge, and the support of a global community of innovators.

This progress has been made possible thanks to the steadfast support of our Board Members, the generous contributions of our Sponsors, and the active collaboration with our communities, local and global.

Our shared vision has helped Fab Lab Armenia reach more learners, launch bold new initiatives, and take meaningful steps toward our goal of establishing a Super Fab Lab in Armenia.

In the following reflections, Fab Lab Armenia team members share what Fab Labs mean to them and how they envision the future we are building — locally rooted, globally connected, and deeply human.

Babken Chugaszyan
Former CEO (2023-2025), Senior Adviser
Fab Academy Global Support Instructor
for Fab Foundation / MIT



"Our team's shared vision is to evolve our present Fab Lab to grow into a Super Fab Lab that will allow us to create mini Fab Labs to empower schools, community centers, start-ups, and creative initiatives across the country. We are already rich with a global network and active collaboration that gives us continuous insights and know-how on how to solve local problems. If someone in Kenya builds a low-cost solar pump, someone in Armenia can replicate and adapt it the next day. Open-source designs flow across borders in all directions. Crises like water scarcity, health access, or education gaps are met with peer-to-peer ingenuity, distributed learning, and distributed incubators."

Onik Babajanyan

CEO

Fab Academies Instructor



" Fab Lab Armenia is an organization built on strong values, bold ideas for the future, and a mission to reinvent and revolutionize the worlds of education and technology – not only in Armenia, but across the globe. Fab Lab Armenia will become a frontline force of innovation, education, and technology in Armenia, the region, and the world. This is not merely a dream, but a strategic goal. In the coming years, the Fab Lab Armenia Education Foundation aims to transform and advance Armenia's education and technology ecosystem, building a foundation strong enough to share and export our values, knowledge, and vision to the region and beyond. "

Anna Badalyan
Manager and Experience Designer



"Fab Lab is a place where thought becomes form. It is where questions are as valuable as answers, and where uncertainty is strength – a starting point. Here, making is a language. Every tool becomes a way to explore, express, and evolve an idea. More than tools or technology, the Fab Lab is a culture built on curiosity, openness, and the belief that knowledge should be shared. The Fab Lab of the future is a distributed nervous system of human creativity – a network where knowledge flows like open-source code and tools act as amplifiers of agency. I see it as post-disciplinary: not about mastering machines, but about designing meaning."

Anoush Arshakyan
Creative Content Developer
Lead for Fabricademy Program
Fab Academies Instructor



"The Fab Lab of the future is no longer a place — it is a global, living network of creators seamlessly connected through shared knowledge, open-source design, and distributed manufacturing. As machines become more compact, intelligent, and accessible, every maker has the power to become a self-sufficient node in this network, capable of designing and fabricating almost anything, anywhere. On Earth, Fab Labs dissolve into daily life — integrated into homes, schools, and communities. Beyond Earth, Fab Labs become essential infrastructure embedded in spacecraft and planetary bases, allowing humanity to not only survive, but to invent and evolve wherever we go."

Tatevik Ayrapetyan
Marketing and Media Communication Specialist



"Fab Lab is a fertile ground for creativity and ingenuity – a place where you can fully express yourself, supported by a team of open-minded, curious, and dedicated people. I see the Fab Lab of the future as a place where anyone – whether from business, schools, research, start-ups, or the student community – can find answers and seamlessly access solutions to their challenges, all under one roof: the world's roof of the Fab Labs network."

Erika Mirzoyan
Immersive Media Designer
Fab Academies Instructor



"A Fab Lab is where you learn by doing — an open, hands-on workshop that empowers anyone to create, share, and explore through free access to knowledge and tools. I imagine the Fab Lab of the future to be twice as powerful: offering even more tools, knowledge, and opportunities. A Super Fab Lab — a collaborative space where ideas grow faster, innovation is more accessible and distributed, and creativity has no boundaries, only ever-growing possibilities to explore."

Areg Khalatyan
Head of Industrial Design
Fab Academies Instructor



"Fab Lab is not just a workshop, but a space of possibilities and new encounters. Here we make the impossible possible. The Fab Lab of the future is just a starting point for new inventions and discoveries."

Elen Grigoryan
Product Designer & 3D Sculpting Expert
Fab Academies Instructor



"Fab Lab is a global network where ideas come to life — anywhere in the world. I see the future in more communities joining us from everywhere. Children learn to build from a young age. Seniors tinker with assistive devices they design themselves. Farmers, artists, engineers, and students all have access to the same tools to invent and improve their own realities. Creativity becomes the new literacy."

Mkhitar Evoyan

**Technical Support Assistant
Fab Academies Instructor**



"Fab Lab means freedom — freedom to create, to fail, to learn, and to build again. The Fab Lab of the future is not just a space — it is a global network of creators solving real problems, one prototype at a time. At the heart of this network are Super Fab Labs — advanced hubs of innovation that connect local makers with global challenges, turning bold ideas into scalable solutions for the world."

Syuzanna Martirosyan
Lead for STEAM Education Program Development &
Labster Online Immersive Science Programs
Fab Academies Instructor



"The Fab Lab of the future is a vibrant hub where science, art, and technology unite to empower every learner to shape a better world — a place where everyone, regardless of background, can access the tools, skills, and confidence to create their own future. Fab Lab is where I discovered that education is not just about answers — it is about asking bold questions and building the tools to explore them."

Maxime Richard

**Pedagogical Content Developer
Lead for Fab Learning Academy
Fab Academies Instructor**



"The Fab Lab is a place where people with different ideas and backgrounds collide in a fertile creative chaos. It is where curiosity meets craft, and experimentation is part of everyday life. Through this constant exchange, new possibilities emerge, and people create things that could not have happened in isolation. The Fab Lab of the future is where education and innovation grow side by side – a launchpad for real-world projects where knowledge leads to action, and creativity is connected to meaningful change."

Rudolf Igityan

Lab Engineer

Lead for Open-Source Machine Building Programs

Fab Academies Instructor



"Fab Lab is a place where ideas take shape and dreams become tangible — an environment where technology and humanity come together to change the world. I believe we are the builders of the new world, and we would welcome a Super Fab Lab to scale and push our inventions and contributions even further."



From Digital Design to Living Systems: A New Bauhaus for the Age of Making

By Jacqueline Karaaslanian, Founding Board Member, Fab Lab Armenia Education Foundation

At the dawn of the 20th century, the Bauhaus movement – under the visionary leadership of Walter Gropius – reimagined design as a unifying force, fusing art, craft, and industry to shape a new modern reality. Today, Fab Labs around the world, including Fab Lab Armenia, carry that spirit forward into the 21st century, where creativity, technology, and community come together to invent new ways of living and making.

Two pioneers stand at the forefront of this contemporary renaissance. Florent Aziosmanoff, often regarded as the Gropius of Living Art, challenges us to rethink the role of

art not as static, but as intelligent and responsive – where environments, objects, and systems adapt through embedded code and smart behavior. In parallel, Neil Gershenfeld, MIT physicist and founder of the global Fab Lab network, transformed how we access and apply technology. Through his seminal course How to Make (Almost) Anything and his groundbreaking model of distributed education, Gershenfeld democratized fabrication, empowering people everywhere to move from idea to invention with the tools of the digital age.

Where Bauhaus found elegance in structure and simplicity, today's

movement blends interaction, learning, and agency into the very fabric of what we build. Digital fabrication and Living Art, together, invite us to design systems that are not only functional and beautiful, but also responsive, inclusive, and alive with possibility.

THESE YEARS MARK A TURNING POINT FOR FAB LAB ARMENIA EDUCATION FOUNDATION.

Fab Lab Armenia Education Foundation began as a node in the global Fab Lab network and is now on the verge of transforming into a Super Fab Lab – an advanced hub at the intersection of design, digital fabrication, and hyperconnectivity. This leap is not merely institutional – it is to serve the nation.

Armenia stands at a crossroads: to grow, to retain its talent, and to join the leaders of the Fourth Industrial Revolution. This means equipping its citizens not just with access, but with agency – through advanced technologies, next-generation skills, and open platforms for innovation.

Our evolution into a Super Fab Lab is both a necessity and a promise:

To serve as a catalyst for national development. To anchor Armenia in the global economy of ideas and inventions.

To pioneer new educational models that connect digital fluency with cultural identity. To grow a new generation of citizen scientists, thinkers, makers, and systems builders. To seed the new Digital Fabrication economy and niche manufacturing.

Fab Lab Armenia Education Foundation has served as both a workshop and a living canvas – a space where youth, creators, educators, and citizens transform ideas into impact. We have deepened our global ties, expanded our community, supported the creation of Fab Lab Armenia Gyumri, and continue to explore the edges of design, technology, and human experience. This Annual Report captures that journey. It reflects the values we share, the breakthroughs we have made, and the ecosystems we are nurturing – locally, nationwide, and globally.

WELCOME TO THE ERA OF DESIGNING LIVING SYSTEMS. HISTORY TURNS HERE—WITH US.

FROM INNOVATION JOURNEYS TO REAL-WORLD IMPACT

What seemed a distant vision a decade ago has today become a living, breathing reality in Armenia.

Digital fabrication – the power to transform ideas directly into physical objects – is no longer the exclusive domain of well-resourced universities or large industrial manufacturers.

At the heart of this transformation are Fab Labs and their global network of academies. Fab Labs foster a culture of co-creation and knowledge exchange, while Fab Academies equip participants with essential skills that blend science, engineering, design, and entrepreneurship. Digital fabrication democratizes access to advanced tools by providing individuals of diverse backgrounds and ages with the technology, knowledge, and open-source networks they need to bring their ideas to life.

Fab Lab Armenia Education Foundation is an integral part of the extensive network led by the MIT Center for Bits and Atoms and the global Fab Foundation, comprising over 3,000 Fab Labs worldwide. This network offers unparalleled access to knowledge across varied fields, empowering individuals to move swiftly from ideation to rapid prototyping and market realization. Each day, practitioners ranging from seasoned professionals to curious beginners converge across the network to collaborate, experiment, and innovate.

The years 2024 and 2025 have been years of substantial growth and deepened impact. Programs expanded, new nodes were established, international partnerships were forged, and the institution's role as a national hub for digital fabrication education was formally recognized at the highest levels of government. Rooted in the core values of Community, Cooperation, Creativity, Curiosity, and Courage, the foundation fosters an inclusive environment where collaboration and innovation flourish – balancing long-term aspirations with a grounded understanding of immediate workforce and educational needs.

PART ONE — FLAGSHIP PROGRAMS

The most enduring contribution a Fab Lab can make is not a machine, a prototype, or even a workshop. It is a person who has engaged to think differently about what is possible — and who carries that shift in perspective into every classroom, every workplace, every community they touch afterward.

The programs described in this section are Fab Lab Armenia's most deliberate and sustained investment in that kind of transformation. Each one is built on the constructionist principle articulated by Seymour Papert and embodied in the distributed learning model of Neil Gershenfeld: that knowledge is not received but constructed, most powerfully when the learner is engaged in making something real.

The programs differ in their populations and disciplines — from intensive digital fabrication engineering to textile biomaterials, from K-12 educator development to virtual science labs in schools — but all of them share this foundation. Making is the pedagogy. The project is the curriculum. The documentation is the proof.

What distinguishes Fab Lab Armenia's programs from conventional professional training is not the tools — it is the culture those tools create.

When a student must not only build a system but document every failure and every iteration in a public portfolio, fab-labber is not just learning fabrication. The fab-labber is learning intellectual honesty, the discipline of process, and the practice of sharing knowledge across a community.

When a teacher designs a laser-cut anatomical model and tests it with her own students before graduating, the educator is not just acquiring a new skill. She is changing the relationship between her expertise and her classroom. These are the outcomes that last.

FAB ACADEMY: WHERE MAKING BECOMES MASTERY

Fab Academy is built on a deceptively simple premise: that the fastest path to mastering a technology is not to study it but to use it – immediately, under real constraints, with the expectation that the result will be documented publicly and evaluated globally. Over twenty consecutive weeks, students move through the full spectrum of digital fabrication, from computer-aided design and electronics production to CNC machining, molding and casting, embedded programming, and systems integration. Each week's assignment is not an exercise – it is a deliverable. Each deliverable is not private – it is shared with a network of 3000 Fab Labs and evaluated by instructors with decades of experience across all of them.

This structure does something that few educational programs manage: it makes the learning visible. Not only to instructors,

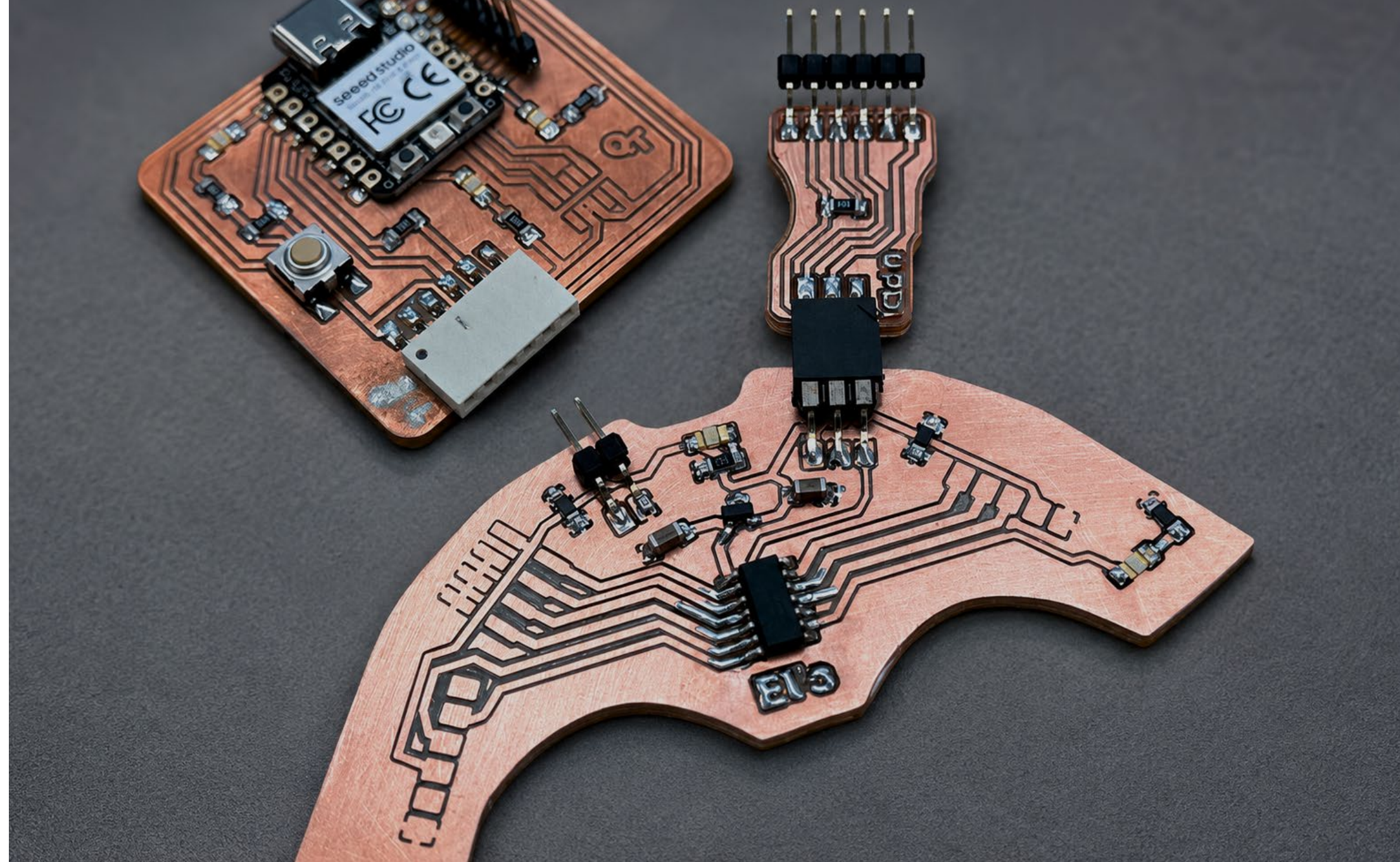
but to the students themselves. When a cohort documents every step of building a machine that does not work, they are not failing – they are producing the most honest and useful record of what was attempted and what was learned. That documentation, accumulated over five months, becomes both a portfolio and a methodology – a way of approaching problems that persists long after the program ends.

At Fab Lab Armenia, Fab Academy is the institution's highest-stakes educational offering – the program in which the deepest technical transformation occurs, and from which the strongest contributors to the lab's own instructional capacity have emerged. Every graduate who returns to teach brings with them not only specific skills but the Fab Academy culture of rigorous, honest, public learning.



LEARNING BY MAKING TEACHING BY DOING

*Batman PCB – Elen Grigoryan, Fab Academy 2024, →
Electronics Design Week
A circuit board recognized by the global Fab
Academy network for its design.*

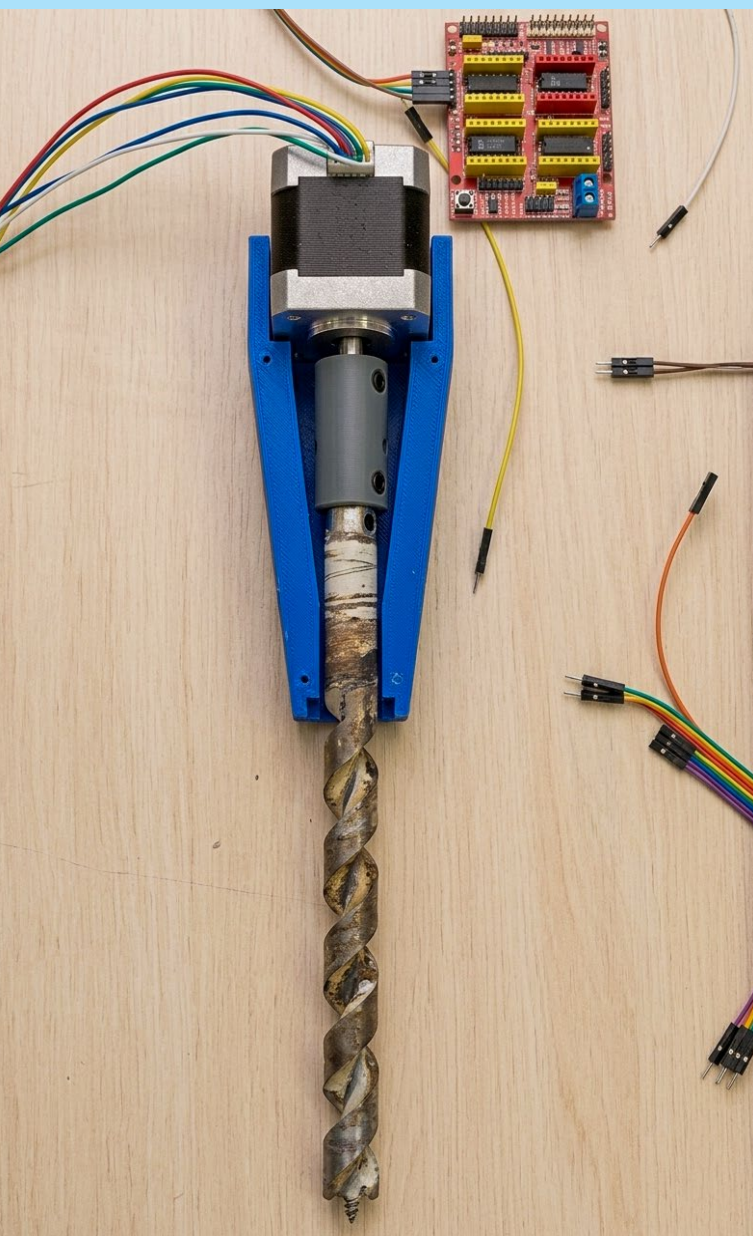
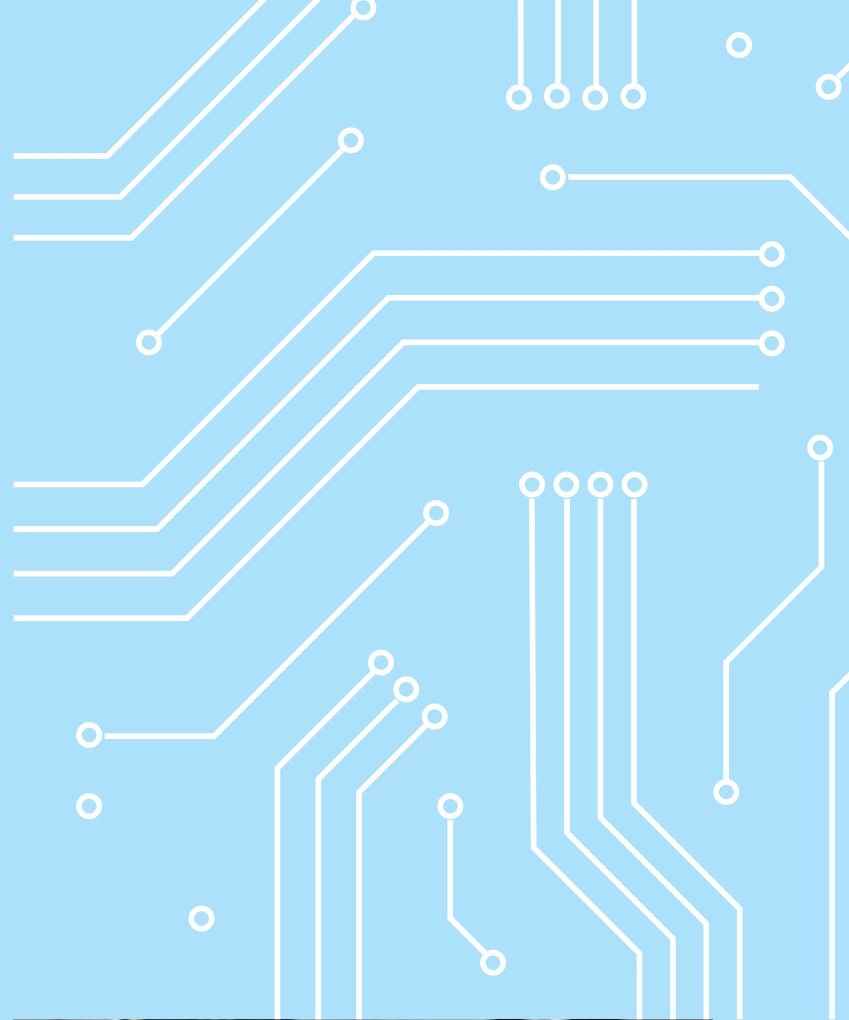


The Fab Academy cohort of 2024 demonstrated, across a five-month arc, precisely the kind of multidimensional development the program is designed to produce. Participants arrived as designers, engineers, and educators with existing expertise. They left with something different: the capacity to work across the full technical stack – from concept to custom electronics to fabricated structure to working system – and the habit of documenting that process in a way that serves others.

The learning curve of the program is steep by design. In the early weeks, students encounter the friction of new tools, unfamiliar software, and the challenge of producing meaningful work on a weekly deadline. This friction is not incidental – it is pedagogically essential. It creates the conditions for genuine problem-solving rather than the reproduction of known solutions. The clay printing machine the 2024 cohort built together during Machine Building Week did not print perfectly.

But every failure was documented, every workaround was tested, and every iteration was shared. The machine became a record of how four people with different strengths learn to build something none of them could have built alone.

By the time final projects arrived in June, the cohort had internalized something more important than any individual skill: the practice of designing with intent, fabricating with precision, and reflecting with honesty. The projects themselves — a portable workstation for digital artists, an air-humidifying lamp, a motion-responsive chandelier, a plastic-recycling machine for children — were as different as the people who built them. But each one drew on the full range of what the program teaches, and each one addressed a problem its maker genuinely cared about solving.



JANQ – Ceramic 3D Printer, Fab Academy 2024, Machine Design Week

Named JANQ after many iterations of the name and the machine itself, this clay 3D printer was built by all 2024 students in a single week – each taking responsibility for a distinct system: the rotating table, the extruder units, the axle mounts, the firmware, the counterweight. Every axis moved. The clay fed. The motor stalled under the weight of its own extruder. The team wrote down exactly why, listed exactly what they would change, and moved on. In Fab Academy, a machine that teaches you what it cannot do is still a machine that teaches you.

SPACEPAD

Areg Khalatyan

FAB ACADEMY 2024 FINAL PROJECT

Portable Workstation for Digital Artists

A portable outdoor workstation for digital artists – integrating an adjustable laptop holder, a built-in Space Mouse, and a programmable macro keyboard into a single, considered object. Areg built this because he needed it. That specificity of motivation produced a result that is not a demonstration of fabrication skill, but a tool. The difference between the two is exactly what Fab Academy asks its students to reach.



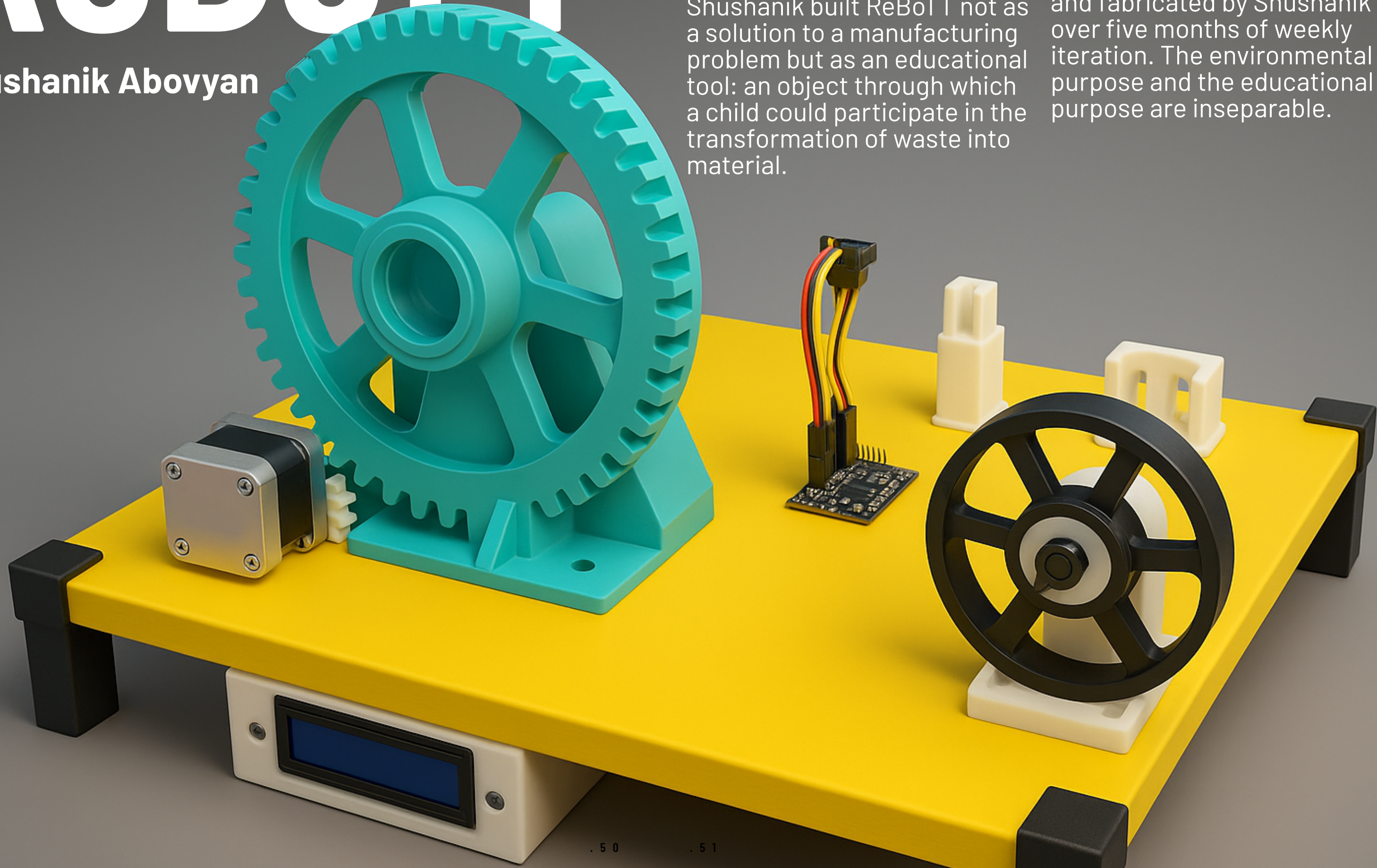
ReBoTT

Shushanik Abovyan

PET Bottle Recycling Machine

A machine that converts plastic bottles into 3D printing filament — designed from the start with children in mind. Shushanik built ReBoTT not as a solution to a manufacturing problem but as an educational tool: an object through which a child could participate in the transformation of waste into material.

The machine includes a PID-controlled hot end, custom PCB, and stepper motor driver — all designed and fabricated by Shushanik over five months of weekly iteration. The environmental purpose and the educational purpose are inseparable.



DILE-SCOOTER

Ashot Margaryan

A 1:1 drivable wooden replica of an Italian Vespa, built from six sheets of CNC-milled plywood and powered by a vehicle starter motor, a chain drive, and four 12-volt batteries wired in series-parallel to produce 24 volts. Ashot designed the frame, machined the drive components on a manual lathe, and added a 3D-printed headlight with a light-dependent resistor for automatic activation.

He designed and fabricated every component himself — including the PWM motor controller housing with a cooling fan, and the laser-cut battery enclosure. The pandemic halted the project mid-production. He finished it anyway, in the summer of 2020, and presented it to the global network. Four years later, he came back for the diploma.

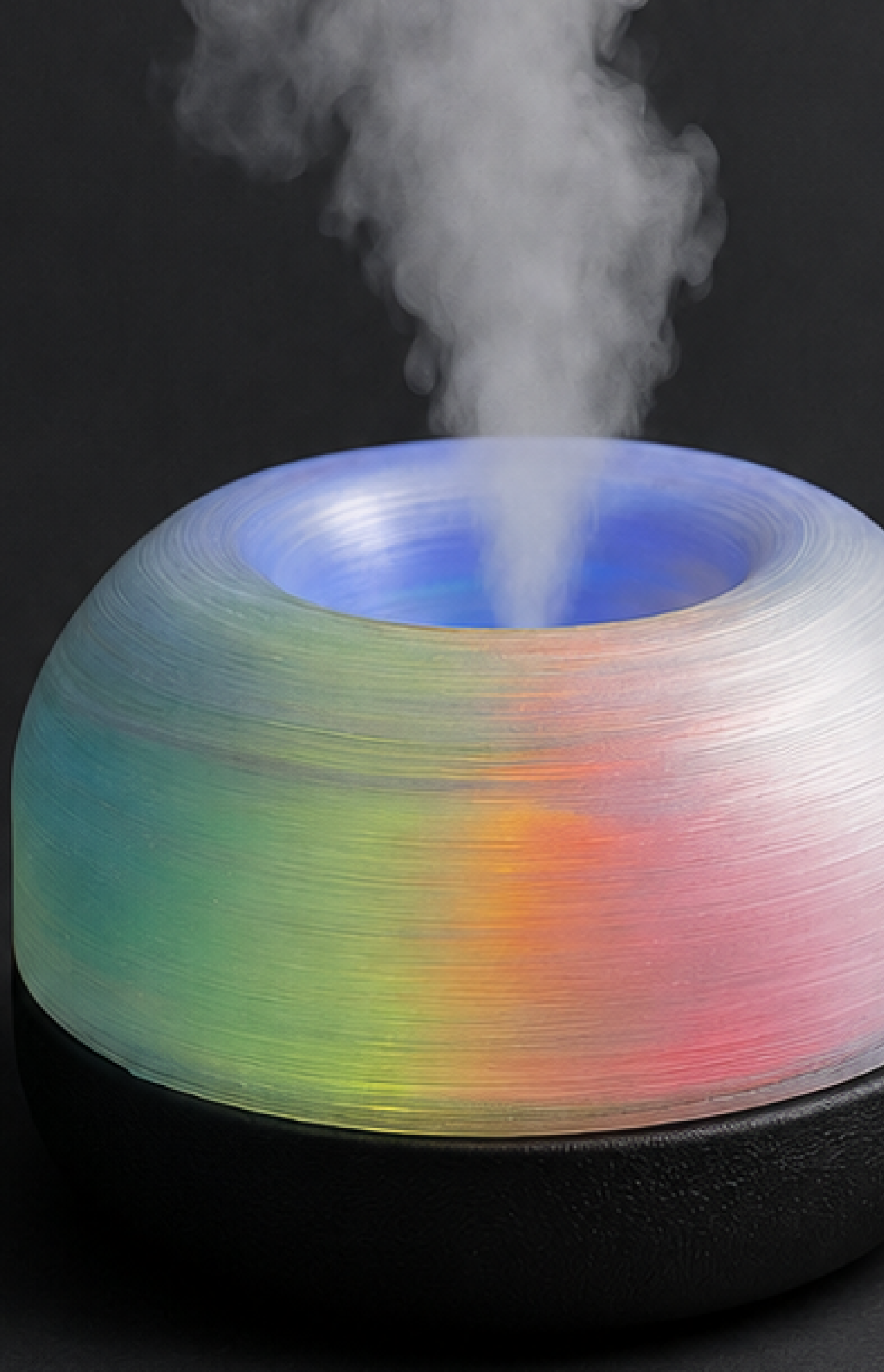
MOI

Elen Grigoryan

Humidifier

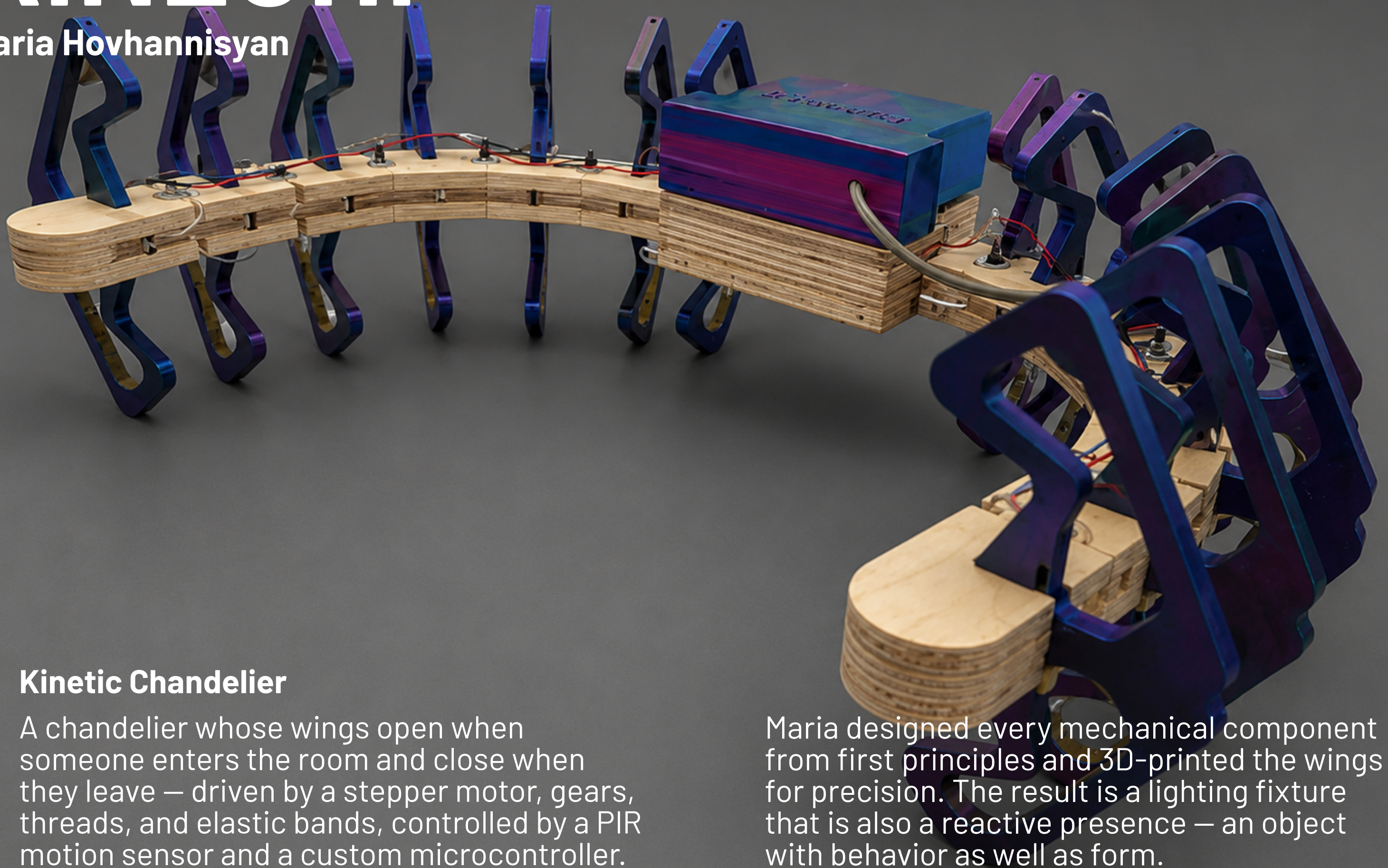
A compact device that humidifies and illuminates at once — designed not as a functional object that happens to be beautiful, but as a beautiful object that happens to be functional. Custom electronics, a mist-making mechanism, and 3D-printed components assembled into something quiet enough to live on a desk without asking for attention.

The project demonstrates what five months of integrated fabrication training produces: not a prototype, but a finished thing.



KINECHI

Maria Hovhannisyan



Kinetic Chandelier

A chandelier whose wings open when someone enters the room and close when they leave — driven by a stepper motor, gears, threads, and elastic bands, controlled by a PIR motion sensor and a custom microcontroller.

Maria designed every mechanical component from first principles and 3D-printed the wings for precision. The result is a lighting fixture that is also a reactive presence — an object with behavior as well as form.



Metal Man – Mkhitar Evoyan, Zhirayr Ghukasyan, Derenik Danielyan · Machine Design Week, Fab Academy 2025

A manual lathe donated by Dilijan Central School, converted into a fully operational CNC lathe in two weeks. The first machine at Fab Lab Armenia capable of CNC metalworking – built as a student assignment, now permanent lab infrastructure.



Indoor Delivery Robot – Yryszhan Sansyzbay, Fab Academy

2025 A Wi-Fi controlled delivery robot built to transport small items inside labs and workspaces – custom PCB, CNC-milled chassis, 3D-printed enclosure, hoverboard motors, and a web interface running entirely from the ESP32 itself. Every system designed, fabricated, and programmed from scratch.

The 2025 cohort extended this pattern. Three students with backgrounds in mechanical engineering, industrial design, and music technology produced work that moved from personal passion into genuine applied research. A small-scale submarine capable of environmental monitoring in Armenia's mountain lakes. A modular hydroponic system designed for urban food cultivation. A precision guitar tuner built for working musicians. What connects these projects is not their subject matter but their depth of integration – each one requires the student to design, fabricate, program, and test a complete system, then document every step of that process with the honesty and clarity the Fab Academy standard demands.

When Learning Builds Capacity

One of the clearest markers of a program's depth is what it leaves behind. The 2025 cohort's machine-building assignment converted a manually operated lathe donated by Dilijan Central School into a fully functional CNC lathe – a project completed in two weeks and now permanently operational at Fab Lab Armenia. This is the Fab Academy model at its most generative: a student assignment becomes institutional infrastructure, serving the lab and its future learners long after the cohort that built it has graduated.

The same logic applies to the remote instruction work Fab Lab Armenia undertook in 2025. When the Fab Foundation assigned the lab as the remote instructional node for two students from an emerging Fab Lab in Kazakhstan, it was recognizing something that the institution had been building toward for years: the capacity to transmit its knowledge and standards outward, not only inward. One of those students graduated. The lab's role as a regional instructional node – not only a local educational space – took a concrete step forward.

GROWZEN

Zhirayr Ghukasyan

FAB ACADEMY 2025 FINAL PROJECT

Modular Hydroponic System

A modular hydroponic system for urban homes — automating watering, lighting, and environmental monitoring while sending real-time data to a mobile application via Wi-Fi. pH, temperature, water level, and dissolved solids sensors work alongside a custom PCB and a 3D-printed twist-lock modular structure. Zhirayr developed the project in two stages: the physical design first, then the electronics — a sequencing that reflects a designer's instinct to understand form before integration. The result is a system that is technically complete and visually considered in equal measure.



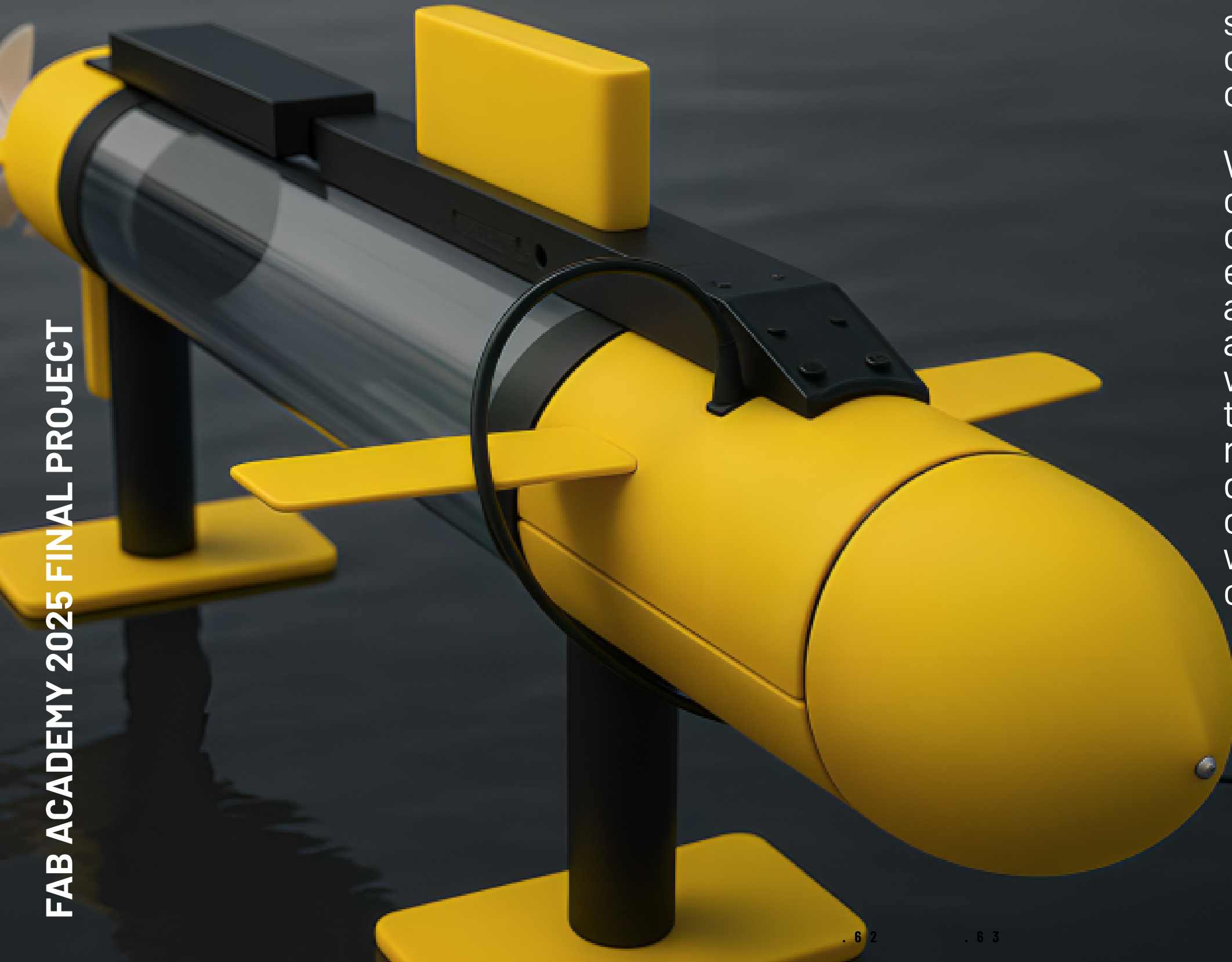
SubSevan

Mkhitar Evoyan

Small-Scale Submersible Vehicle

A submarine built for Armenia's mountain lakes — designed to support environmental research in bodies of water too remote or too deep for human divers. SubSevan carries temperature and pressure sensors, servo-controlled fins, a camera, and a custom PCB based on an ESP32 microcontroller.

When a burned board forced a complete redesign midway through development, Mkhitar rebuilt the electronics from scratch and adapted his communication architecture. The final prototype was tested in the water, responded to keyboard commands, and returned live sensor data. It is not a demonstration of what a student can build. It is the beginning of what an environmental researcher can use.



STANDALONE GUITAR TUNER

Derenik Danielyan

FAB ACADEMY 2025 FINAL PROJECT

A precision tuner built around the Raspberry Pi Pico 2W and a piezoelectric sensor — detecting string vibrations, processing them through a custom FFT implementation, and displaying tuning feedback on an OLED screen in real time. Derenik designed the PCB, printed the enclosure, cut the acrylic window, and refined the amplification circuitry through multiple iterations until the latency was low enough to be useful to a working musician. The device is portable and practical. Derenik sees it as the foundation of a future startup focused on accessible technology for musicians — a direction made possible by the Fab Academy documentation and portfolio model.



DroneSOS

Hrach Barseghyan

FAB ACADEMY 2026 FINAL PROJECT

A parachute system designed for the moment a drone stops responding — attaching to any consumer drone and deploying entirely on its own, independent of the drone's electronics. If the drone fails completely, DroneSOS still works. The casing was designed and prototyped through multiple iterations, the parachute canopy laser-cut from nylon and hand-stitched, the electronics built from scratch. A safety device conceived, designed, and fabricated by its maker from the ground up.



MAZE OF BIRDS

Mariam Daghbashyan



A tabletop maze game with a small robotic car, a wireless joystick controller, five coins hidden across the board, and sixty seconds on the clock. Navigate the maze, find all five coins before time runs out, and you win. The car was designed and printed by Mariam — complete with a pair of eyes she added because the car needed a personality.

Every component of the game, from the controller to the coin detection system to the live scoreboard display, was designed and built by her across five months of the program. By the end, it worked exactly as a game should: it was fun to play.

DIALOGUE

Ani Petrosyan

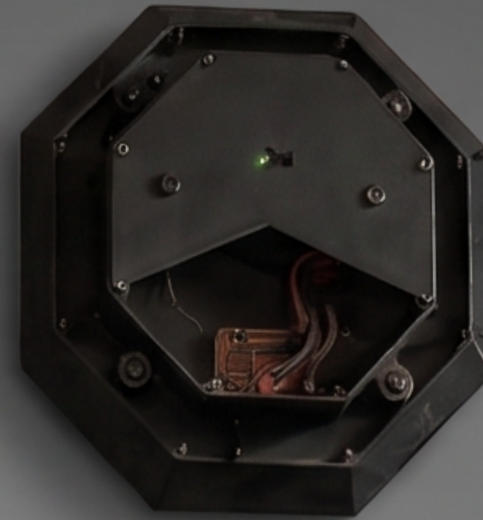
FAB ACADEMY 2026 FINAL PROJECT

An outdoor sculpture that behaves differently depending on the time of day. By daylight it is a geometric mirror — still, reflective, part of its surroundings. After dark it comes alive, displaying the environmental data it has been quietly collecting all day: light levels, temperature, humidity, scrolling through a hidden display inside the structure. The dialogue the title describes is between the natural world and the object built to observe it. The steel frame was welded by hand, the curved panels shaped by heat, the mirrors installed to make the interior invisible by day and luminous by night.



VAHAN

Gevorg Malkhasyan



FAB ACADEMY 2026 FINAL PROJECT

Carbon monoxide is odorless and invisible — and blacksmith workshops produce it constantly. Vahan is a monitor built specifically for that environment: it reads the air continuously and communicates danger through a simple traffic-light signal and a buzzer that grows louder as the risk increases. Green means safe. Yellow means ventilate. Red means leave immediately. No complicated interface — just a clear signal that works in a loud, busy forge. The device includes a hand-bent steel protective shield that Gevorg formed himself using industrial metalworking tools.



ARMENIA - NEW FAB ACADEMY GRADUATES



➤ **Ashot Margaryan**
Fab Academy 2024



➤ **Elen Grigoryan**
Fab Academy 2024



➤ **Maria Hovhannisyan**
Fab Academy 2024



➤ **Mkhitar Evoyan**
Fab Academy 2025



➤ **Areg Khalatyan**
Fab Academy 2024



➤ **Shushanik Abovyan**
Fab Academy 2024



➤ **Zhirayr Ghukasyan**
Fab Academy 2025



➤ **Derenik Danielyan**
Fab Academy 2025

ARMENIA – NEW FAB ACADEMY GRADUATES



➤ **Mariam Daghbashyan**
Fab Academy 2026



➤ **Hrach Barseghyan**
Fab Academy 2026



➤ **Ani Petrosyan**
Fab Academy 2026



➤ **Gevorg Malkhasyan**
Fab Academy 2026

100% GRADUATION: FAB LAB ARMENIA SUCCESSFULLY GRADUATES ALL OF ITS FAB ACADEMY STUDENTS

Fab Lab Armenia achieved a 100% graduation rate in both the 2024 and 2025 Fab Academy cycles. In a program as demanding as Fab Academy, this is not a statistic about ease — it is a statistic about support. Completing Fab Academy requires technical competence, yes, but it also requires the sustained belief that the work is worth doing, the documentation is worth writing, and the failures are worth sharing.

That belief is not manufactured by a curriculum. It is cultivated by a culture — a lab culture in which mentors stay available, instructors treat failure as information, and every student's project is treated as a genuine contribution to the collective knowledge of the network.



FABRICADEMY: TEXTILES AS A FRONTIER OF INNOVATION

There is a particular kind of knowledge that lives in the hands — in the muscle memory of a weaver, the practiced eye of a natural dyer, the intuition of someone who has spent years understanding how fibers behave under tension, heat, or water. Armenia has accumulated that knowledge across centuries. Fabricademy is the program that asks what happens when this deep knowledge and practice is placed in conversation with biomaterials, electronic circuits, parametric design software, and bacterial cellulose grown in a laboratory.

Fabricademy is not, at its core, a fashion program or a technology program. It is a program about materials — about the question of what a textile can be when the full range of contemporary tools and knowledge is brought to bear on it. Its curriculum moves from natural dyeing to computational couture, from soft robotics to circular fashion systems, from skin electronics to biofabricated structures grown from living organisms. What connects these disciplines is the textile — understood not as a surface for decoration but as a substrate for innovation.

The arrival of Fabricademy in Armenia in 2024 was not a coincidence. It was a recognition that this country, with its specific heritage of textile craft and its growing capacity in digital fabrication, was exactly the kind of place where the program's deepest questions could be explored with genuine cultural grounding. The intersection of the ancient and the radically contemporary that Fabricademy seeks is, in Armenia, not a metaphor. It is a material reality.

THE BOOTCAMP: A PROOF OF CONCEPT

Photo by P'UNJ syndicate



Before the first formal cohort enrolled, the Fabricademy Bootcamp 2024 served as a large-scale test of a question: could the convergence of Armenian textile heritage and international digital fabrication expertise produce something genuinely new? The answer, delivered across seven intensive days in May 2024, was unambiguous. Twenty-one participants from around the world moved through felt-making and carpet-making, natural dyeing at WoolWay Studio, leather molding and bacterial cellulose cultivation at Fab Lab Armenia, and cyanotyping, linotyping and batik at the Gyumri Academy of Fine Arts.

What they encountered was not a tourist encounter with heritage craft — it was a genuine creative collision. Designers began thinking about what modular fashion would look like built from pomegranate-shell dye and zero-waste laser cutting. Scientists began asking what biomaterial experiments could be conducted with local plant pigments. Educators began considering how the intersection of traditional craft knowledge and digital fabrication tools could transform how art and technology are taught.

The projects produced during the bootcamp — kilims woven on laser-cut looms, modular neoprene systems paying tribute to the pomegranate in Armenian visual culture, zero-waste accessories that looked organic rather than manufactured — demonstrated the creative potential of this intersection. But perhaps more important than any individual project was the collective experience: the realization, shared by every participant and every Fab Lab Armenia team member present, that Armenia had something specific and irreplaceable to offer the global Fabricademy network.

**“LOVED THE
COCKTAIL OF
HERITAGE AND NEW
TECHNOLOGIES.”**

Leather Molding Workshop
Fabricademy Bootcamp 2024, Dilijan

Led by Anastasia Pistofidou. Soaking, shaping, and drying leather over CNC molds and the vacuum forming machine built by the Fab Lab Armenia team.



Photos by P'UNJ syndicate

E-Textiles Workshop
Fabricademy Bootcamp 2024, Dilijan

Led by Emma Pareschi. Soft circuits, conductive threads, and DIY sensors – merging traditional textile techniques with digital fabrication and electronics.



Emma Pareschi and Angie Cohen
during the E-Textiles Workshop,
Fabricademy Bootcamp 2024

**Natural Dyeing Workshop at WoolWay
Fabricademy Bootcamp 2024
Led by Mariam Nalbandyan,
co-founder of WoolWay.**

Four hours of hands-on experimentation with natural dyes — extracting color from local plants and materials onto yarns and fabrics. Nobody wanted to leave.

**Linotype Workshop
Fabricademy Bootcamp 2024,
Gyumri Academy of Fine Arts**

Participants carved traditional Armenian patterns into linoleum and printed them onto canvas and textiles. Conducted by professors of the Gyumri Branch of the Fine Arts Academy of Armenia.



3+1 Modular Creative Set
Tijana Vujosevic, DesignLab Miami

150 laser-cut neoprene modules in deep red – a tribute to the pomegranate in Armenian culture, inspired by architectural symbols from Holy Etchmiadzin. Three geometric shapes that combine into infinite forms: pillows, lace, earrings, garments. A fourth element – raw sheep wool – adds warmth and addresses textile waste.



The Flower Crown
Deborah Egger, Switzerland

Zero-waste, laser-cut accessories
in felt — designed to look grown
rather than made.
Modular, expandable, and entirely
organic in spirit.

Reem BinKaram wearing Deborah
Egger's The Flower Crown





Weaving Stories
Silvia Brandi, FarmLab Austria

A kilim woven on a laser-cut loom made at Fab Lab Armenia, using naturally dyed wool from WoolWay workshop and yarn from Silvia's farm in Austria. A traditional Armenian pattern with an LED at its center — woven across Armenia, and continued on the flights home.

THE FIRST COHORT: DEPTH OF TRANSFORMATION

The four students who enrolled in Fabricademy's first Armenian cohort in September 2024 arrived from different disciplines — chemistry and sustainable design, graphic design and embroidery, stage design and visual art, digital fabrication and creative development. What they shared was a readiness to be genuinely changed by the program. And they were.

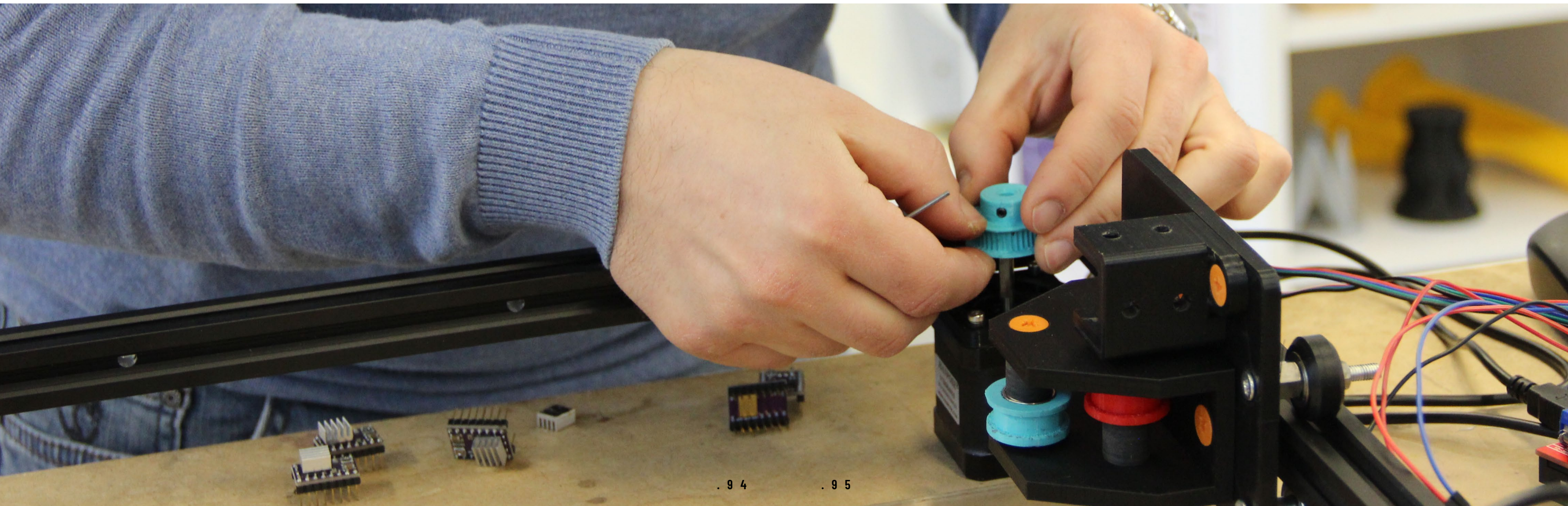
The process of transformation in Fabricademy is cumulative and often invisible until the final project makes it suddenly clear. A student who arrives knowing how to embroider

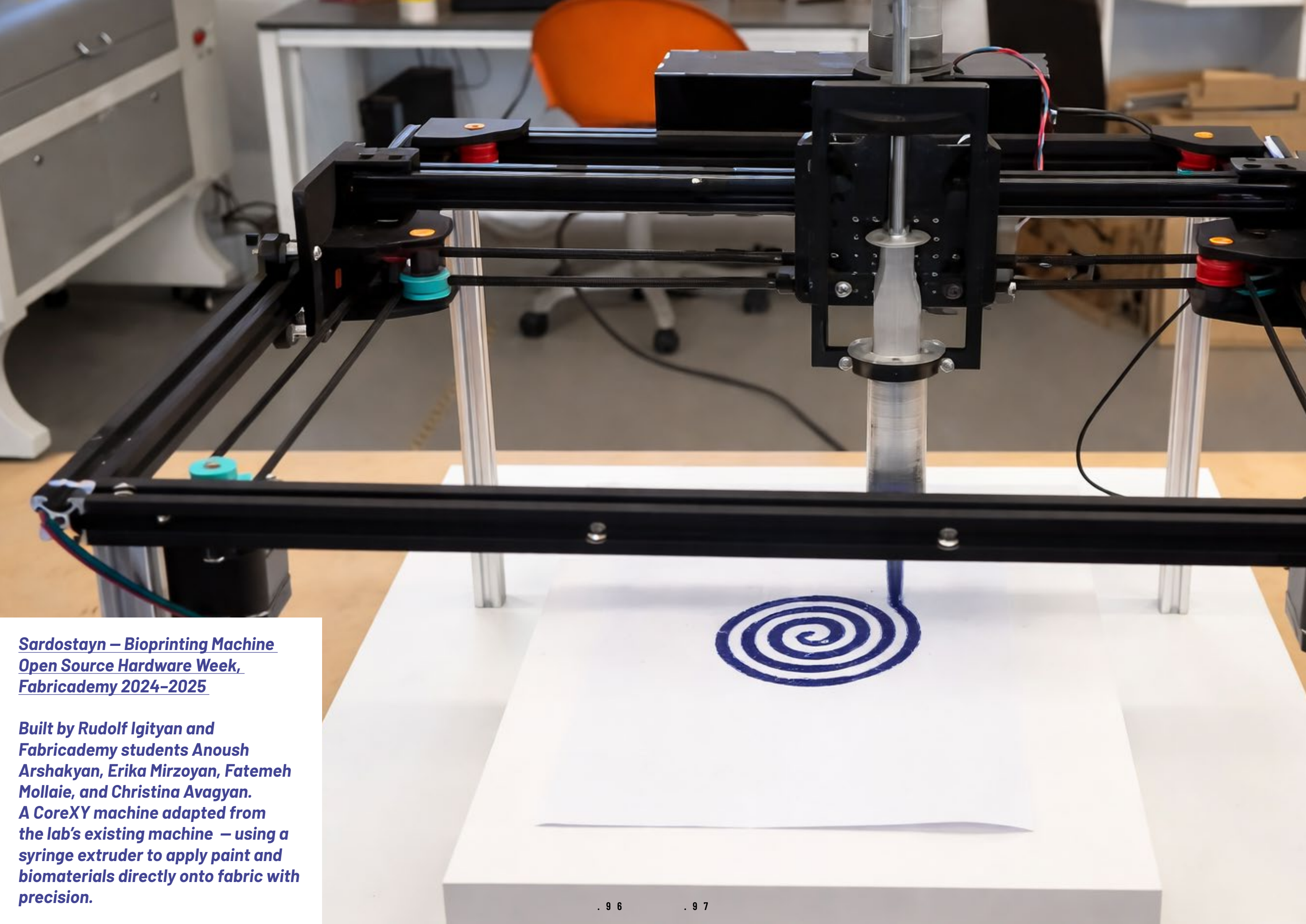
leaves having grown bacterial cellulose, designed a conductive textile sensor, and experimented with natural dyes extracted from local plants has not simply added skills to a repertoire. The Participant has changed the conceptual frame through which one understands her own practice. This is what the program produces: not specialists, but expanded practitioners — people who can now ask questions they could not have formulated before. The final projects of the 2024–2025 cohort reflected exactly this kind of conceptual expansion.

An interactive glove system in which the hand itself becomes a communication interface, built from custom bioplastic and driven by flex sensors. A modular textile archive of Armenian folklore narratives, designed to be touched, rearranged, and carried as living cultural memory. A series of zero-waste garments in which Armenian geometric heritage and circular design principles are treated as naturally complementary rather than in tension. And a material experiment — in-situ synthesis of magnetic nanoparticles on textile substrates — that produced shape-

changing fabrics responsive to magnetic fields, works as relevant to materials science research as to fashion design.

Taken together, these projects make a clear argument: when participants are given the time, the tools, and the intellectual permission to work at the boundary of craft and technology, culture and science, heritage and innovation, the results exceed what either discipline could produce alone. That boundary is where Fabricademy operates. It is where, increasingly, Fab Lab Armenia operates.





Sardostayn – Bioprinting Machine
Open Source Hardware Week,
Fabricademy 2024-2025

Built by Rudolf Igityan and Fabricademy students Anoush Arshakyan, Erika Mirzoyan, Fatemeh Mollaie, and Christina Avagyan. A CoreXY machine adapted from the lab’s existing machine – using a syringe extruder to apply paint and biomaterials directly onto fabric with precision.

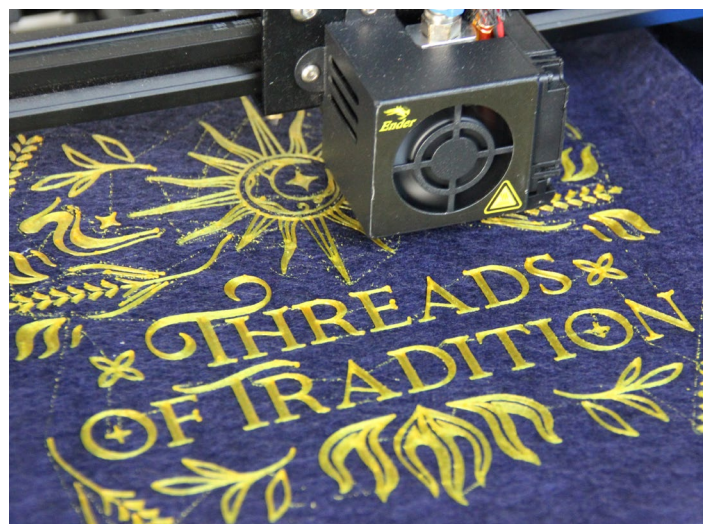
THREADS OF TRADITION

Erika Mirzoyan

FABRICADEMY 2024-2025
FINAL PROJECT



A soft textile book where each embroidered panel tells a story from Armenian mythology – stitched in appliqué, layered fabric, and hand embroidery. Made to be touched, opened, and passed to the next generation. Cultural memory in a form children can hold.



THREADS OF TRADITION

Threads of Tradition is a textile storytelling project inspired by Armenian legends, symbols, and the desire to reconnect with cultural roots. Each fabric page tells a mythological story through appliqué, layered textiles, and hand embroidery. The goal is not only to preserve folklore, but to bring it back to life in a playful, interactive, and meaningful way.

This project was developed during the Fabricademy program at Fab Lab Armenia Education Foundation.

AUGMENTED REALITY — BRING THE PAGES TO LIFE

Each page of the book has its own unique animated story.

How to interact:

- Download the Artivive app
- Open the app
- Scan the illustrated page
- Watch the textile story come alive through animation



HANDS CAN TELL A LOT

Anoush Arshakyan

FABRICADEMY 2024-2025
FINAL PROJECT



A glove of self-made flex sensors — conductive fabric and velostat sewn into lycra mesh — translates the bending of fingers into signals that animate biofabricated structures. The structures fold and expand like living tissue, made from a custom bioplastic formula developed for flexibility and resilience. Five move when fingers flex. Others remain still. The installation is not a mirror of gesture but a dialogue with it — the body's silent language given a second body to speak through.



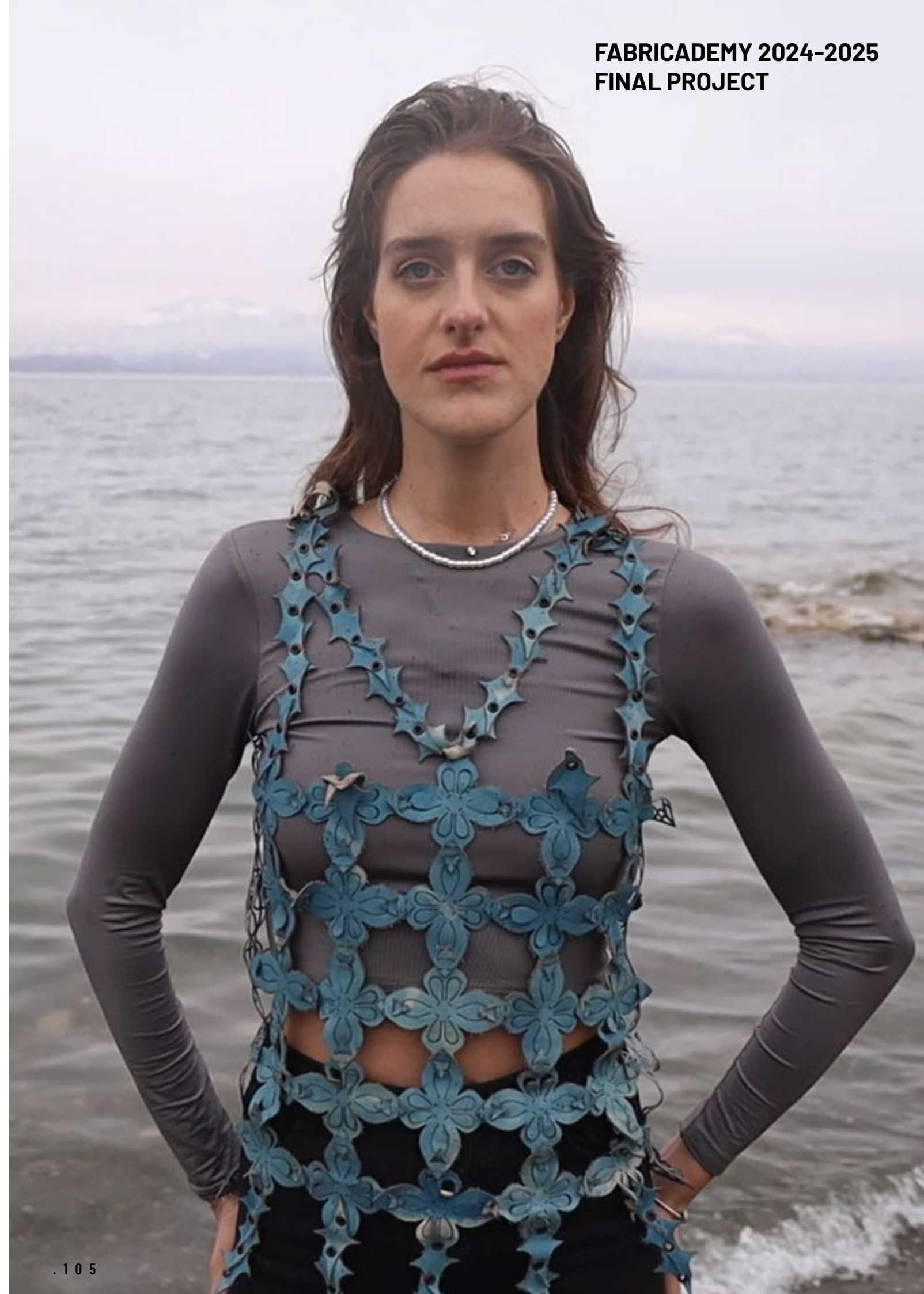
ZERO GEO: ARMENIAN HERITAGE IN SUSTAINABLE FASHION

Christina Avagyan

FABRICADEMY 2024-2025
FINAL PROJECT



Wearable pieces built from traditional Armenian geometric ornaments — symbols rooted in water and earth — reinterpreted through natural dyes, digital fabrication, and zero-waste pattern-making. Each garment wastes nothing and carries something: a visual language inherited from ancient craft, translated into contemporary form. Heritage not preserved behind glass, but worn.



MAGNALIBER: SMART MAGNETIC TEXTILES

Fatemeh Mollaie



Nickel ferrite nanoparticles synthesized directly inside fabric – not applied to the surface, but grown within the fibers themselves – producing textiles that respond to magnetic fields. The process closes its own loop: magnetic powder and crystals harvested from the synthesis wastewater become the raw material for accessories.

Chemistry, fashion, and sustainability not as separate disciplines but as a single practice. A textile that is also a material science experiment, and a waste stream that becomes a design element.



THE SECOND COHORT: CONTINUITY AND REINVENTION

The second Fabricademy cohort, which began in September 2025, brought three new students with backgrounds in fine art and natural dyeing, industrial design and biomaterials, and professional fashion design. Each arrived with a distinct practice and enrolled precisely because the program offered a way to extend that practice in directions it could not otherwise reach.

Early in the cycle, during Open Source Hardware Week, the cohort demonstrated a characteristic Fabricademy quality: resourcefulness in the face of constraint. Working with the instructional team, students modified an unused 3D printer into a machine capable of fabricating soft robotics components — redesigning its extrusion system to bond vinyl layers along G-code paths. The result was not just a modified machine. It was a demonstration that the most important tool in a Fab Lab is not any specific piece of equipment, but the capacity to look at what is available and imagine what it could become.

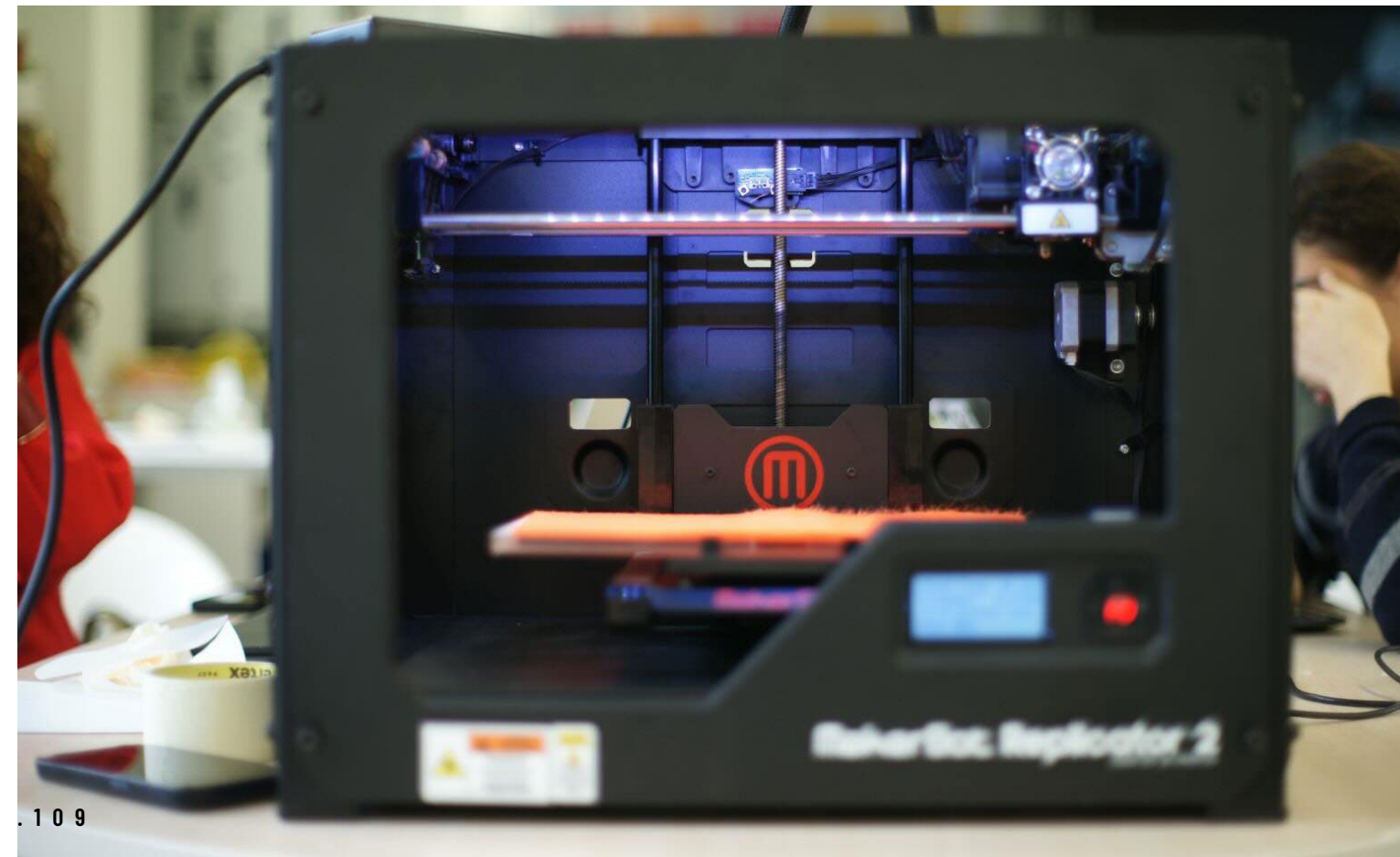
The final projects of the 2025–2026 cohort reflected, as the first cohort's had, the kind of transformation that only becomes visible at the end. A student who arrives with a practice in natural dyeing does not simply add technology to what one already knows — and builds an entire sensory research framework, constructing a color library from plant pigments, designing a handheld perceptual instrument, and arriving at a spatial installation in the Armenian landscape where naturally dyed silk transforms a mirrored structure into a room you inhabit with your body, not just your eyes. A fashion designer who brings years of outerwear construction extends her practice into wearable energy systems — designing a solar garment that harvests sunlight as the wearer moves, with every electronic component made removable so

the object remains genuinely wearable. And a designer working at the intersection of natural forms and kinetic technology creates an installation whose linen textile — treated with biomaterials, shaped by traditional Shibori dyeing — is brought to life by distance sensors and a stepper motor: the piece breathes when someone approaches, and stills when they leave.

Taken together, these three projects continue the argument the first cohort began: that Fabricademy's deepest contribution is not a set of techniques but an expanded conception of what a practice can hold. The 2025–2026 cohort graduated with a 100% completion rate, extending that record across every cycle the program has run at Fab Lab Armenia.



Photos courtesy of Svetlana Khachatryan



FREEDOM TO WALK

Mariam Baghdasaryan

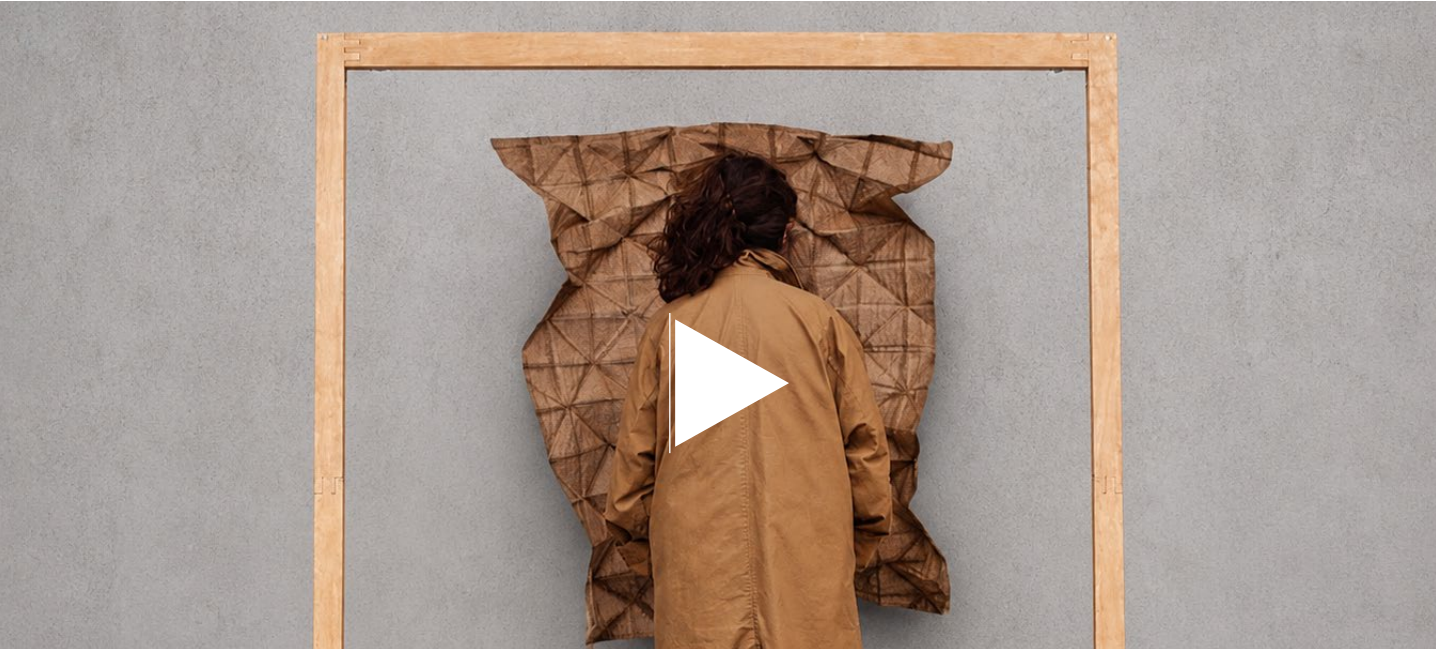


A wearable solar garment that harvests sunlight as the wearer moves — photovoltaic panels, a charging controller, and a power bank built into a water-repellent hooded neck piece. All electronics removable. The garment still wearable.

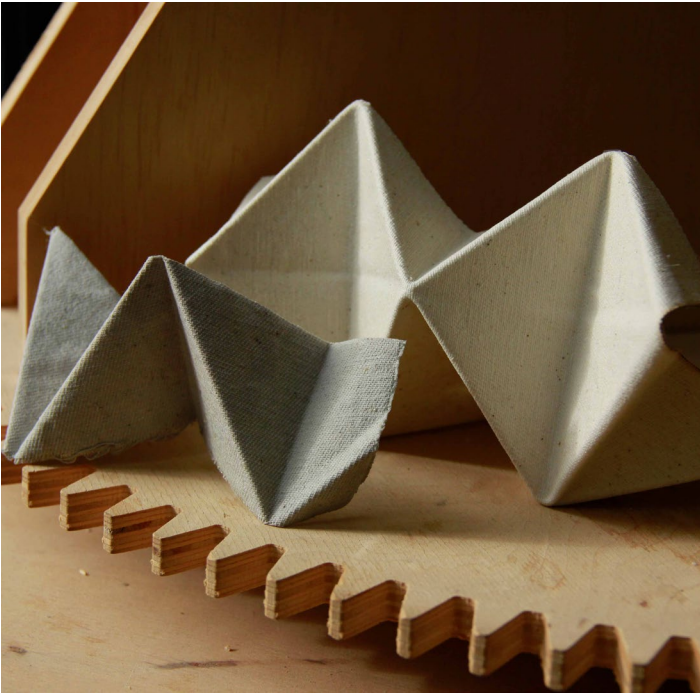
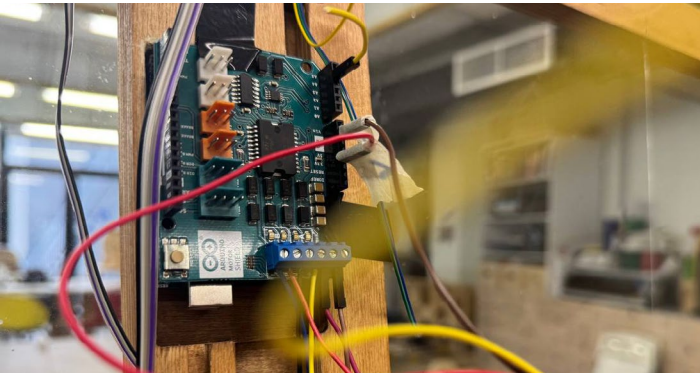


MEONO – TALK OF ART

Lilit Barseghyan



A textile installation that breathes. Linen treated with biomaterials, folded using Shibori dyeing, animated by a stepper motor – triggered by distance sensors when someone approaches. Still when alone. Alive when not.



FABRICADEMY 2024-2025
FINAL PROJECT

AÍSTHIMA

HIDDEN POWERS OF COLOUR

Svetlana Khachatryan



A research framework exploring color as sensory experience – a natural dye library, a handheld Colour Chamber that isolates the viewer from the world, and a spatial installation at Sagmosavank where three monochromatic silk textiles turn a mirrored room into a perceptual capsule.



FABRICADEMY 2024-2025
FINAL PROJECT



Colour Chamber

The Colour Chamber is a light, hand-held device assembled from heavyweight paper, developed to isolate colour from external visual distractions.

Looking inside the chamber eliminates surrounding stimuli and immerses the viewer entirely in the textile's colour, enabling focused sensory observation and a deeper experience of colour as atmosphere and sensation.



FABRICADEMY ALUMNI



➤ **Anoush Arshakyan**
Fabricademy 2024-2025



➤ **Erika Mirzoyan**
Fabricademy 2024-2025



➤ **Svetlana Khachatryan**
Fabricademy 2025-2026



➤ **Lilith Barseghyan**
Fabricademy 2025-2026



➤ **Christina Avagyan**
Fabricademy 2024-2025



➤ **Fatemeh Mollaie**
Fabricademy 2024-2025



➤ **Mariam Baghdasaryan**
Fabricademy 2025-2026

PROGRAM III

FAB LEARNING ACADEMY: THE MULTIPLIER EFFECT OF EDUCATOR DEVELOPMENT

Every teacher who gains fluency with digital fabrication tools and maker pedagogy carries that knowledge into classrooms that may reach hundreds of students each year – and thousands over the course of a career. This is the multiplier at the heart of the Fab Learning Academy.

The Fab Learning Academy (FLA) is not a program about digital fabrication. It is a program about what happens to teaching when digital fabrication becomes part of the educator's toolkit. There is an important distinction. A teacher who has simply learned to operate a laser cutter has a new tool.

A teacher who has learned to design a learning experience around making – who understands constructionist pedagogy, who can connect fabrication to biology, geometry, art history, or chemistry – has a new way of teaching. The FLA is designed to produce the second kind of transformation.

This is why the program's four modules do not simply train participants in digital fabrication techniques. They ask educators to design lesson plans that connect making to their own subjects, test those plans with their own students, document the outcomes, and reflect on what changed in the classroom. Graduation requires not a fabricated object, but evidence of applied learning: a teacher who can demonstrate that her students understand something more deeply because they built something.

FROM CLASSROOM TO FABROOM

The two educators who completed the FLA's inaugural cycle in 2024–2025 Syuzanna Martirosyan and Arevik Mkrtchyan arrived with strong existing practices and a desire to extend them. The program created the conditions for participants to mobilize their existing knowledge and experience through a new framework and set of tools, opening pathways for creativity, collaboration, and innovation.

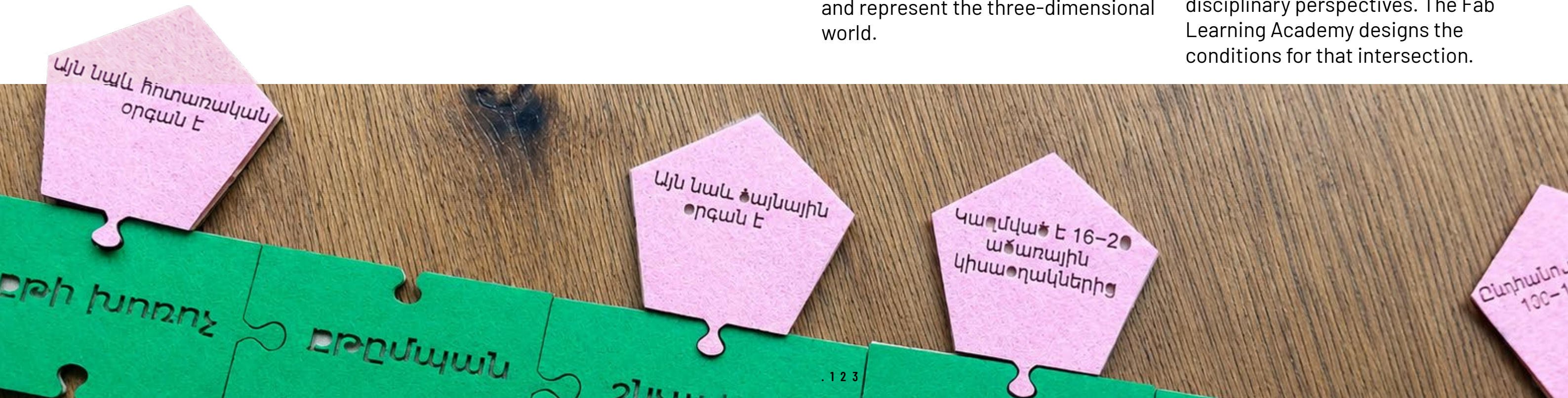
↓ [Interactive Respiratory System Puzzle - Syuzanna Martirosyan](#)

A laser-cut educational model for students aged 11–14, designed to teach the structure and function of the respiratory system through hands-on assembly and discussion.

A biology teacher with a deep understanding of the respiratory system is presented with an expanded set of possibilities when she gains access to digital fabrication tools such as laser cutters. The educator can design a laser-cut anatomical puzzle that her students assemble with their own hands. As they build the model—handling each organ, connecting its parts, and constructing a functioning respiratory system—learning becomes tangible. The teacher then witnesses something remarkable: students not only remember the names of the organs, but also develop a deeper understanding of how the organs relate to one another and work together, because they learned through making, assembling, and experiencing the system for themselves.

A visual arts teacher with a deep understanding of three-dimensional form gains an expanded capacity to make that knowledge visible and tangible when incorporating digital design tools into the teaching. The teacher creates a lesson in which students use 3D modeling software to explore the relationship between light, shadow, and orthogonal projection through physical manipulatives they have designed and made themselves. As students move between the digital and physical worlds—imagining, designing, fabricating, and observing—abstract geometric concepts become concrete experiences. The teacher then witnesses a deeper level of understanding emerge, as students grasp not only the principles of form and projection, but also how those principles shape the way we perceive and represent the three-dimensional world.

These are not hypothetical examples. They are the actual projects produced by the Fab Learning Academy's first round of graduates — projects that are now in use in classrooms at Dilijan Central School, connecting digital fabrication to biology, chemistry, art, and physics in ways that are directly tied to the national curriculum and directly tested with real students. The collaborative projects Syuzanna Martirosyan and Arevik Mkrtchyan developed together — exploring biomaterials in classroom experiments with gelatin and laser-cut molds, and connecting electronics, art, and digital design through the behavior of RGB light — demonstrate something equally important: that the most powerful educational innovations often emerge not from a single specialist but from the intersection of two different disciplinary perspectives. The Fab Learning Academy designs the conditions for that intersection.



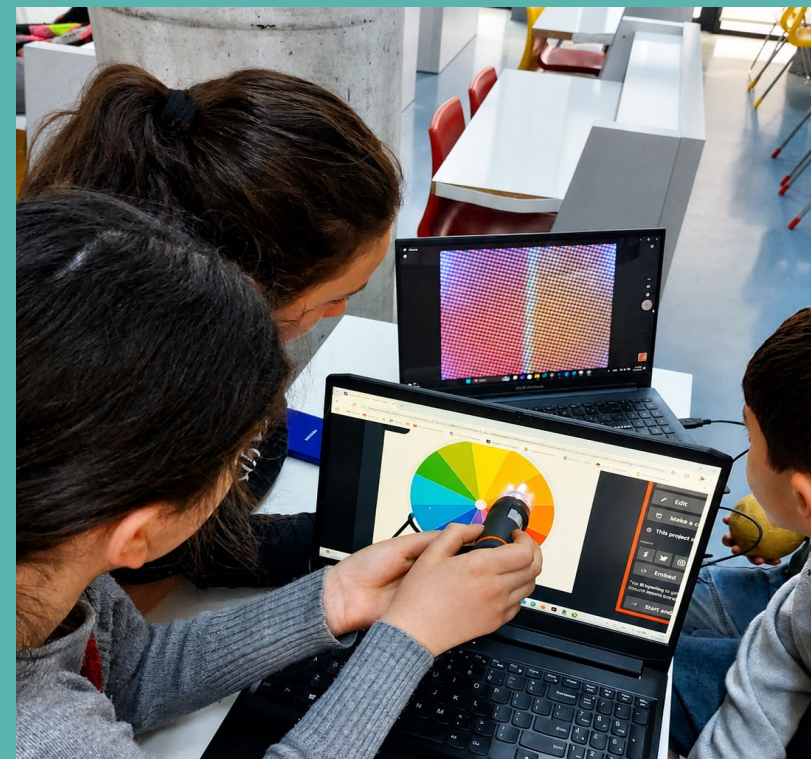


3D Space, Light, and Shadow Lesson Arevik Mkrtchyan

An interactive lesson using physical manipulatives to explore orthogonal projections, form-making, and light behavior, supporting spatial thinking and technical drawing skills.

Visualizing Music - Arevik Mkrtchyan

A cross-disciplinary project connecting music, visual arts, physics, and art history, using light painting techniques to translate sound into visual expression.

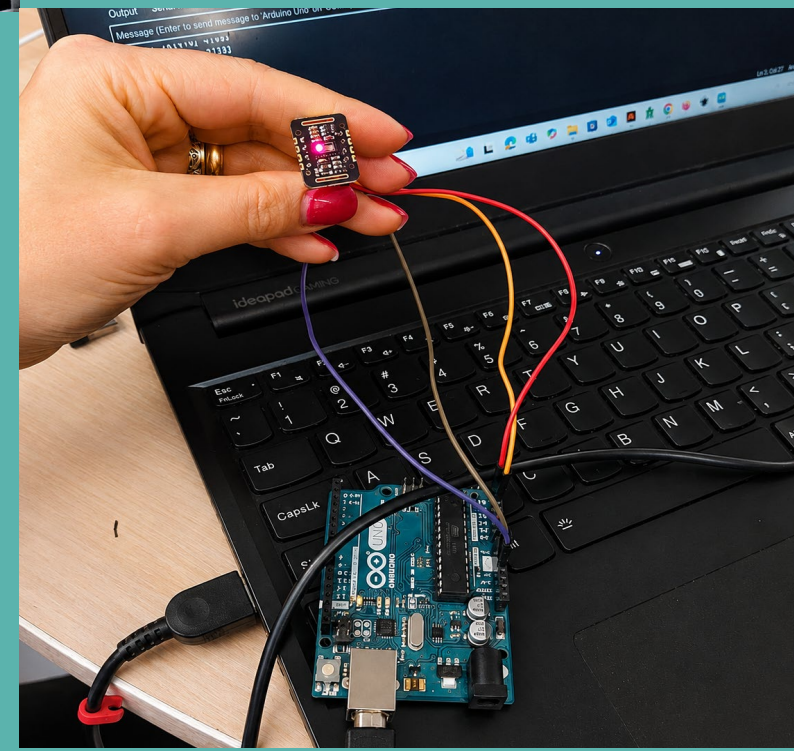


Lighting Up Colors: The Magic of RGB - Arevik Mkrtchyan, Syuzanna Martirosyan

An interdisciplinary project combining electronics, art, and digital design. Students explored color perception using RGB LEDs, simple microcontrollers, and digital tools, merging science with creative experimentation.

Pulse Monitoring with RGB LED - Syuzanna Martirosyan

A biology- and technology-based lesson where students measured heart rate using sensors and visualized real-time data through microcontroller-controlled LEDs.



FROM PERSONAL LEARNING TO COLLECTIVE TRANSFORMATION

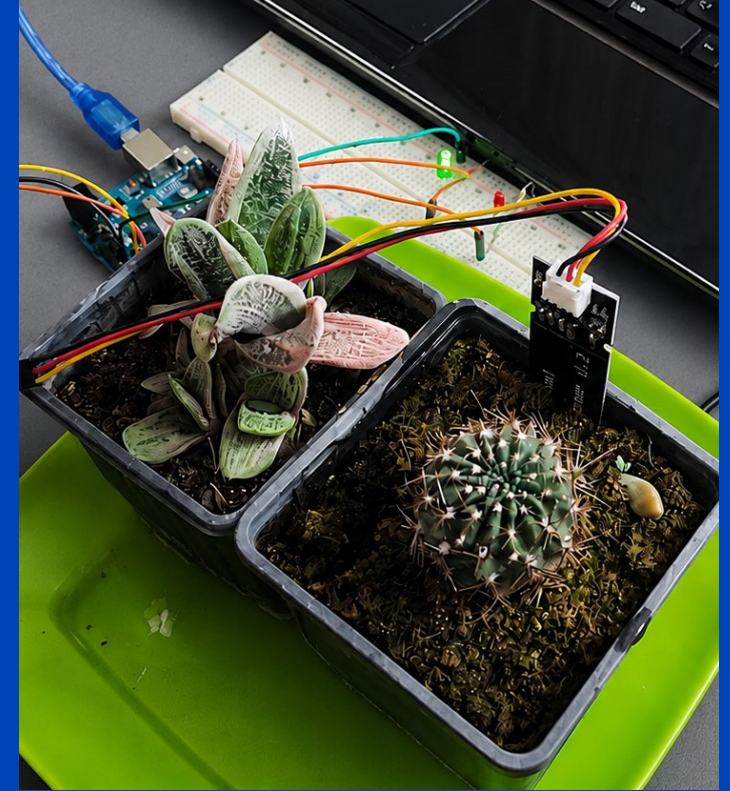
The knowledge generated in one cycle is not held by a single institution. It flows back into the program, strengthens the next cohort of educators, and creates a self-reinforcing pipeline of pedagogical expertise that grows with every cycle.

This multiplier became visible at the national scale in 2025, when one of the Fab Learning Academy first graduates – both a science educator, a Labster program lead – Syuzanna Martirosyan presented at the national AI and Digital Fabrication conference co-organized by Fab Lab Armenia Education Foundation and the Ministry of Education, Science, Culture and Sports of the Republic of Armenia. Addressing Ministry representatives and mentor-school educators, she demonstrated how digital fabrication tools, virtual science laboratories, and constructionist pedagogy can transform classroom practice and deepen student engagement. Her journey—from Fab Learning Academy participant to featured speaker on educational transformation within a single year—provides compelling evidence of what the program is designed to create: not simply educators who adopt new technologies, but empowered leaders who multiply learning opportunities and drive change throughout the education system.

THE SECOND CYCLE OF FAB LEARNING ACADEMY PROGRAM COMPLETED: 2025-2026

The 2025–2026 Fab Learning Academy cycle concluded with Yelena Prokofeva completing all four modules and graduating – achieving a 100% completion rate for the program’s second consecutive cycle. Working with students from grades 5 to 7 at Dilijan Central School, Yelena developed and tested classroom-based projects that connected digital fabrication tools to her students’ existing curriculum, producing documented evidence of applied learning that met the program’s graduation standard.

The completion of this cycle confirms the program’s design is working as intended. Two cycles, three graduates across two years, 100% completion in both – and each graduate subsequently functioning not only as a practitioner in her own classroom but as a contributor to the next generation of the program. The self-reinforcing pipeline the Fab Learning Academy is designed to create is now visible and operational.



↑ **Plant Saver** **Yelena Prokofeva**

A soil moisture monitoring system built with Arduino, a capacitive sensor, and two LEDs – one green, one red. Students learn biology, geology, and basic electronics by designing a device that tells them, simply and directly, when a plant is thirsty.

EMPOWERING TEACHERS AS CREATORS

AI & Digital Fabrication National Conference

Educators came together to learn how to prototype their own classroom tools – laser-cut puzzles, biomaterial experiments, 3D-printed molds – and to explore how AI and digital fabrication can change not just what students learn, but how teachers teach.



Gohar Atsikyan receiving her Labster Mentor Teacher certificate.
Presented by Fab Lab Armenia Education Foundation and the Ministry of Education, Science, Culture and Sports of Armenia.

B00Kmarks for Book Day

Yelena Prokofeva

Students laser-cut plywood frames, mixed gelatin-based biomaterials, pressed in dried flowers and spices, and waited.

Two days later — bookmarks. Given to friends for International Book Day, made from materials that will not outlast the friendship.



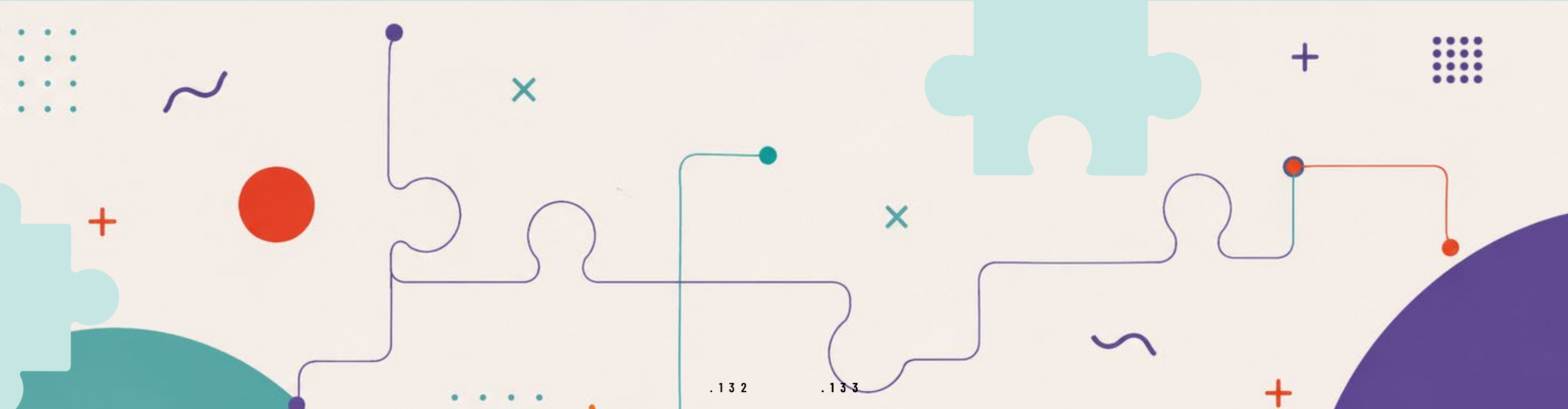
FAB LEARNING ACADEMY ALUMNI



➤ **Syuzanna Martirosyan**
Fab Learning Academy 2024-2025

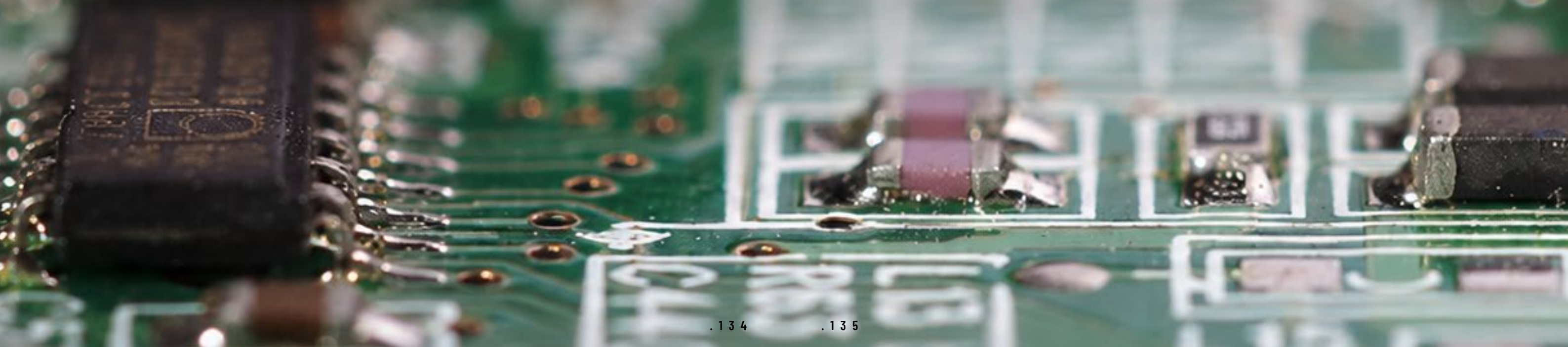
➤ **Arevik Mkrtchyan**
Fab Learning Academy 2024-2025

➤ **Yelena Prokofeva**
Fab Learning Academy 2025-2026





FAB FUTURES





A NEW SERIES OF COURSES FOR THE DISTRIBUTED LEARNING PROGRAM

Fab Futures is a new educational offering from the Fab Foundation that expands the Fab Lab learning model beyond digital fabrication into the disciplines shaping the 21st-century economy. Through intensive one-month courses in areas such as data science, microelectronics, cybersecurity, and entrepreneurship, Fab Futures applies the same distributed, project-based, and portfolio-driven methodology that has made Fab Academy a global reference in advanced learning.

By connecting emerging technologies with real-world problem solving and entrepreneurial practice, Fab Futures enables learners to develop the skills, projects, and documented portfolios needed to participate in the evolving digital and physical economy. Its alignment with Professor Neil Gershenfeld's vision of a distributed incubator (DistInc) adds an important dimension: learners are not only gaining knowledge, but also creating visible evidence of their capacity to innovate, collaborate, and contribute

to a global ecosystem of future makers. Fab Lab Armenia's first engagement with Fab Futures in November 2025 marked an important step in extending its educational mission, confirming the potential of this model to prepare learners for new opportunities at the intersection of technology, creativity, and innovation.



**Fab
Futures**

DATA SCIENCE

CLASS

4 WEEKS | REMOTE

Essential methods for working with data, building
from first principles to practical applications

APPLY TODAY

SUMMER INSTITUTE 2024: THE POWER OF DEEP ENCOUNTER



Some of the most impactful work a Fab Lab can undertake does not always fit within a semester-based curriculum. These projects require focused immersion, collaboration, and dedicated time for co-creation. The Summer Institute is Fab Lab Armenia's way of creating this opportunity — bringing external experts into close collaboration with the lab's team, community, and strategic priorities to develop new ideas, skills, and initiatives.

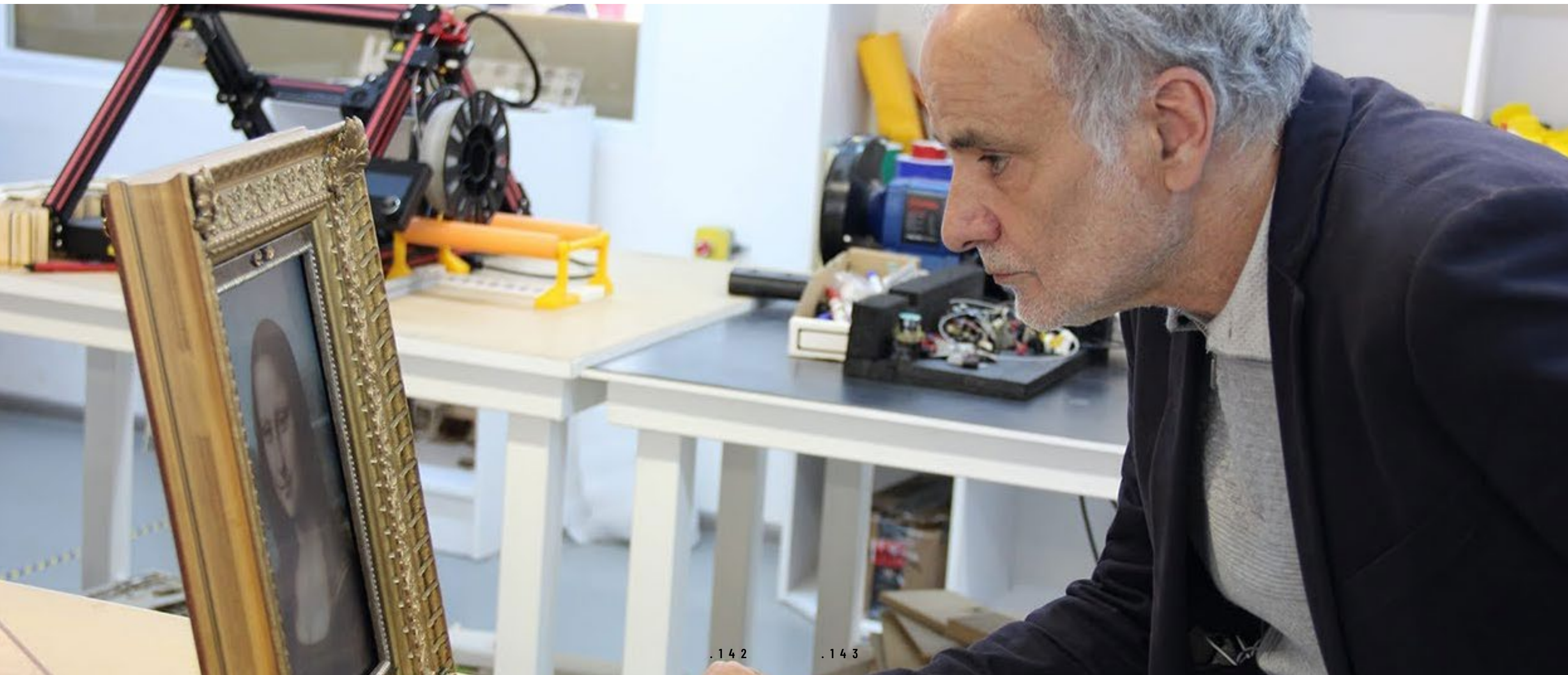
In June 2024, Florent Aziosmanoff — the Paris-based pioneer of Living Art and Ambient Intelligence, whose decades of work have explored how objects and environments can become responsive, intelligent, and increasingly autonomous — joined Fab Lab Armenia for a summer residency. The residency revolved around a fundamental question: how can an artistic or educational institution make digital fabrication genuinely its own, rather than simply adopt its tools and technologies?

At the Gyumri Academy of Fine Arts, Aziosmanoff explored this question with faculty and students, examining how a Fab Lab could become not merely a service facility, but an integral extension of artistic practice and creative inquiry. These discussions became the foundation of a relationship that, over the following eleven months, evolved into the creation of Fab Lab Armenia Gyumri.

In Dilijan, Aziosmanoff collaborated with the Fab Lab Armenia team on the development of new educational

content, helping shape a program framework that has since become central to how the lab introduces digital fabrication to first-time practitioners.

The Summer Institute embodies a principle at the heart of Fab Lab Armenia's most productive partnerships: lasting value is created not only through structured programs, but through the conversations, experiments, and unexpected connections that emerge when the right people have the time and space to collaborate with the lab's team.

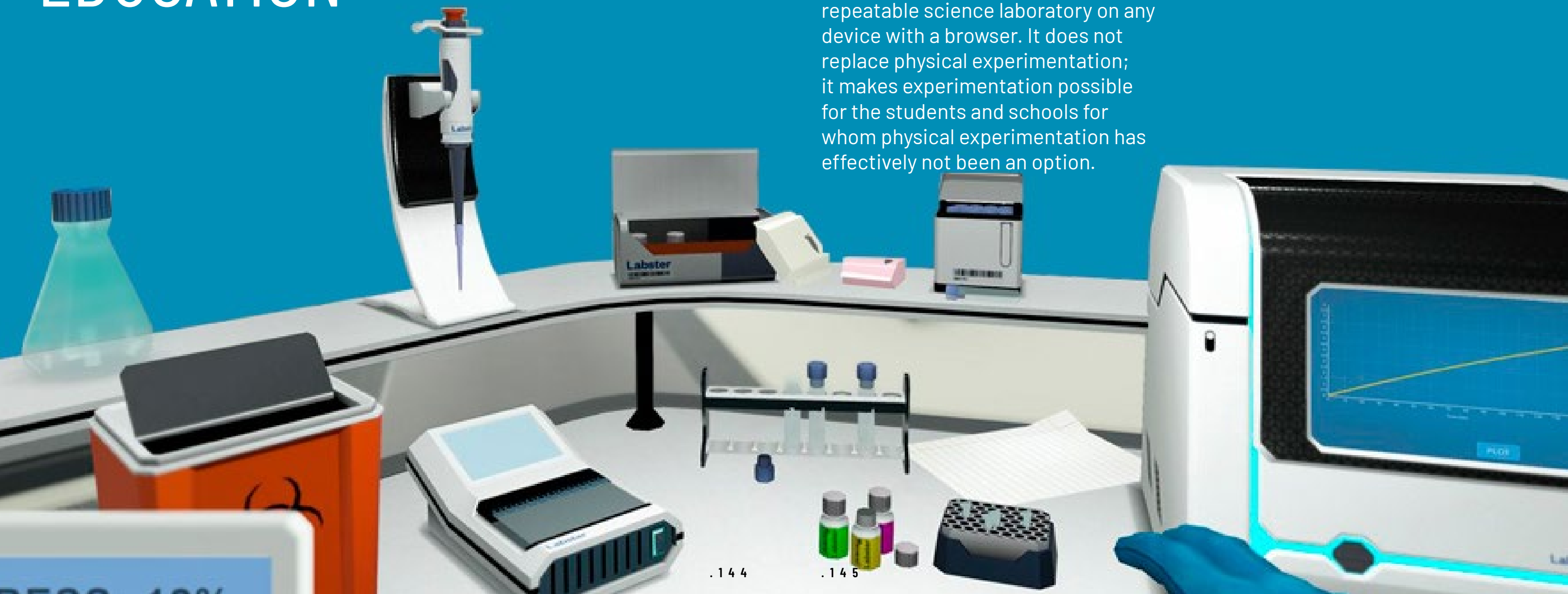


LABSTER VIRTUAL SCIENCE LABS: DEMOCRATIZING THE USE OF SCIENCE LABS TO SUPPORT STEM EDUCATION

Science education has always depended on the laboratory. The ability to observe, to experiment, to test a hypothesis against a physical result – these are not supplementary to science learning. They are its core. Yet for the majority of students in Armenia, as in most of the world, the laboratory is either unavailable or so under-resourced that meaningful experimentation is not always possible.

Labster addresses this structural inequality directly. Its platform of over 100 virtual laboratory simulations – spanning molecular biology, chemistry, physics, ecology, and more – puts a fully equipped, endlessly repeatable science laboratory on any device with a browser. It does not replace physical experimentation; it makes experimentation possible for the students and schools for whom physical experimentation has effectively not been an option.

The pedagogical value of Labster is about experiential learning. What teachers and students consistently report is not that the simulations look realistic – it is that they allow the kind of trial-and-error learning that physical labs rarely permit. A student who makes a mistake in a chemistry simulation can try again, immediately, without wasting materials or creating safety hazards. The simulations' gamified structure – animations, 3D interactions, instant feedback – keeps learners deeply engaged. And critically, the ability to conduct virtual experiments when physical labs are unavailable has proven not to be a compromise, but an expansion of what science learning can look like.





Marieta Melikyan
Physics Teacher



Lesson Plans

Access ready-to-use lesson plans, designed by teachers, that seamlessly integrate Labster simulations. Aligned with Armenia's curriculum, these resources empower educators to enhance STEM education through interactive, hands-on learning.

Physics

Geography

Chemistry

Biology

Mentors

Learn from peer educators experienced in teaching with Labster. Mentors provide practical strategies for integrating simulations into lessons, fostering engagement, and aligning activities with learning goals.

Physics Teacher

Mariam Sargsyan

Mariam is a physics teacher who teaches at Hrazdan High School No. 1, Jiliza High School, and the European School in Armenia. In 2020, she was awarded a second-degree qualification for teachers in general education institutions by the Minister of Education, Science, Culture, and Sports of Armenia, a testament to her commitment to educational excellence.

Biology Teacher

Gohar Atsikyan

Gohar, a biology teacher at Gyumri High School No. 1, has 37 years of experience. Trained in ICT tools and 21st-century skills, she holds a first-level qualification in general education and has completed teacher certification training. As a Labster Virtual Labs mentor, she helps teachers integrate virtual simulations into biology lessons, believing Labster provides a secure and accessible way to explore complex biological systems.

SUBJECT: PHYSICS
TEACHER: MARIETA MELIQYAN
GRADE: 8
SEMESTER: 1

DOWNLOAD LESSON PLAN

Transformation at Scale

The 2024–2025 years marked the Labster program's most ambitious and productive cycle to date. Across both years, **the program reached a combined total of more than 900 teachers granted platform access, approximately 400 participating in structured introductory training, and an estimated 3,000 students who experienced virtual experiments for the first time.** These registrations and participations do represent a genuine shift in how STEM education is being delivered across Armenia's schools, including in rural and border communities where access to physical laboratory infrastructure is most limited.

The training program has been built around three interlocking sessions: platform navigation and simulation integration, technical troubleshooting and support, and lesson plan development aligned to the Armenian national curriculum. This structure ensures that participation moves from orientation to application – that teachers are not simply introduced to a tool, but supported in building the pedagogical practice to use it effectively. By the end of the 2025, 178 lesson plans integrating Labster simulations had been submitted by Armenian educators. Each one is a concrete demonstration of professional transformation.



The Mentor Network: Peer Learning

The architecture that makes the Labster program so engaging and durable is its mentor network: six experienced educators, recruited from the Spring 2024 cohort, who served throughout these years as both technical guides and living proof of what Labster-integrated teaching looks like in practice.

Varduhi Simonyan, Shushanik Gasparyan, Lilit Antanosyan, Nelli Asoyan, Mariam Sargsyan, and Gohar Atsikyan brought their own classroom experience to bear on the challenges

of new participants, offered practical guidance, reviewed submitted lesson plans, and helped troubleshoot the obstacles that stand between exposure to a platform and confident classroom use.

The mentor model embodies the same principle that animates all of Fab Lab Armenia's educational programs: the most powerful knowledge building happens peer-to-peer, between people who share a context. A physics teacher

in Gyumri who has run Labster simulations with her students is a more convincing advocate for a physics teacher in Hrazdan than any promotional material could be. These six mentors were formally recognized at the national AI and Digital Fabrication conference in September 2025 – honored before Ministry representatives not only as qualified practitioners, but also as leaders of a new educational culture.



WHAT STUDENTS EXPERIENCE: EVIDENCE FROM THE CLASSROOM



Survey data collected from teachers, combined with direct testimonials gathered through training sessions, provides a consistent picture of what happens when students encounter Labster simulations for the first time. The reactions are remarkably similar across different schools, subjects, and grade levels: students describe the experience as immersive, surprising, and fundamentally different from any science learning they have gone through before.

“For the first time, I saw how a cellular process actually happens from the inside. Scientific processes that previously seemed only theoretical become visible, in motion, and fully understandable through simulation. They are especially amazed at how much detail can be studied in molecular interactions or microscale changes without actually visiting a lab.”

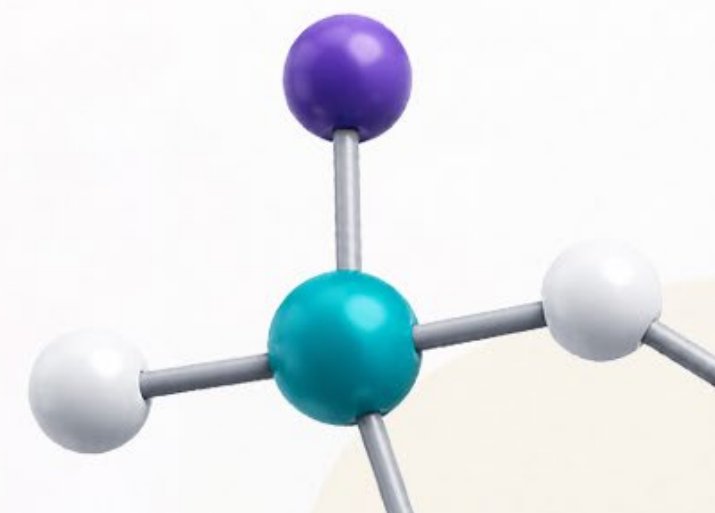
— Shushan Barseghyan, Teacher,
Hayanist Middle School

“The most surprising thing for students was that in case of incorrect answers, the simulation allows them to try again with the opportunity to learn — not just by showing the mistake.

This opportunity to learn from mistakes is perceived very positively by students.”

— Narine Manukyan, Teacher,
Hrazdan Anania Shirakatsy Primary School

These responses describe a shift in the student’s relationship to scientific knowledge — from abstract content to be memorized, to observable, manipulable process to be understood. The simulations do not merely illustrate science. They allow students to do science within the constraints of their school’s available infrastructure. In schools without laboratories, that is not a small difference. It is the difference between science as subject and science as practice.



NATIONAL INTEGRATION: FROM CLASSROOMS TO POLICY

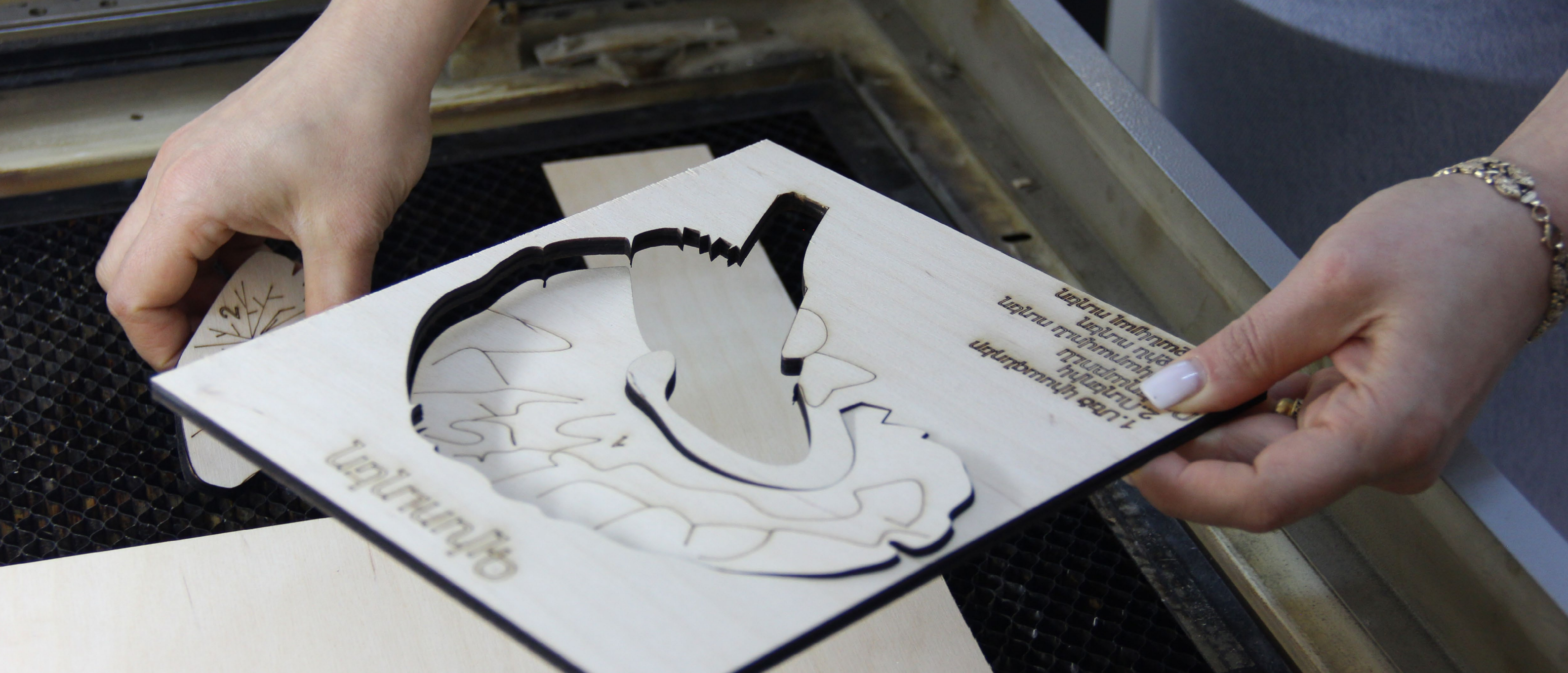
Physics Teacher Mariam Sargsyan with Students Irma Zohrabyan, Menua Margaryan, and Artur Nazaryan - Digitec24.

Demonstrating Labster simulations to Tamara Sargsyan, Head of the General Education Department, Ministry of Education, Science, Culture and Sports – students showing a Ministry official, firsthand, how virtual laboratories work in their classroom.

The Labster program's integration into national education policy moved forward significantly in 2024–2025. Participation in Digitec Armenia 2024, within the Ministry of Education's pavilion, placed the program in direct conversation with policymakers, technology professionals, and education reform advocates.

Three mentor teachers and six student volunteers demonstrated simulations to a broad public audience, making visible the classroom outcomes that statistical reports can only approximate. At the Policy Dialogue on Education Reforms in Armenia, Fab Lab Armenia presented the case for virtual laboratories as a structural solution to the resource inequality that limits science education in rural and border communities.





LOOKING AHEAD: A SUSTAINABLE ECOSYSTEM

The trajectory of the Labster program is self-reinforcing. Each year's cohort of trained educators produces a new base of experienced practitioners who can support the next. The mentor network, the national website — now live with a searchable lesson plan repository, mentor profiles, and training registration portal — the certificate structure, and the growing archive of 178 Armenian-curriculum-aligned lesson plans are all components of a system that grows more robust as more educators participate.

. 156

Two initiatives will define the program's next phase: certificative training events that sustain the community's momentum and formally recognize educator achievements, and hybrid FabLab + Simulation workshops that pair real laboratory experiments with their Labster counterparts. A student who conducts an electroplating experiment with physical equipment and then engages with the virtual simulation to analyze outcomes and reflect on procedural differences is not doing supplementary learning.

. 157

They are doing the kind of integrative, reflective science practice that the best-resourced schools aim to produce. That is the standard the program is working toward.

PART TWO — COMMUNITY OUTREACH AND IMPACT

The formal programs described in Part One are the deepest and most sustained expressions of Fab Lab Armenia's educational mission. Fab Lab Armenia's impact extends far beyond enrolled students and formal curricula. The true strength of a Fab Lab lies not only in what it teaches, but in the ecosystem it creates — the collaborations, experiments, communities, and opportunities that emerge around it.

The work described in this section — school collaborations, community workshops, Kids Lab, and the open Saturday Community Days program — reflects a strong dimension of that mission: the conviction that digital fabrication belongs not only to those who can commit to a months-long program, but to anyone with a question worth asking and an idea worth building.

The impact of Fab Lab Armenia is revealed in moments of transformation: a teacher arrives with a collection of fragile cardboard puppets and leaves having personally

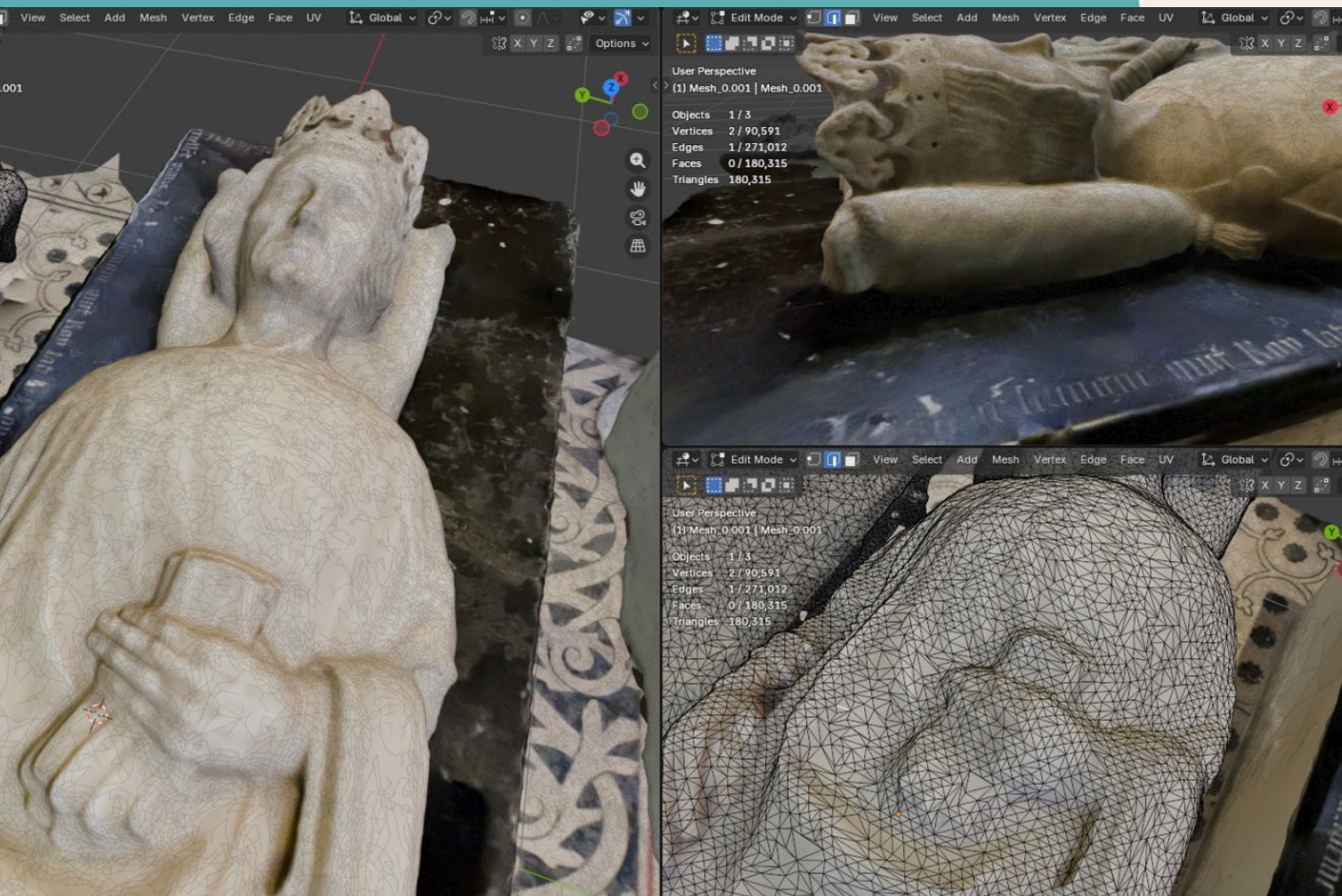
imagined, designed and fabricated award-winning laser-cut new wooden versions. A fourth-grader begins by digitizing a simple hand drawing, then moves on to creating a ship illustration, a puzzle, and a money-saving box — discovering that at nine years old, space between imagination and realization can be bridged. An engineer comes to a Saturday workshop to design furniture for his new restaurant and leaves with something he did not expect: the realization that making is a source of creativity, satisfaction, self-discovery and possibilities to expand.

These are not marginal outcomes. They are the everyday work of a Fab Lab functioning as it should — as an open, accessible, generative space for the community it lives within.



I. TEAM PROJECTS: WHEN MAKING IS RESEARCH IN ACTION

The culture of making at Fab Lab Armenia extends beyond the programs it delivers – it is embedded in the way the team works. Team members are not only educators, but also makers, innovators, and researchers who continuously explore new ideas and technologies. Their independent projects become both manifestations of this culture of experimentation and strategic investments in the lab's future capabilities.



The Living Carpet – an ongoing research initiative by Elen Grigoryan, developed with the guidance of Florent Aziosmanoff on the theory of behavioral art and with technical contributors from Hackster.io, Sseed Studio, and specialists in TinyML – is the most ambitious of these projects. It asks a question that sits at the precise intersection of Armenian heritage and contemporary technology: can a carpet be alive? Can a textile respond to its environment, carry embedded intelligence, and create a living interaction between object and person? The project draws on centuries of Armenian weaving tradition as a cultural foundation

for a technologically sophisticated research program. It is the kind of work that only this lab, in this place, with this team, is positioned to do. The digital reconstruction of the tomb of King Leon V of Armenia – scanned at the Basilica of Saint-Denis in Paris through collaboration with Fab Lab Sorbonne, and reconstructed digitally at Fab Lab Armenia – demonstrates a different dimension of what the lab's tools can serve: cultural heritage preservation. A 3D model that makes an important element of Armenian history accessible for educational use, exhibition, and potential reproduction – a small project in scale, but not in meaning.



BioWallets

Erika Mirzoyan

Card holders made from a custom biomaterial recipe – durable, naturally pigmented with clay, and entirely plastic-free. Wearable proof that sustainable materials can be both functional and considered in their design.





Fireplace located inside Villa3 Community Hub in Dilijan, serving as a central gathering space.

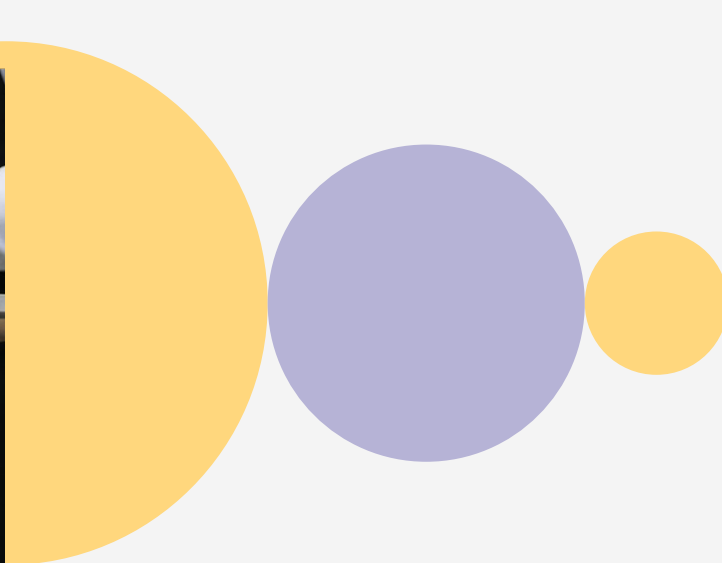
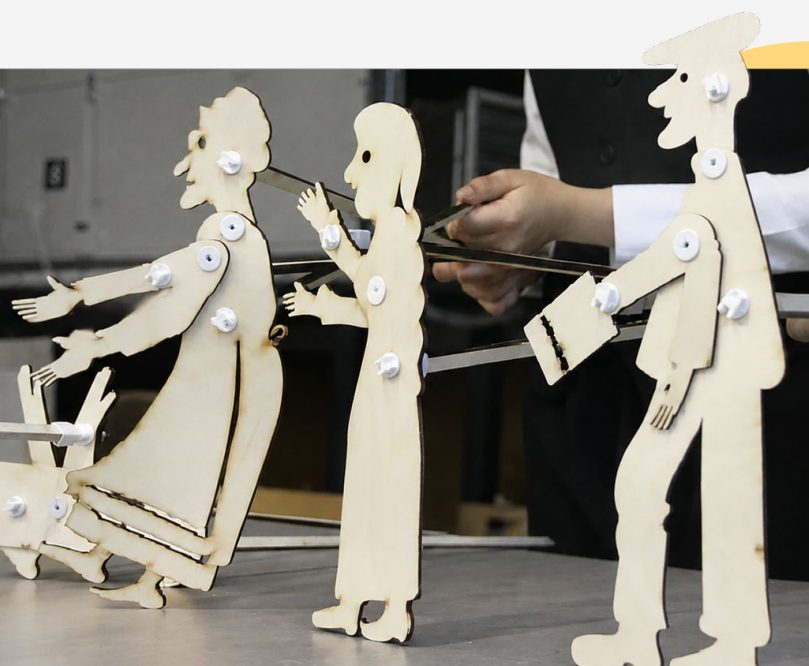
The Green Rock collaboration — in which Areg Khalatyan's large-scale 3D printing work, observed during a site visit by the company's CEO, led directly to a commission to design and fabricate custom architectural cladding and furniture — represents yet another dimension: the lab's capacity to generate sustainable revenue through applied fabrication. A commercial partnership initiated by the quality of visible work, without a pitch or a proposal. This is the model the lab is developing as one pathway toward financial sustainability — not at the expense of its educational mission, but in direct expression of it.



II. SCHOOLS AS PARTNERS IN LEARNING

Fab Lab Armenia's collaborations with schools reflect a clear philosophy: the lab's role is to inspire exploration, heads-in and hands-on and enable a transformation. When students from Haghartsin Middle School brought their cardboard shadow puppets to the lab because the puppets broke after a single festival performance, the outcome was beyond repair. It was a complete redesign — laser-cut plywood, 3D-printed articulation joints, durable materials chosen for longevity rather than convenience — undertaken by the students themselves, with the lab's team as technical mentors. The class subsequently won the Best Directed Shadow Theatre Play award at the festival. The puppet project became a project in digital design, material science, and structural engineering, disguised as a prop-making exercise.

This pattern repeated itself across dozens of collaborations in 2024 and 2025. Students from Dilijan School No. 4 who conducted field research at historic monasteries, documented traditional khachkar ornamental patterns, and then translated that research into 14 laser-cut plywood khachkars — gifted to their teachers — were not doing a craft project. They were doing cultural research, digital design, and precision fabrication, connected by a genuine subject: their own heritage. A chess teacher who returned for a second collaboration to produce a board engraved with a grandmaster's portrait — signed by all tournament competitors and presented as a commemorative gift — was not using the lab as a print shop. He was using it as a partner in creating something meaningful for his community.



The human body system puzzles now living in a biology classroom, the Pythagorean Theorem sand models presented at the Pedagogical Ideas Festival in Ijevan, the 17 engraved wooden keys given to teachers as year-end gifts by a class of parents — these are not illustrative examples of output. They are evidence of what happens when students and educators are given access to fabrication tools alongside genuine mentorship: learning deepens, creativity expands, and the school's relationship with knowledge becomes more active, more physical, and more lasting.



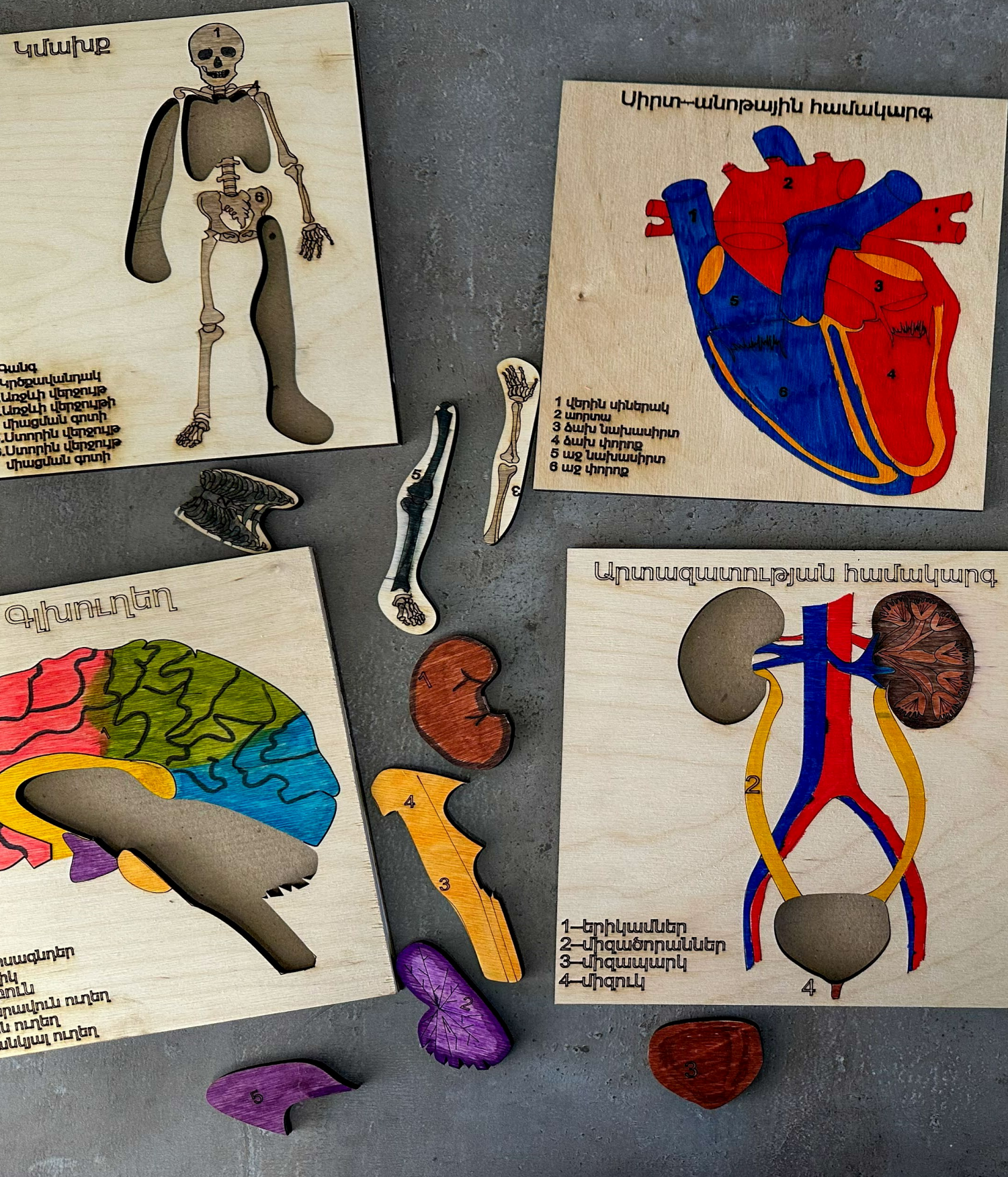
Chess Teacher Vahram Pambukhchyan Fabricating the Tournament Chessboard

Across 2024 and 2025 combined, more than 200 students participated in hands-on digital fabrication projects at Fab Lab Armenia, contributing to the completion of over 36 educational and community-centered projects. These numbers represent more than participation statistics.

They reflect a growing shift in how schools approach learning itself: not as passive consumption of information, but as a process of experimentation, prototyping, collaboration, and making.

↓ Joseph Emin's Travels - History Class, Dilijan School No. 4

History teacher Arevik Abgaryan and her students created an interactive map documenting the journeys of 18th-century Armenian freedom fighter Joseph Emin. Selected as one of 100 national winners in the Visual Armenia Development Foundation competition – earning the school a smart screen.



↑ Human Body Systems Puzzle - Biology Class, Dilijan Central School

Guided by biology teacher Lilia Aloyan, students brought anatomy into their hands through six laser-cut plywood puzzle boards – one for each body system.

↓ Oil Pumping System Prototype - Geography Class, Dilijan Central School

Guided by geography teacher Armen Amirkhanyan, students built a mechanical model demonstrating soil layers and the operation of a pumping jack as part of the annual Lab Box initiative, then traveled to other schools to present it to their peers.



. 170

↓ Pulleys - Physics Class, Dilijan Central School

Seventh graders built functional pulley systems under the guidance of physics teacher Narine Hovhannisyan – translating classroom theory into a mechanism that actually lifts.

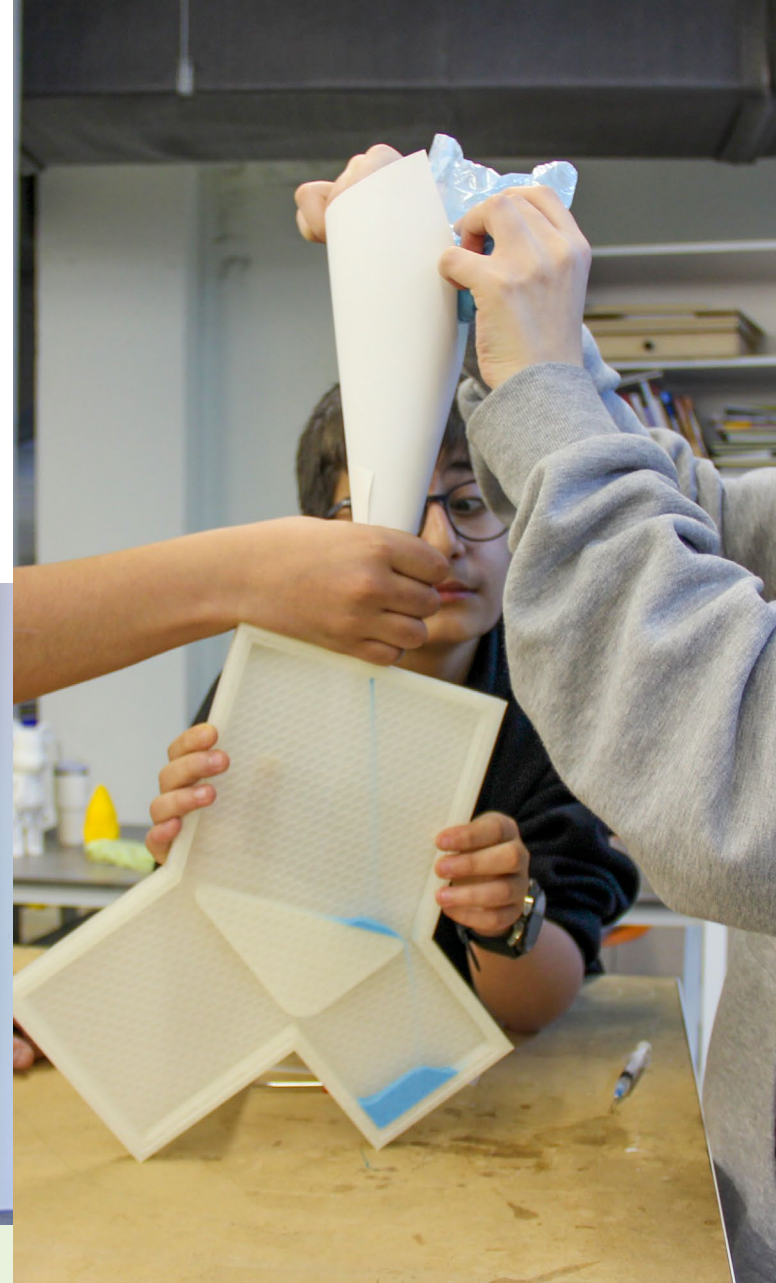


. 171



Da Vinci's Bridge - Physics Class, Dilijan Central School

Physics teacher **Narine Hovhannisyan's** students built Leonardo da Vinci's self-locking bridge from wooden sticks – no glue, no fasteners. Geometry, structural reasoning, and persistence, all in one object.



↑ **Pythagorean Theorem – Rotating Sand Model. Mathematics Class, Dilijan Central School**

Math teacher **Zhanna Mejlumyan's** students designed and 3D-printed a rotating model that demonstrates the Pythagorean Theorem through the movement of sand – two smaller containers emptying into one larger one as the structure turns.



↑ **Inspired by Ervand Kochar - Art Class, Dilijan School No. 4**

Art teacher **Narine Grigoryan** and her students translated Kochar's sculptural language into laser-cut plywood – producing three-dimensional wooden compositions where traditional Armenian art meets digital fabrication.

III. WORKSHOPS: WHERE POSSIBILITY BECOMES TANGIBLE

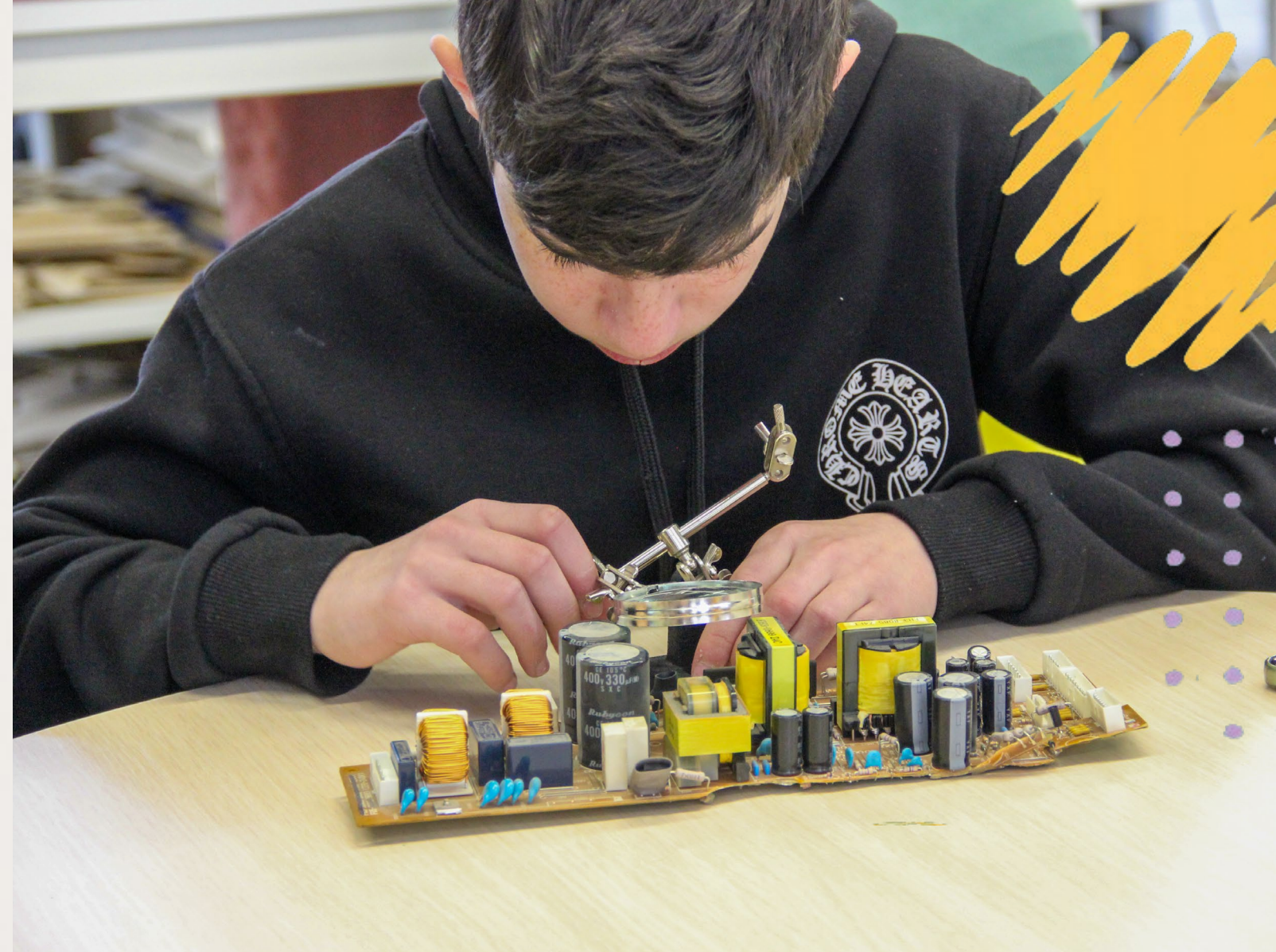
For many people who encounter Fab Lab Armenia, a workshop is the beginning of a relationship. It is the moment when digital fabrication moves from an abstract idea to a lived experience — when a person sees an idea or a design become a physical object: a laser-cut earring, a soldered LED circuit, or a vinyl sticker designed on a computer and produced within minutes.

This first encounter matters. The experience of making something from nothing, of using a machine for the first time, and of completing a project in a single afternoon can fundamentally shift a person's perception of what is possible. It may seem like a small achievement, but it creates a lasting impression: a first taste of agency, creativity, and technological confidence. For many, that moment becomes the seed of deeper exploration, continued learning, and future engagement with the Fab Lab community.

In 2024, Fab Lab Armenia delivered 18 workshops to 250 participants ranging from age 5 to over 50.

The Fab ECHO format — a program that opened the Fab Academy weekly curriculum to community members every Saturday from February to May — made a particular kind of learning available to 114 young people from schools across Armenia: the experience of learning alongside enrolled Fab Academy students, in real time, on real assignments. Not a simplified version of the curriculum — the curriculum itself, accessible at whatever depth each participant could engage with.

In 2025, the workshop range reached 147 participants across 13 programs. A full-day program for 16 professionals from the Information Systems Agency of Armenia moved through six parallel fabrication stations and left participants with a working understanding of digital fabrication's range — from soft robotics and circular fashion to CNC machining and digital twin creation. A workshop day for 31 Yandex Armenia employees produced, in addition to the expected workshop outcomes, a set of wooden chairs that were donated to a local kindergarten three months later — a community benefit generated by a corporate engagement.



A community workshop series initiated by UWC Dilijan students through the CAS program, bringing digital fabrication to children and youth from Dilijan aged 9 to 16. Laser-cut bracelets, vinyl stickers, coasters, and more – run each academic year by a rotating group of UWC students.



↓
Puzzle-making and construction activities for children from ABC Kindergarten. A first encounter with making for participants between the ages of 3 and 6.



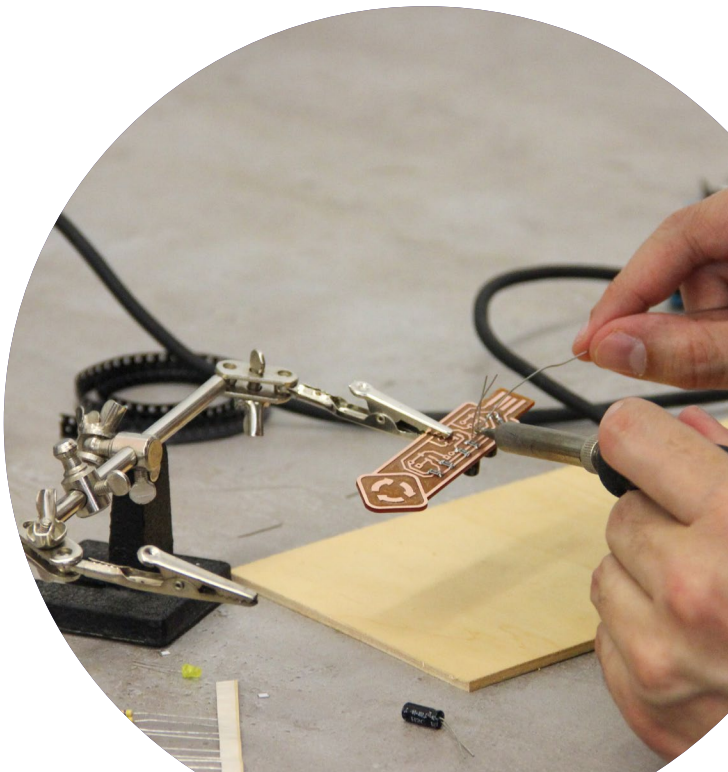
← 40 students from the CaseKey competition spent an hour at the lab before the end of their day – choosing between circular fashion and laser cutting, flexible 3D printing on textiles, and CNC milling.



In 2025, the workshops reached 147 participants across 13 programs. A full-day program for 16 professionals from the Information Systems Agency of Armenia moved through six parallel fabrication stations and left participants with a working understanding of digital fabrication’s range – from soft robotics and circular fashion to CNC machining and digital twin creation. A workshop day for 31 Yandex Armenia employees produced, in addition to the expected workshop outcomes, a set of wooden chairs that were donated to a local kindergarten three months later – a delayed, unexpected, entirely real act of community benefit generated by a corporate engagement.

→
A full-day introduction to digital fabrication for 16 professionals from the Information Systems Agency of Armenia. Six parallel workshops covering laser cutting, soft robotics, electronics, CNC machining, digital twins, and the physical-digital connection, each one hands-on.

↑ Native American Flute Workshop – Dr. Clint Goss and Vera Shanov Participants from across Armenia – musicians, teachers, students, children – drilled, assembled, and played their own Native American flutes in a single day. Each flute left with its maker. Each maker left with a song.





How to Build a Digital Twin of a Physical Object

A four-session workshop taking participants from hand-sculpted object to 3D scan, digital model, printed replica, and electroplated surface finish. Craft and fabrication as a single continuous process — for artists, designers, and anyone curious about where the two meet.



Parametric Bodies and Modular Design in Fashion Fabrication

Four sessions at the intersection of fashion, sustainability, and digital fabrication. Participants built digital mannequins, designed modular garment systems, and prototyped with leather, textiles, and 3D-printed structures – exploring circular design not as a concept but as a making practice.



Photos courtesy of Yandex Armenia

. 1 8 2



Yandex Armenia At Fab Lab Armenia

A full-day workshop program for Yandex Armenia employees — six parallel stations covering biomaterials, CNC woodworking, electronics, digital twins, soft robotics, and vinyl cutting. The wooden chairs participants began that day were completed by UWC Dilijan students and donated to Dilijan Kindergarten No. 3.

. 1 8 3

Living Echoes of Artsakh: Preserving Memory Through Evocative Objects

The “Living Echoes of Artsakh” workshop, initiated in December 2025. In the aftermath of the 2023 displacement of more than 120,000 Armenians from Artsakh, the Fab Lab Armenia began exploring how digital fabrication, AI-assisted tools, and storytelling could help displaced individuals document, reconstruct, and preserve personal and family histories.

At its core, the project is an exploration of how an evocative object — an object connected to memory, place, identity, and emotion — can become a vessel for expressing experiences that are often difficult to articulate. Through the process of recreating meaningful objects, spaces, or images, individuals are given a way to develop narratives around loss, displacement, belonging, and resilience. These objects do not simply preserve what was left behind; they preserve the perspectives of the people who lived those experiences, allowing history to be recorded through personal memory rather than only through official accounts.

A first prototype session featured a 14-year-old student, Vruyr Vardevanyan from Stepanakert, who is now living in Dilijan. He used AI image tools to reconstruct his grandfather’s garage from a single photograph he had taken before being forced to leave Artsakh. The garage where he spent so much time with his grandfather making things, can no longer be visited. Yet through digital reconstruction, it can be preserved, shared, and carried forward as a personal artifact of memory.

“Living Echoes of Artsakh” expands Fab Lab Armenia’s mission beyond making objects — using technology to preserve memory, express lived experiences, and transform digital fabrication into a tool for remembrance and cultural continuity.



IV. KIDS LAB AND COMMUNITY DAYS: SELF-DIRECTED MAKING



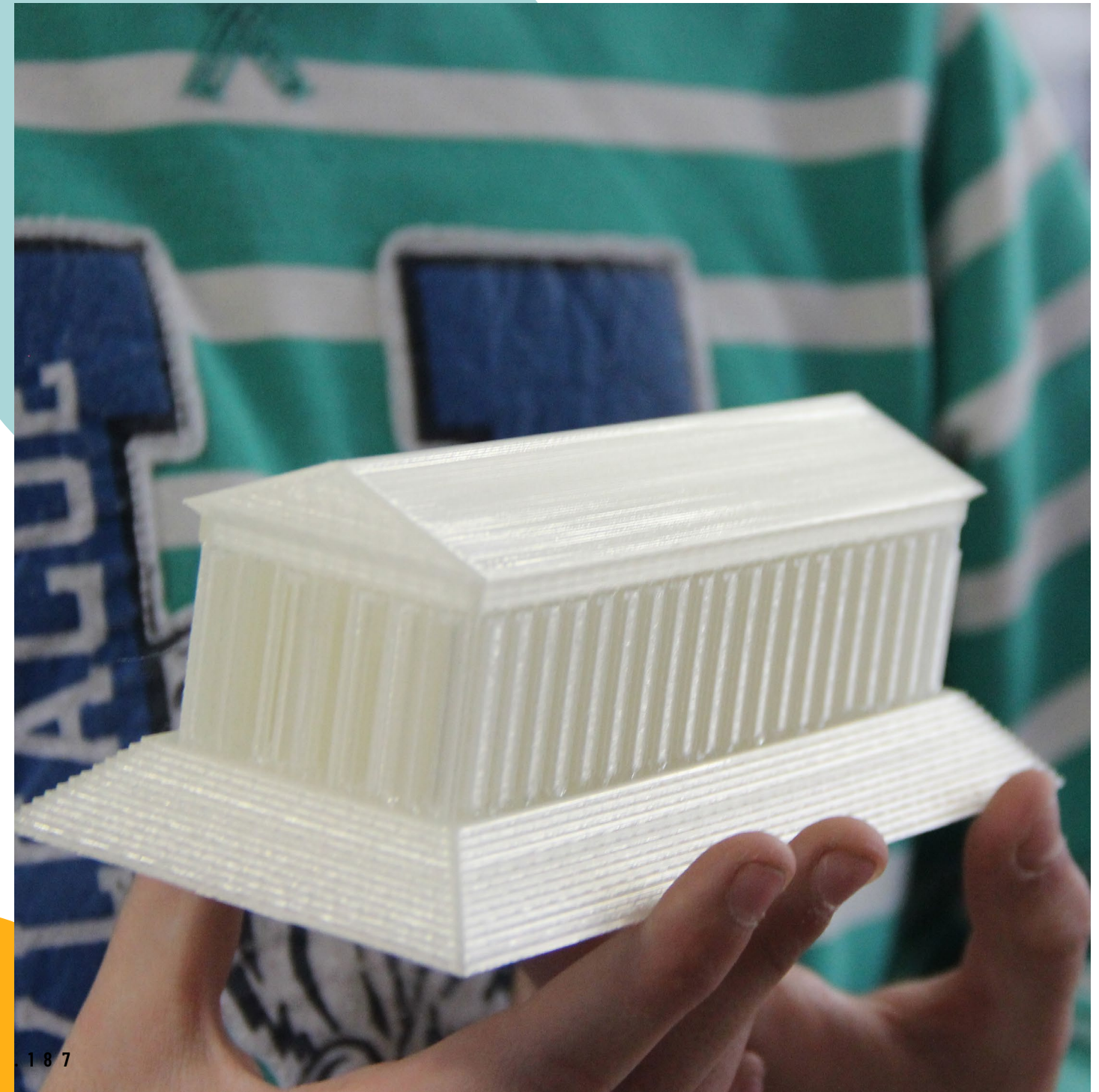
Kids Lab and Community Days have been designed to make space for the learning that individuals initiate themselves — students who decide to complete a school assignment using digital fabrication tools, community members who arrive with a project and the willingness to figure out how to build it.

The Kids Lab projects — a thermo box for a physics assignment; a historical statue reconstructed from an image using AI tools and 3D-printed for a history assignment; a model demonstrating the Pythagorean Theorem; mathematics board games and family trees laser-cut from plywood; and geometric solids designed in CAD — were initiated not by teachers or the lab team, but by the students themselves. The common thread is not the subject matter, but the decision: the decision to bring a school question into a fabrication lab and use its tools to create an answer that can be physically held. Across 2024 and 2025 combined, Kids Lab supported 16 student-led

projects involving 38 students. These projects demonstrate how digital fabrication can shift learning from abstract understanding toward active experimentation, where students are not simply studying concepts but materializing them through design, prototyping, and fabrication.

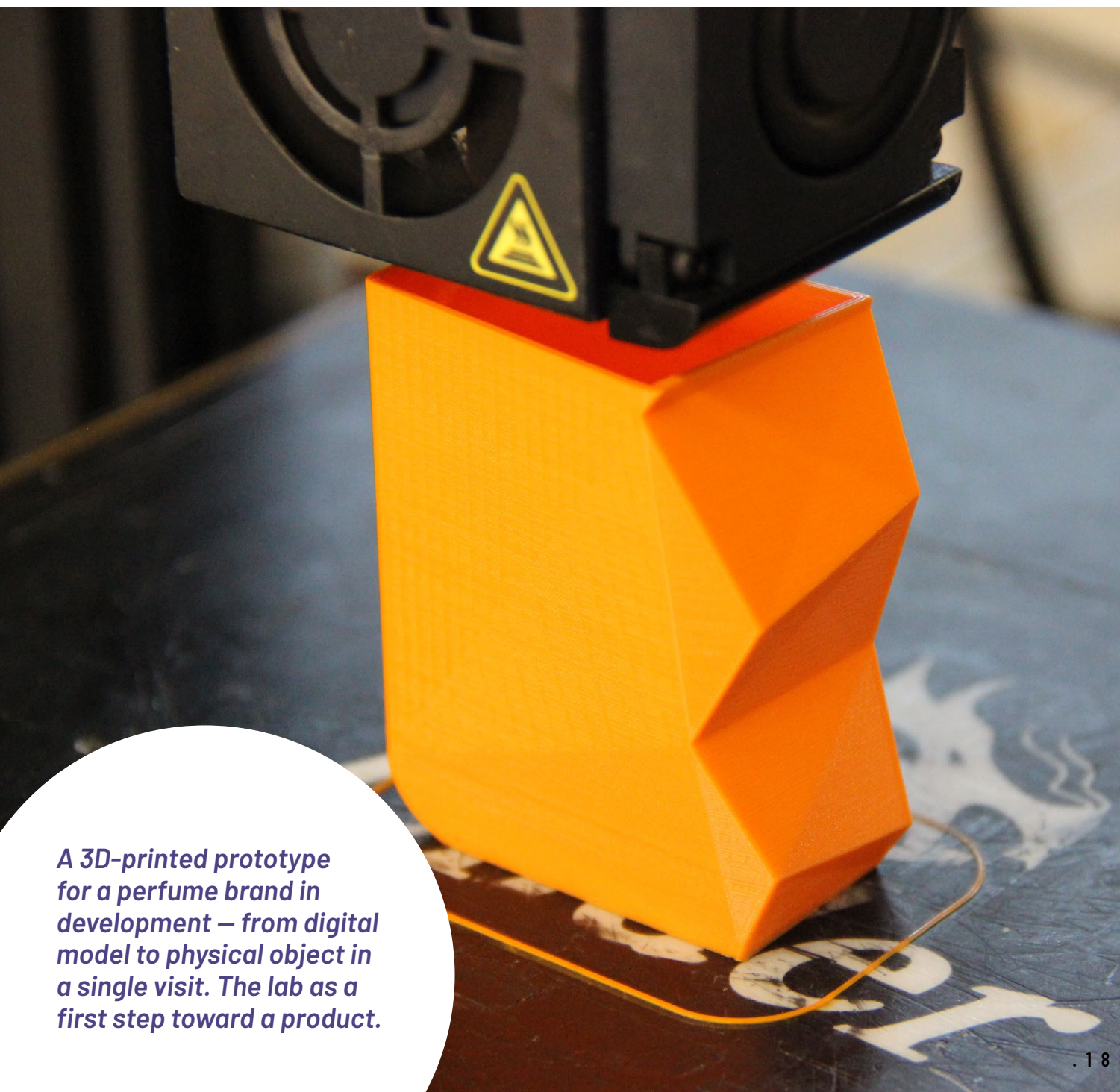
↓ *Ancient Greek Temples - History Class, Dilijan Central School*

Eight students brought their history research into the lab — 3D-printed temple models of ancient Greece. History made physical.



Community Days, held every Saturday, supported 54 projects by 45 individuals across 2024 and 2025. Artists developed installation works. Engineers prototyped custom components. A newcomer to Dilijan reconnected with his woodworking practice while learning a new set of digital tools. Students designed gifts, puzzles, and practical objects. An IT specialist improved his vitrail work by fabricating precision cutting templates. A 14-year-old who had

been learning at Community Days for months took on the role of mentoring younger participants – teaching what he had learned, in the way that Fab Labs have always worked best. These are not peripheral activities. They are the daily proof that digital fabrication, when access is open and mentorship is genuine, belongs to everyone who is curious enough to try. We are pleased to see an ever increasing number of people making Fab Lab Armenia their own.



A 3D-printed prototype for a perfume brand in development – from digital model to physical object in a single visit. The lab as a first step toward a product.



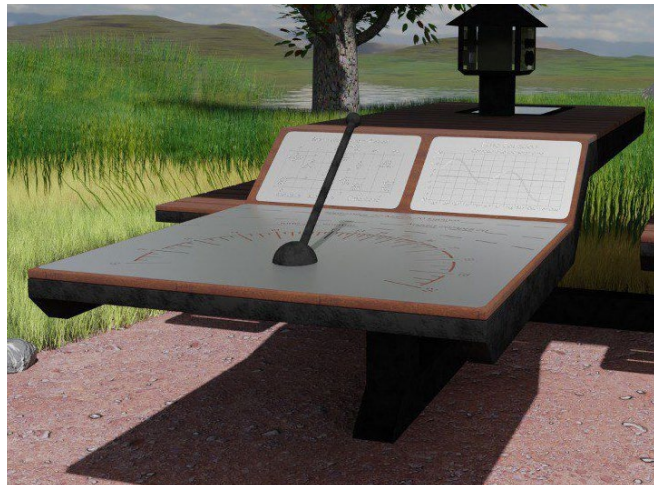
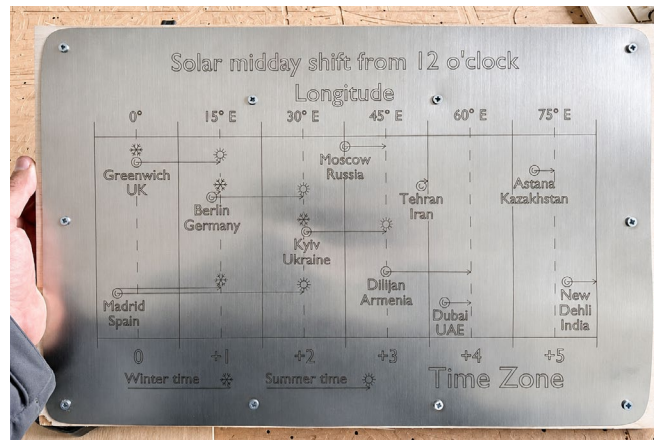
Doghouse for Deghtso – Gurgen Amiryan

Gurgen designed and built a doghouse for his dog using repurposed wooden crates from the Central Bank of Armenia. A personal project, a practical result, and a laser-engraved name tag for Deghtso.

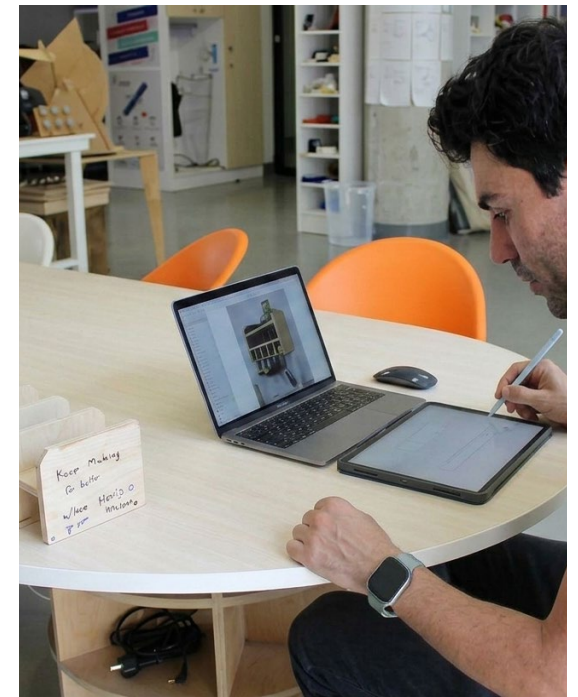




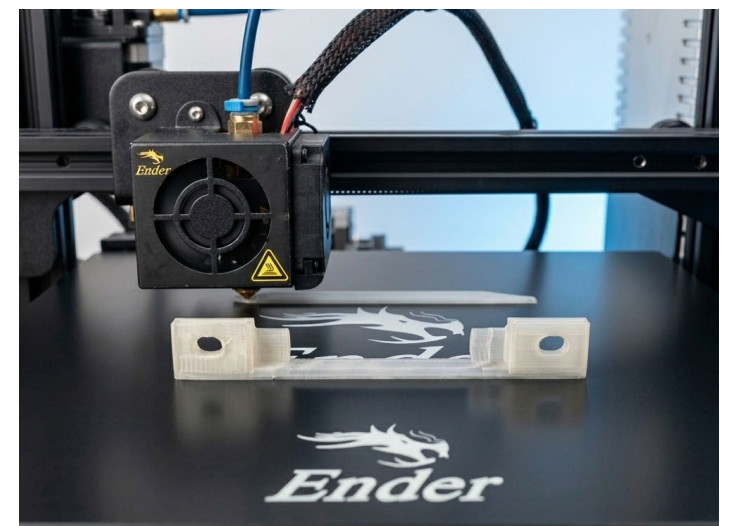
↑ **SolarSpot - Sarkis Dagesian & Pavel Pirogovsky, BrainDrivers**
A solar-powered outdoor workstation installed in a Dilijan park — table, benches, a charging panel, and a laser-engraved sundial. Designed and partially fabricated at the lab, now a permanent fixture in the city.



↓ **Tool Organizer**
Hovig Halajian, an engineer visiting from Jordan, CNC-milled a tool organizer for the lab—a lasting contribution from a member of the global Fab Lab community.



↑ **Modular Figures - Vlada Milkina (mv_picture)**
A wooden mosaic of abstract human forms, laser-cut and assembled at the lab. One of many artistic works produced at Fab Lab Armenia — where the machines serve makers of every kind, and the Saturday open door belongs equally to engineers and artists.



← **Repair, Don't Replace**
When a pool filter lid breaks, a car bracket cracks, or a plumbing component fails — the lab offers an alternative to replacing the whole. A custom acrylic lid, a 3D-printed speaker bracket, a reproduced glove compartment part: small fabrications that solve real problems and extend the life of what already exists. At Fab Lab Armenia, fixing something is as valid a reason to show up as building something new.

Native Tambourine Maker 3000 - Eduard Kabulov, Ilya Gerasimov

A CNC-fabricated jig for bending wood into circular tambourine frames – precise enough to produce consistent results, simple enough to use repeatedly. Built at the lab, it went on to produce working instruments.



PART THREE — REGIONAL OUTREACH AND STRATEGIC PARTNERSHIPS

The global Fab Lab network is a network of networks. It grows through the gradual development of local nodes that become organically stronger and give support to other nodes — sharing knowledge, providing instruction, establishing standards, and building the connective tissue through which innovation circulates. Fab Lab Armenia's work in 2024 and 2025 has been such an evolving learning node in the global and regional network.



I. A NEW FAB LAB ARMENIA AT THE STATE ACADEMY OF FINE ARTS IN GYUMRI

A NEW SITE, A LONG-STANDING PARTNERSHIP



ACTIVATING AND CONNECTING FAB LAB ARMENIA GYUMRI!

A custom-built FMCU activation button, designed and fabricated by the Fab Lab Armenia team to symbolize Gyumri's integration into the global Fab Lab network — pressed collectively by sponsors and partners at the moment of the lab's official launch.



Photo courtesy of State Academy of Fine Arts in Gyumri

The opening of Fab Lab Armenia Gyumri on April 18, 2025 was about expansion and recognition of a long growing working collaboration. The State Academy of Fine Arts in Gyumri has been in a partnership with Fab Lab Armenia for years: through the Fab Lab Armenia Summer Institute, through bootcamp workshops, through regular visits of Gyumri students to the Dilijan based Fab Lab Armenia. What opened in April 2025 was not a new relationship but a new institution born from a strong collaboration— a lab with its own identity, its own community, and its own contribution to the national ecosystem of knowledge building and best practices augmented by digital fabrication.

The preparation for the opening reflected everything that the lab has learned about how to establish a new Fab Lab well. Engineers from Super Fab Lab Kerala in India joined the Fab Lab Armenia team for machine installation and calibration — bringing not only technical expertise but a living example of what a mature Fab Lab node looks like when it is genuinely embedded in an educational institution and a regional community. Workshops were delivered. Visual identity was designed. A symbolic activation ceremony marked the lab’s integration into the global Fab Lab network.

What matters most, however, is what came after the opening. The exchange visits, the joint curriculum delivery, the candidate interviews for Fab Academy 2026 — these are the activities through which two labs become a network. Fab Lab Armenia Dilijan and Fab Lab Armenia Gyumri are not parallel institutions. They are nodes in a system, each with distinct strengths, learning to function in ways that make both stronger.

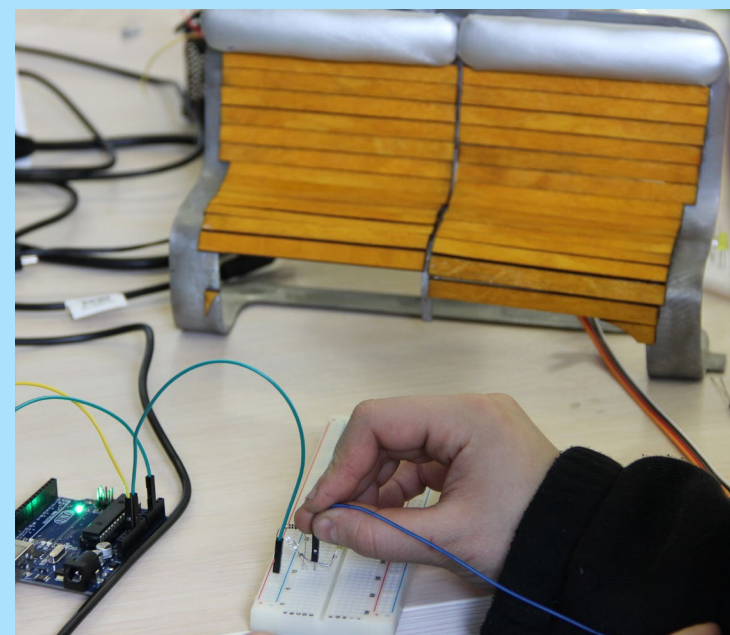
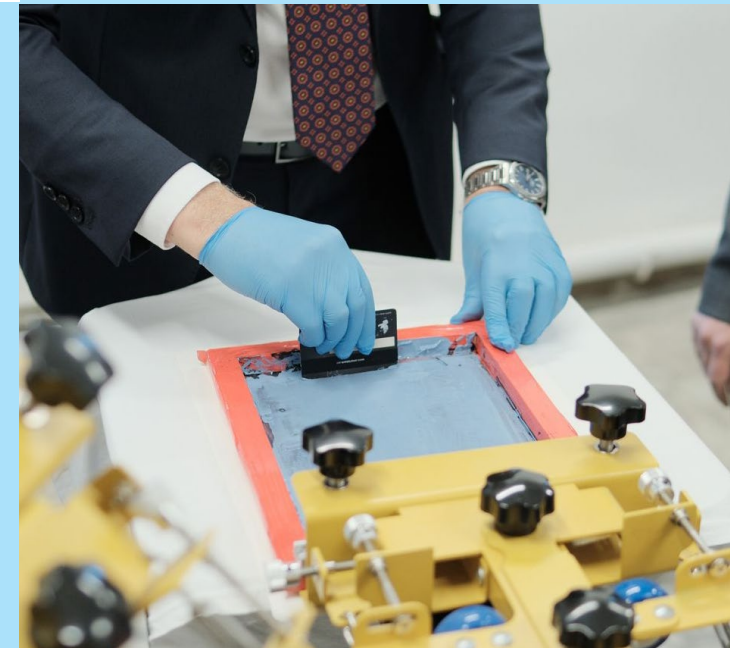
Installing the Lab - Yadu Sharon, Sibusaman & Gyumri Fine Arts Academy Students

Engineers from Super Fab Lab Kerala, India, working alongside Academy of Fine Arts students to install and calibrate the machines that would become Fab Lab Armenia Gyumri.



Gyumri Academy of Fine Arts Students at Fab Lab Armenia

Before Fab Lab Armenia Gyumri opened its own doors, its future students were already here — Academy of Fine Arts students from first-year to master’s level visiting Dilijan to learn digital fabrication, laying the groundwork for the lab that would soon be theirs.



II. PARTNERSHIPS GROUNDED IN REAL OUTCOMES

The most meaningful partnerships Fab Lab Armenia has formed in 2024 and 2025 share a common pattern: they began with direct encounters with the lab's work. Visitors observed projects in progress, engaged with the team, and experienced firsthand the potential of digital fabrication as a tool for education, innovation, and community impact.

The Jean Manuel and Solange Bullukian scholarships and fellowships have been particularly essential in enabling the upskilling of individuals needed to strengthen the region's digital fabrication capacity. Their support emerged from a careful process of research, demonstrations of ongoing work, and opportunities to witness outcomes directly. The Green Rock collaboration followed the

company CEO's visit to the lab, where large-scale 3D printing demonstrated the possibilities of advanced fabrication technologies. The Georgian Innovation and Technology Agency's decision to support remote student participation came after discussions about regional needs and a deeper understanding of Fab Lab Armenia's educational model.

This pattern is not accidental. It reflects a fundamental principle of Fab Lab Armenia's approach: the strongest case for investment is not a presentation or a promise — it is visible evidence. It is the work being created, the graduates whose projects gain international recognition, and the community members who use the lab's tools and space to turn ideas into meaningful outcomes.

The Yandex Armenia workshop, the ISAA engagement, and the French Armenian Foundation's interest in expanding vocational education through Labster followed the same trajectory. In each case, people encountered something tangible, recognized its potential, and chose to become part of its continued development.



← *Mkhitar Evoyan, Bullukian Scholar, with Solange Bullukian showing her the work her family's scholarship made possible.*

III. THE GLOBAL STAGE: FAB24 AND FAB25

Maxime Richard with the Fab Lab Retoño team

A visit to a Fab Lab built inside a former brandy factory – now a community center offering circus, parkour, mental health support, and digital fabrication. Knowledge exchanged across a language barrier, machine by machine.

Participation in the annual global Fab Lab symposium is one of the primary mechanisms through which the network transmits knowledge, builds relationships, and calibrates its collective direction. For Fab Lab Armenia, attendance at FAB24 in Mexico and FAB25 in the Czech Republic produced outcomes that shaped the institution's direction in ways that would not have been possible through any other channel. At FAB24, Professor Gershenfeld's introduction of DistInc – the distributed incubator proposed by Professor N. Gershenfeld that will use the Fab Lab network as investment infrastructure – reframed the value of the Fab Academy documentation

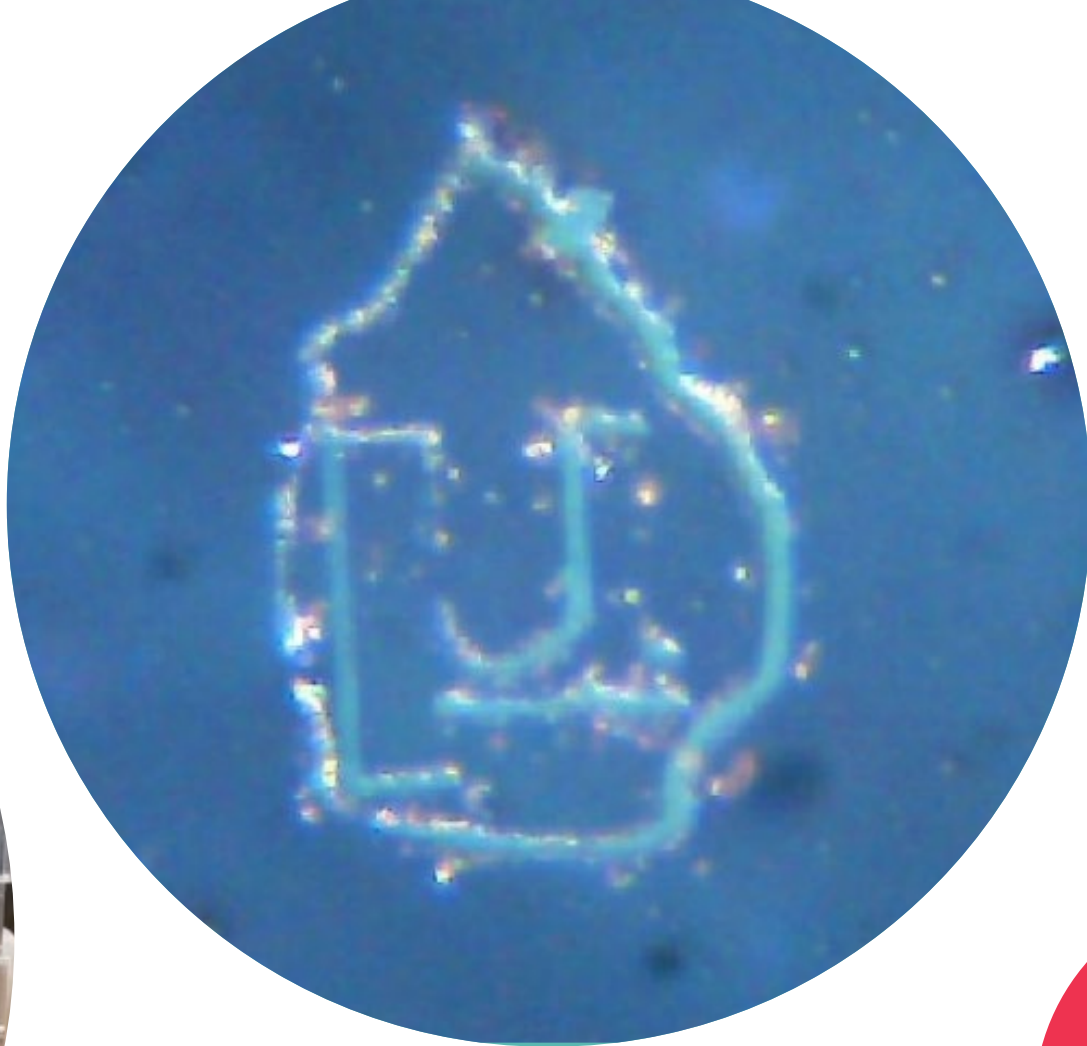
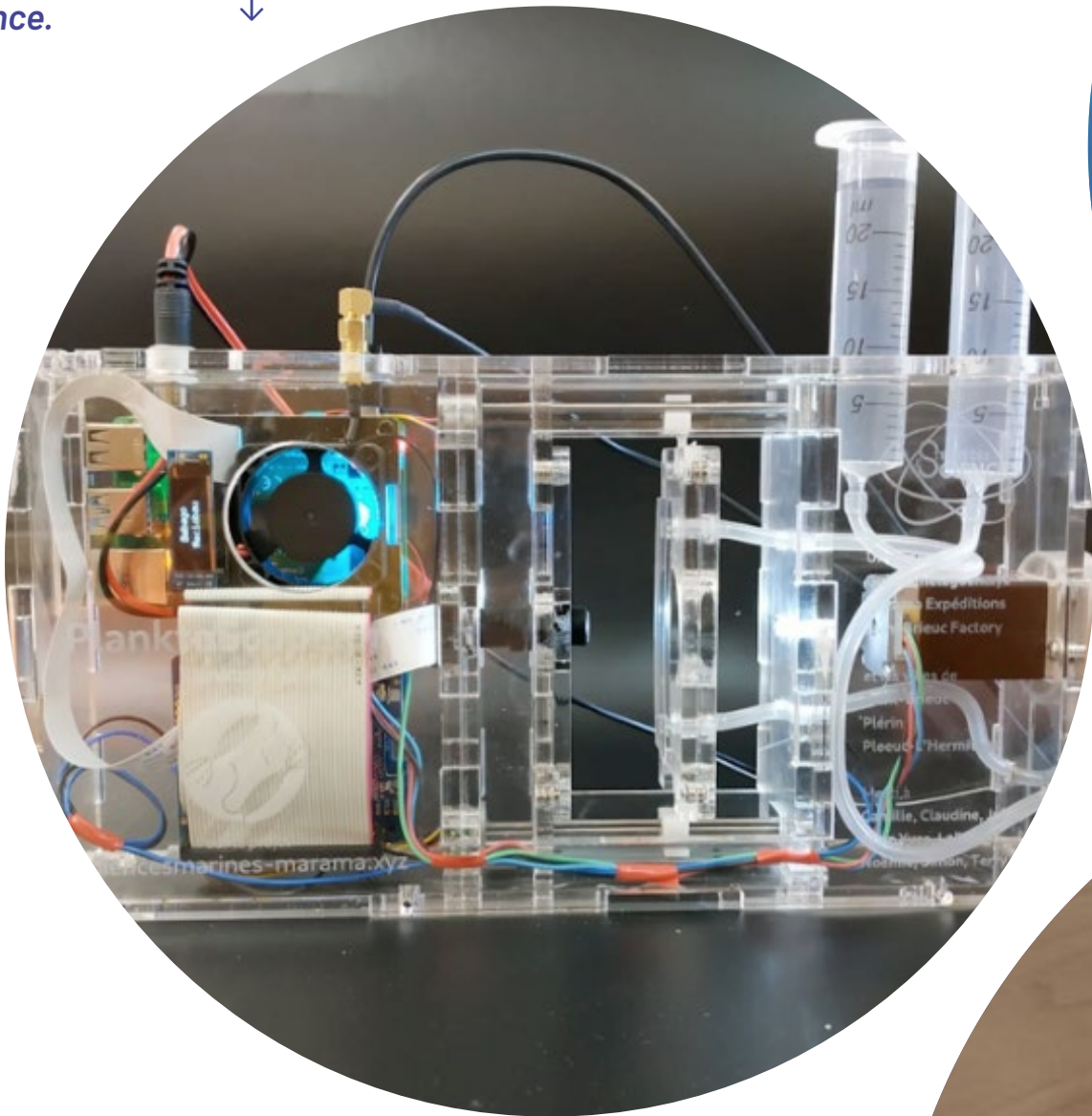
model: the student who documents every weekly project with honesty and rigor is not just demonstrating competence – she/he is building the portfolio that the global network of mentors and investors will evaluate when she/he is ready to pitch an idea. The implication for Fab Lab Armenia's graduates is direct and significant.

Professor Manu Prakash's \$500 Planktoscope – a device enabling cutting-edge marine research – reinforced a principle the lab already holds: impactful science does not require expensive equipment. It requires good design, accessible tools, and the willingness to build something that works.



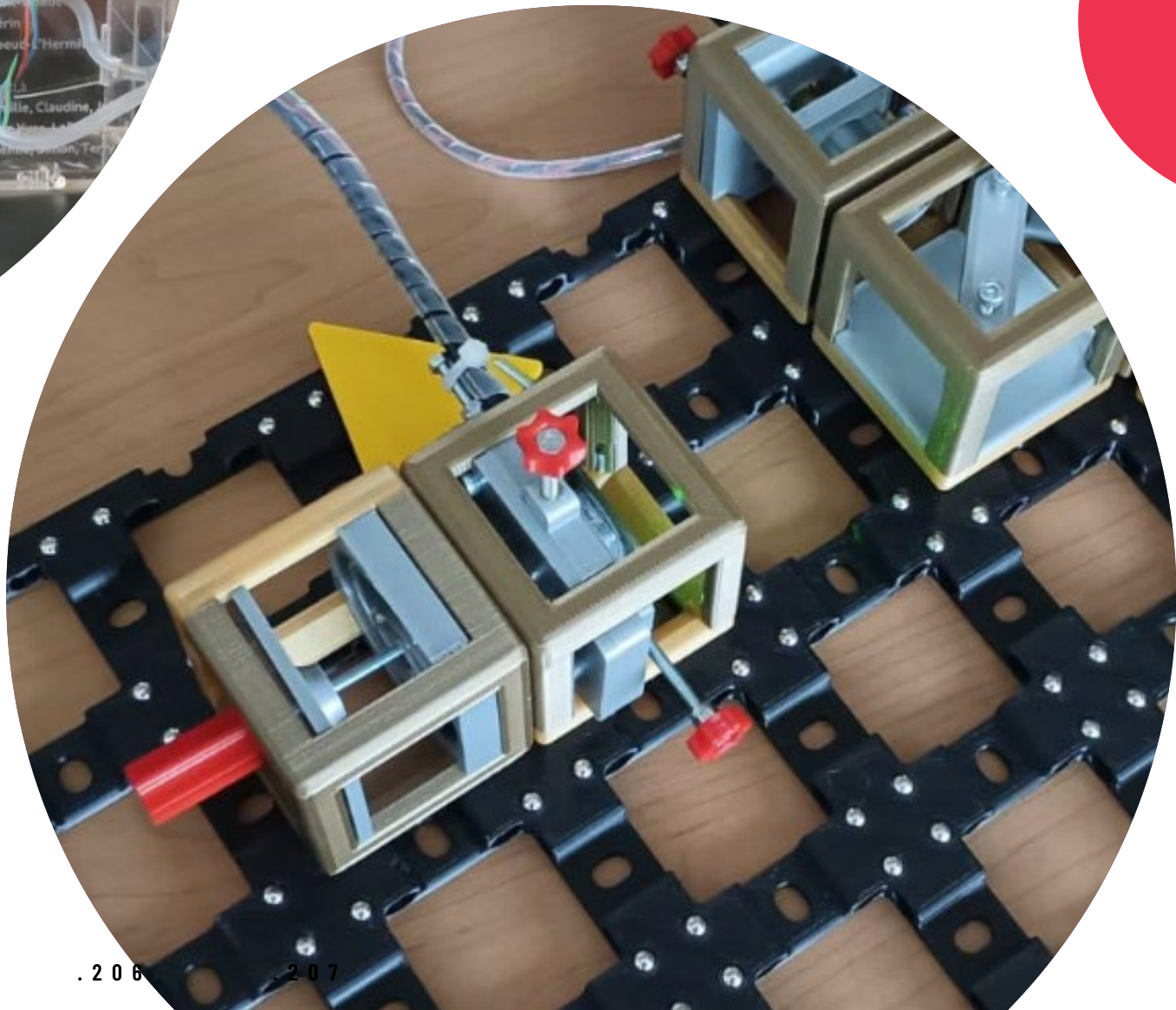
The Planktoscope - Professor Manu Prakash, Stanford University

A \$500 device that automatically monitors plankton in the sea – proof that frugal science can still be cutting-edge science.



← The Micro RepRap Project - Vik Olliver

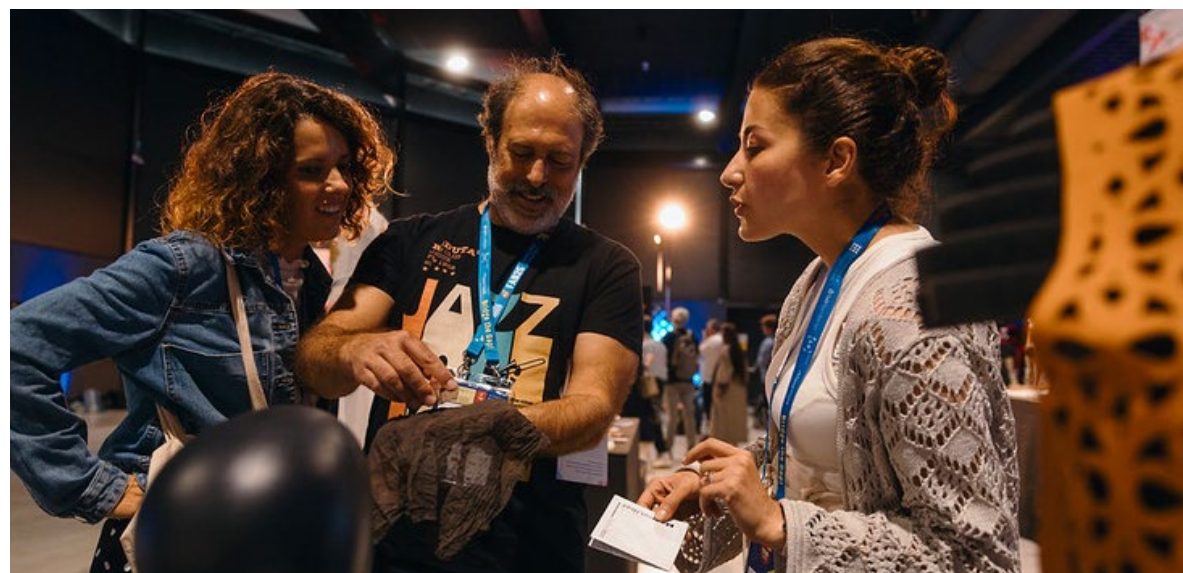
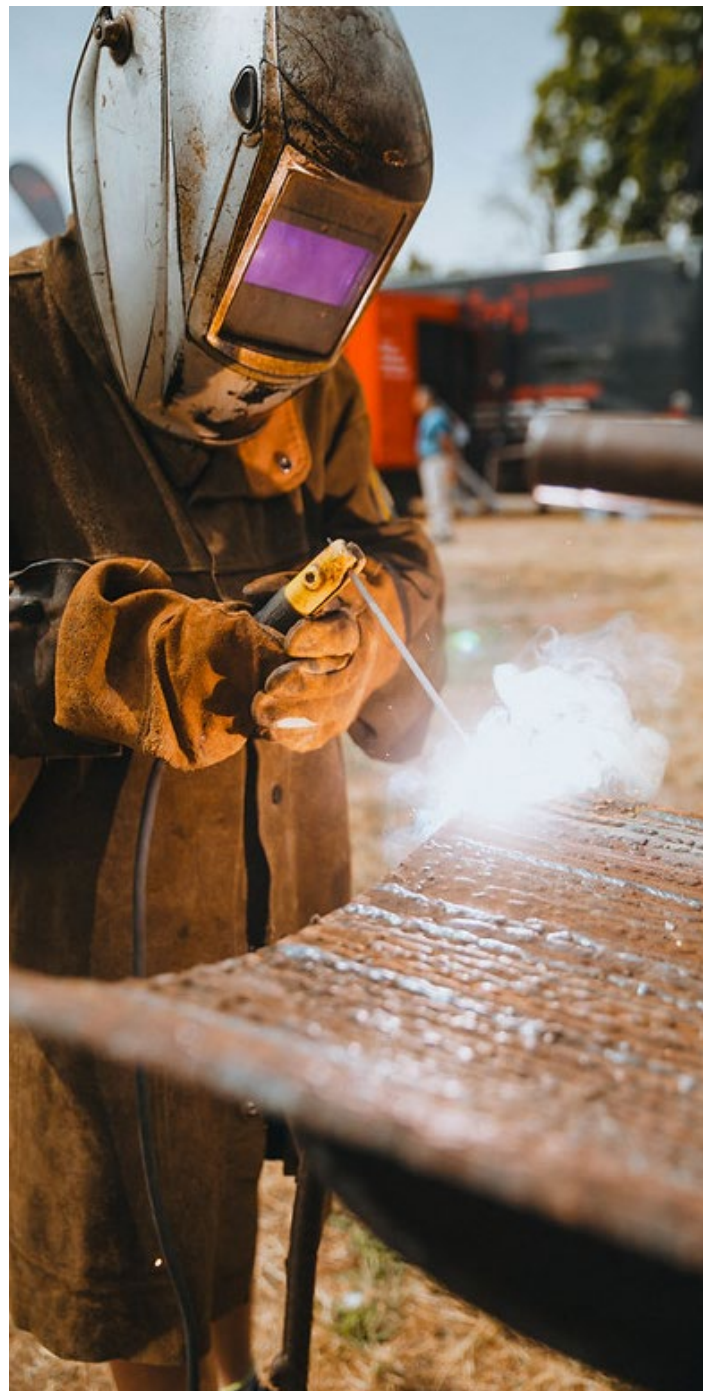
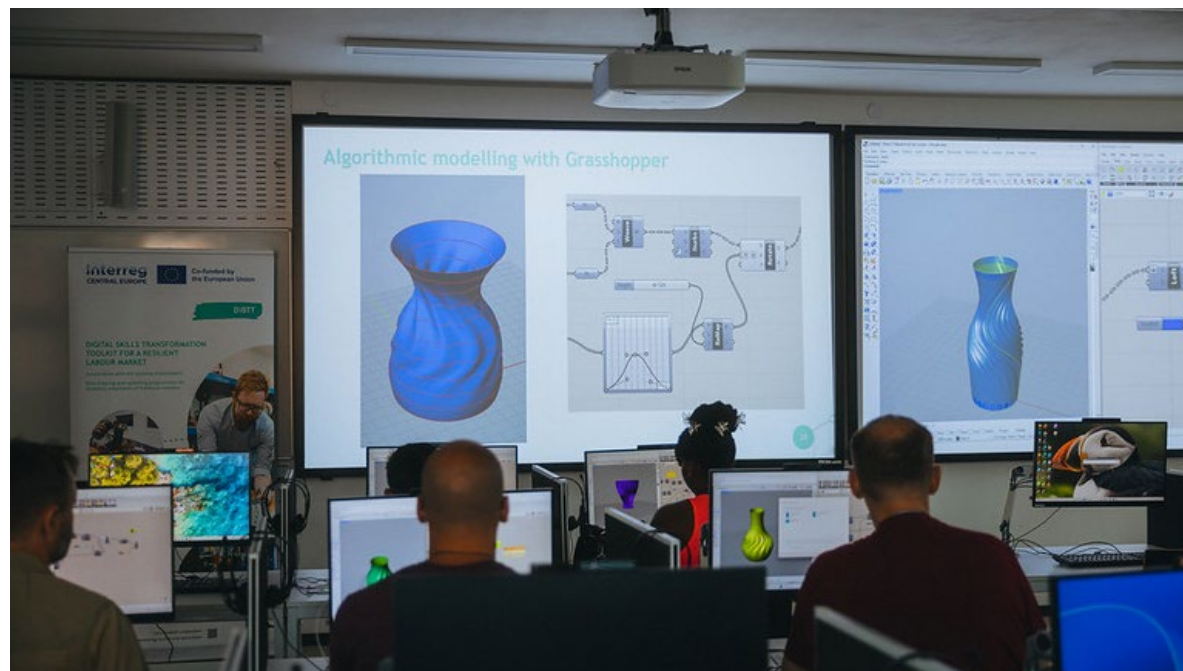
An ambitious effort to build 3D printers and CNC machines capable of manufacturing at micro scale – opening the door to producing devices as intricate as MEMS components.



Exploring Quantum Educational Tools

Ultrasonic speakers that levitate paper through standing waves. Micro-diamonds used as quantum dots. A workshop on bringing quantum mechanics into the classroom – using tools designed to be built, not just observed.

At FAB25, five members of Fab Lab Armenia participated in what was, simultaneously, a learning experience, a professional development program, and a diplomatic exercise. The lab's Fabricademy graduates exhibited work at an international exhibition. All four program graduates received their diplomas. Mkhitar Evoyan's SubSevan submarine was recognized before an audience from 55 countries as an exemplary Fab Academy project.



“Fab25 clarified that our role is not only to learn from the global ecosystem, but to contribute a distinct Armenian model – small-scale, culturally rooted, technologically ambitious, and deeply collaborative.”

— Anoush Arshakyan, Fabricademy Graduate and Program Lead

With Neil Gershenfeld at the
Academy Graduation Ceremony
FAB25, Brno, 2025



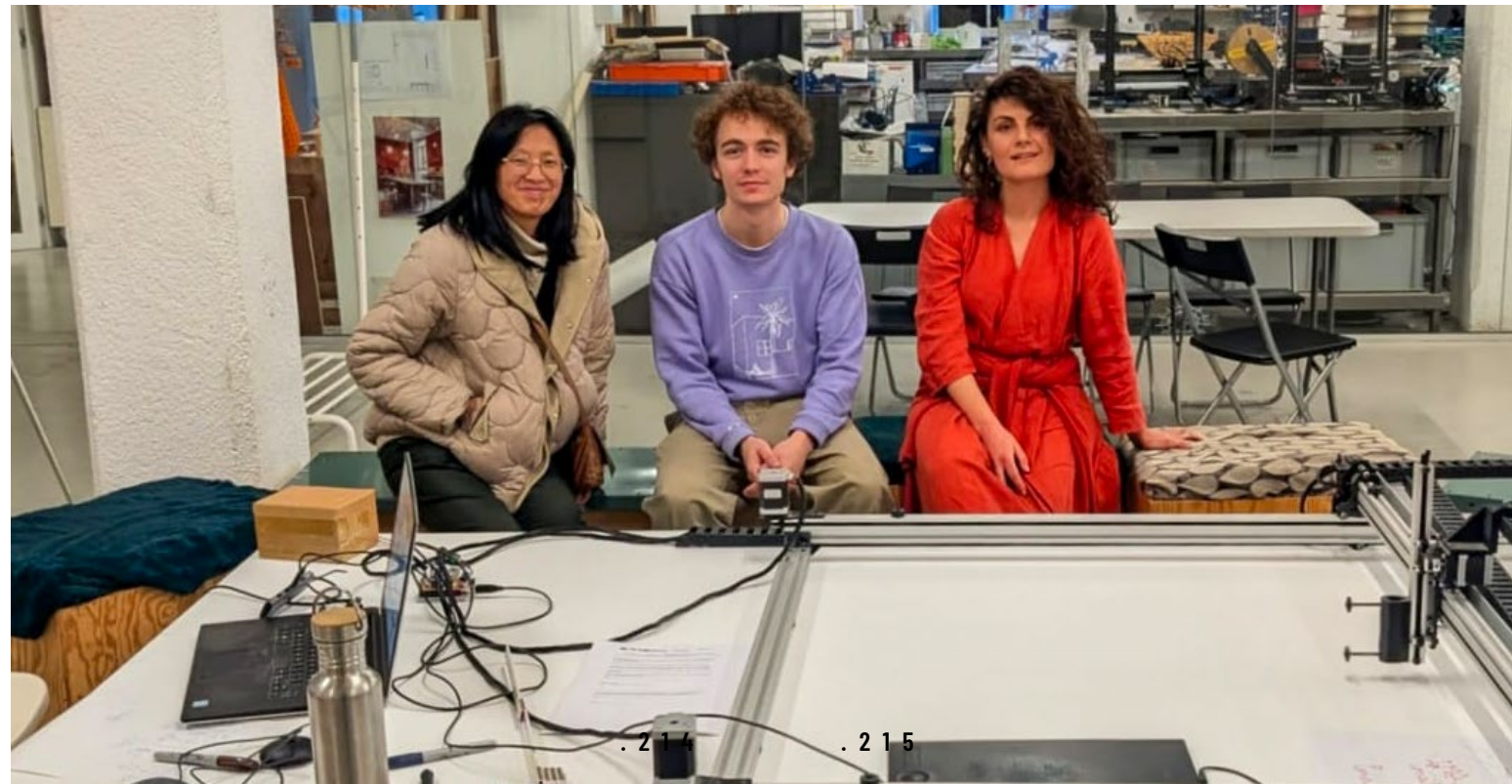


IV. BRUSSELS: WHAT A MATURE NETWORK LOOKS LIKE

In December 2025, Anoush Arshakyan traveled to Brussels on a fellowship supported by the Jean-Manuel and Solange Bullukian — spending a week embedded in the Brussels Fab Lab network of nine labs, each with a distinct specialization, shared infrastructure, regional government support, and two decades of collective institutional memory. The visit was not tourism. It was strategic learning — the deliberate exposure to a more developed version of what Fab Lab Armenia is building, with the explicit purpose of understanding what it would take to build it.

Green Fabric, the only Brussels lab running Fabricademy, showed what nine years of textile research looks like when it accumulates: a material archive, a residency program that turns users into contributors, a culture of knowledge transmission that extends the lab's expertise outward rather than concentrating it inward. iMAL, embedded in an art gallery, showed how a Fab Lab can serve long-term artistic research rather than rapid prototyping. Cityfab 1 showed what publicly funded, deliberately accessible digital fabrication infrastructure can look like when the government invests in it with sustained commitment. Mekanika showed how a machine-

building company can grow from open-source maker culture into financial self-sustainability — a direct model for Fab Lab Armenia's own applied fabrication ambitions. The gap between Brussels and Dilijan is not one of geography, but of ecosystem maturity — the depth of networks, partnerships, experience, and institutional capacity built over time. That gap is real: the Brussels network has been developing for more than two decades, while Fab Lab Armenia is only six years old. But it is also bridgeable. The fellowship did not provide a model to replicate, but a vision of what is possible and a clearer understanding of the path ahead — reinforcing the confidence that Fab Lab Armenia is moving in the right direction.



PART FOUR — MISSION EXPANDED



↑ A sustainable biomaterial developed by Erika Mirzoyan, combining gelatin, beeswax, cinnamon, and lemon to create a warm golden, flexible sheet.

I. Growing Into a National Hub

For Fab Lab Armenia Education Foundation, that threshold was reached in 2024 and 2025. The institution that had grown from a single Fab Lab Armenia in Dilijan into a nationally recognized partner in Armenia's digital education strategy — hosting a Ministry conference, participating in international policy conversations, opening a second lab in Gyumri, and being assigned as an instructional node for students in Kazakhstan — is no longer simply a Fab Lab with educational programs. It is a national hub in formation, with the responsibilities and the possibilities that implies.

The mission remains unchanged: to transform communities by providing access to state-of-the-art digital fabrication technologies and global learning networks. What has evolved is the scale of the ambition and the institutional capacity to deliver on it.

A student in Dilijan building a submarine, a teacher in Vanadzor creating virtual science lessons for a school without a laboratory. A Fab Lab in Gyumri serving an arts academy and an entire region. These are not isolated initiatives; they are interconnected expressions of the same mission — expanding access, building local capacity, and creating a national ecosystem where people can learn, design, and innovate.

A sustainable biomaterial created from gelatin and mandarin peels, demonstrating the potential of organic waste. →



II. Strategic Direction: Three Pillars

The foundation's strategic direction for the coming years is organized around three mutually reinforcing pillars.

Depth: continuing to develop the quality and rigor of existing programs while expanding into new educational domains through Fab Futures and future additions, ensuring that every program graduate carries not just skills but a transformed practice.

Network Expansion: building on Fab Lab Armenia Gyumri toward a regional network of nodes with complementary specializations and shared infrastructure — working toward a Super Fab Lab Armenia capable of serving as a regional hub for the Caucasus and Central Asia.

Financial Self-sustainability: developing revenue-generating applied fabrication partnerships, beginning with Green Rock, that can supplement philanthropic and governmental support and reduce dependence on any single funding stream.

These pillars reinforce each other. A stronger program produces more visible graduates. More visible graduates attract partnerships and investment. Partnerships and investment fund network expansion. Network expansion multiplies educational impact. Multiplied impact strengthens the program. This virtuous cycle is not automatic — it requires deliberate strategy, sustained relationships, and the willingness to make choices that prioritize long-term institutional health over short-term growth. But the cycle is real, and Fab Lab Armenia is inside it.

III. Team and Contributors



Photo by P'UNJ syndicate

Fab Lab Armenia Education Foundation is built by a small, multidisciplinary team whose members serve simultaneously as educators, makers, and researchers supporting innovation and sustainability. The team's most important structural feature is also its most distinctive cultural one: the expectation that every team member is both a teacher and a learner, both a practitioner and a builder or curator of new knowledge data. No one only teaches. No one only makes.

The knowledge generated in one role is expected to feed all the others.

The core team across 2024–2026 included **Babken Chugaszyan, Onik Babajanyan, Sona Markosyan, Anna Badalyan, Rudolf Igityan, Anoush Arshakyan, Maxime Richard, Mkhitar Evoyan, Syuzanna Martirosyan, Tatevik Ayrapetyan, Erika Mirzoyan, Elen Grigoryan, and Areg Khalatyan.** The team's structure reflects the multiplier model embedded in all of the lab's programs: graduates

become instructors, participants become contributors, and knowledge flows forward.

Our growth is continuously nurtured and pushed forward by an exceptional team of Board Members who are also our advisers: **Armen Nurbekyan, Nerses Yeritsyan, Tatevik Khatchatryan, Anna Gargarian, Michel Daboudian, Linn Paravyan, Ara Barsam, and Jacqueline Karaaslanian.**

↑ *DIY vacuum forming machine in use, designed for creating precise and intricate molded forms.*

LOOKING FORWARD

Skin Electronics Week – Svetlana Khachatryan, Fabricademy 2025–2026

Pressure sensors worn directly on skin – copper tape, velostat, and transparent film dressing assembled into a wearable matrix that reads touch and sends signals. The body as a circuit board.

WHAT WE ARE BUILDING

Digital fabrication is not a technology trend. It is a civilizational shift – the beginning of a transition in which the tools of design and manufacturing become as accessible as the tools of writing and communication. Fab Labs are the infrastructure of that transition. Academany programs are the pedagogy. Communities are the purpose.

Armenia is a country with extraordinary human talent, a deep tradition of craftsmanship, and a growing infrastructure of digital innovation. Fab Lab Armenia Education Foundation is building the bridge between that talent and the global ecosystem of tools, knowledge, and networks through which innovation becomes real.

What comes next is visible in what has already been built. The Super Fab Lab Armenia is a direction, not just a concept. A regional network is forming. The DistInc pathway for student entrepreneurs is opening. Projects like the Living Carpet and the reconstruction of King Leon's tomb are pointing toward a distinctive Armenian contribution to the global maker movement – one that draws on centuries of craft tradition to inform radically contemporary innovation.

The greatest contribution of a Fab Lab is the belief that anyone can move from imagination to creation. Not by chance or talent alone, but through a process that can be learned, practiced, and shared. Every workshop, course, partnership, and project is an invitation into that process. That is the mission of Fab Lab Armenia Education Foundation – and the foundation upon which all future impact is being built.

GRATITUDE

OUR DEEP GRATITUDE



The work documented in this report would not have been possible without the sustained support, trust, and partnership of our sponsors and a wide network of individuals and institutions. We extend our sincere gratitude to each of them.

Our Deep Gratitude to our Sponsors

The Central Bank of Armenia has been a foundational Sponsor and Partner since the lab's inception, sustaining operational capacity and providing the institutional confidence that has allowed to seed and grow the Fab Lab Armenian Foundation. A special expression of gratitude to **Martin Galstyan**, Governor of the Central Bank of Armenia; **Armen Nurbekyan**, Deputy Governor; **Gevork Minasyan**, Director of the Dilijan Training and Research Center; and **Nerses Yeritsyan**, former Deputy

Governor and current Head of ISAA, for their vision, leadership, and commitment to helping seed Armenia's emerging digital fabrication economy. A deep appreciation is also extended to **Syuzan Mkrtchyan**, Head of External Relations and Special Events at the Central Bank of Armenia, whose continuous support, generosity, and dedication have been instrumental in advancing the mission and growth of Fab Lab Armenia over the years.

Evocabank, through the founders **Vazken and Mareta Gevorkyan**, **Karen Yeghiazaryan**, CEO, and **Tatevik Khachatryan**, Deputy CEO, has been a consistent partner in the foundation's evolution into a national and international technology learning hub supporting hundreds of teachers and learners.

Thankful for our Partnerships

The Ministry of Education, Science, Culture and Sports of the Republic of Armenia, has been a strong supporter of bringing new technologies and digital fabrication skills to schools around the country. We wish to express a special recognition to **Zhanna Andreasyan**, Minister of Education, Science, Culture and Sports, Deputy Minister **Araksia Svajyan**, Head of the General Education Department **Tamara Sargsyan** and their staff members **Lusine Basentsyan** and **Susanna Azatyan** for their continued collaboration in advancing STEAM education and digital innovation in Armenia. The Ministry of Education, Science, Culture and Sports has recognized Fab Lab Armenia as a formal partner in the national digital education strategy through the Memorandum of Understanding

signed alongside the Danish company Labster, Premier in total immersion science labs for all levels of education as well as professional research labs around the world. A very special thank you to **Malte Staps**, Director of Partnerships EMEA at Labster & UbiSim, **Manny Winkler**, Global Customer Success Manager, and the entire Labster team for their continued support in making these innovative learning technologies accessible to the Fab Lab Armenia community and all the schools and universities in Armenia.

Our heartfelt thanks go to the leadership and teachers of the Dilijan Central School, to **Aram Mehrabyan**, Director; **Naira Daluzyan**, Academic Director; and **Anahit Apinyan**, Vice Principal and a graduate of the Fab Learning Academy - for their commitment to fostering innovation and hands-on learning in education.

We also wish to extend our gratitude to the leadership of AGBU, particularly to **Vasken Yacoubyan**, Central Board Member; Former Executive Director **Marina Mkhitarian**; and **Anna K. Gargarian**, Former Creative Strategist and Lead of the Katapult Creative Accelerator Program. We are also deeply thankful for the dedicated support of the Katapult staff, including **Shoghakat Melke-Galstyan**, **Narek Tovmasyan**, and **Marina Oganessova**. Through the Katapult Creative Accelerator Program, we successfully expanded our network of excellence to the city of Gyumri. It has been indispensable in the establishment of Fab Lab Armenia Gyumri, the Fabricademy Bootcamp 2024, and the broader development of Armenia's creative sector ecosystem.

Our gratitude also to **Vahagn Ghukasyan**, Director of the State Academy of Fine Arts in Gyumri, and **Tatev Hartenyan**, Deputy Head of the Department of Design and Decorative Applied Arts — and by extension to the State Academy of Fine Arts in Gyumri, its leadership, faculty, and students who have welcomed this collaboration with openness and enthusiasm.

Global Network Partners

The Fab Foundation, MIT Center for Bits and Atoms, and the global Fab Lab network, led by **Sherry Lassiter** and **Professor Neil Gershenfeld**, have provided the educational framework and the global community within which Fab Lab Armenia's programs operate. We are grateful to the entire Fab Foundation team: **Luciana Asinari**, **Chiara Dallolio**, **Julian Gallimore**, **Norella Coronell**, **Chelsea Lynn**, and **Jean-Michel Molenaar**.

Waag Futurelab in Amsterdam, **Green Fabric** in Brussels, **Super Fab Lab Kerala** in India — through **Yadu Sharon** and **Sibu Saman** — and **Fab Lab Sorbonne** in Paris through **Stéphane Mülle**, have been generous partners in collaborations that expanded the lab's technical capacity and international reach. **InMachines**, the Germany-based open-source machine company founded by **Daniele Ingrassia**, provided the machines that equipped Fab Lab Armenia Gyumri — bringing with them not only hardware but the open-source philosophy that defines the global Fab Lab network.

We are grateful to the global Fab Academy, Fabricademy, and Fab Learning Academy instructors and evaluators whose expertise, dedication, and generosity of knowledge make distributed learning real: **Lambert Rulindana**, **Oscar**

Gonzalez, **Henk Buursen**, **Nicolas De Coster**, **Luc Hanneuse**, **Gleb Bulygin**, **Krisjanis Rijnieks**, **Jani Ylioja**, **Ivan Milara**, **Anastasia Pistofidou**, **Cecilia Raspanti**, **Claudia Simonelli**, **Nuria Robles**, **Louise Massacrier**, **Emma Pareschi**, **Asli Aydin Aksan**, **Liz Whitewolf**, **Xavi Dominguez**, **Santi Fuentesmilla**, **Iván Sánchez Milara**, and **Steven Chew**.

Philanthropic Partners

Jean-Manuel and Solange Bullukian who have been supporting Fab Academy scholarships and a Fabricademy fellowship at the Fab Foundation - Boston, enabling special talents to grow. Their support graduated Mkhitar Evoyan, Zhirayr Ghukasyan, Anoush Arshakyan, and Mariam Daghbashyan. Their investment in skill development is essential for our future.

The Strategic Development Agency (SDA), through **Mher Sahakyan**, Project Manager of the Digitizing Sectors for Competitiveness program, has been a valued institutional collaborator in the development of Fab Lab Armenia Gyumri, providing scholarships for students.

Our deep gratitude to **Florent Aziosmanoff**, founder of Living Lab in Paris and a renowned futurist and pioneer in the field of living art — whose expertise in developing

innovative curricula for universities and research institutions around the world has left a lasting mark on Fab Lab Armenia. Through his teaching and mentorship, the foundation has significantly advanced its capabilities in learning to design and program responsive environments, and built robust expertise in ambient intelligence. Aziosmanoff's partnership has been transformative — not only in the specific programs it produced, but in the broader vision it gave the institution of what living art and technology, together, can make possible.

Special thanks to **Dominique Sciamma**, computer scientist, founder, and Dean of the CY School of Design at CY Cergy Paris Université, for his generosity in sharing his expertise and vision. His guidance has helped Fab Lab Armenia strengthen its capacity by embracing a culture of design, innovation, and problem-solving. Through his support, we are better equipped to cultivate a new generation of Solution Designers and to build the educational and institutional infrastructure needed to advance this emerging field.

Brand Real and Learning Learning Architects with a special gratitude to Co-Founder Vasken Kalayjian

for his sustained commitment to Fab Lab Armenia through expert guidance in brand positioning, digital communications, and online presence – and helping refine and amplify the foundation’s visibility, voice, and impact.

Our gratitude also goes to the organizations that collaborated with Fab Lab Armenia through educational programs, workshops, exhibitions, and opportunities to showcase digital fabrication: **Advanced Technology Enterprises (UATE) and the Armath Engineering Laboratory Network, ABC Kindergarten, Armenian Society of Fellows, CaseKey Armenia, Green Rock, Dilijan Community Center, Dilijan Partnership Platform, Dilijan International School (DIS), Dilijan Space, Digitec Armenia, FinnoWay Armenia, French Armenian Foundation, Georgian Innovation and Technology Agency, ISAA, Iron Industries LLC, Lentex LLC, Margaryan Brothers Casting Company, Silk Road Hotel, UWC Dilijan, WoolWay, Yandex Armenia, and Yessenov Technopark.**

Celebrating Communities and Friends of Fab Lab Armenia Local and Global

We are grateful to the educators who brought their curiosity, their classrooms, and their students to the lab – and to the teachers who completed the Fab Learning Academy program and took that learning back into their schools.

School and university educators: **Armen Amirkhanyan, Anna Ghazaryan, Arevik Abgaryan, Astghik Gulanyan, Christine Avagyan, Davit Hovhannisyany, Hovhannes Harutyunyan, Knar Hovsepyan, Lilia Aloyan, Lilit Harutyunyan, Lusine Manukyan, Mariam Hayrapetyan, Narine Grigoryan, Narine Hovhannisyany, Narine Sargsyan, Vahram Pambukhchyan, Vardush Grigoryan, and Zhanna Mejlumyan.** Fab Learning Academy graduates: **Arevik Mkrtchyan, Syuzanna Martirosyan, and Yelena Prokofeva.**

The Labster program’s reach and durability are built on the dedication of its mentor teachers: **Gohar Atsikyan, Lilit Antanosyan, Mariam Sargsyan, Nelli Asoyan, Shushanik Gasparyan, and Varduhi Simonyan.** Our gratitude extends to all participating teachers and their students across Armenia who have integrated virtual science into their classrooms.

Our gratitude to every school and college student who brought a project idea to Fab Lab Armenia and turned it into reality through creativity, curiosity, and dedication: **Anahit Ghaltakhchyan, Anna Arzumanyan, Aren Papyan, Ararat Hovhannisyany, Arsen Khechikyan, Ashot Markosyan, Avetik Simonyan, Alex Aghajanyan, Artyom Ghazaryan, Artyom Mnatsakanyan, Azaliia Zainetdinova, Daniel Monter Lobato, Eduard Haroyan, Edvard Frangulyan, Eilaf Tabag, Eliza Araqelyan, Erik Martirosyan, Grisha Frangulyan, Gurgen Amiryan, Harutyun Markosyan, Hasmik Ghukasyan, Hovhannes Meliqyan, Inna Ghazaryan, Jazbel Salas, Kaung Lin Kar, Levon Markosyan, Margarita Davtyan, Meri Poghosyan, Mher**

Frangulyan, Mher Sargsyan, Mkhitar Hovhannisyany, Nane Aloyan, Nane Harutyunyan, Narek Sargsyan, Sajad Qanbari, Santiago Leon, Susanna Amirkhanyan, Tatev Tumaghyany, Tigran Kokhlikyan, Tigran Mirzoyan, Tigran Sargsyan, Victoria Martirosyan, Viktoria Vovkotrub, and Vruyr Vardevanyan.

We also recognize the participants of the **Fabricademy Bootcamp 2024** for their engagement, collaboration, and contributions to the Fab Lab Armenia community: **Ekaterina Ivanova, Jinger Zeng, Alexandra Nava-Baltimore, Angie Cohen, Allison Waltzer, Julieta Fiure, Silvia Brandi, Martin Guttman, Maria Papacharalambous, Anna Moloney, Barbara Schober, Maria Lopez, Berglind Ósk Hlynsdóttir, Deborah Egger, Reem Binkaram, Tijana Vujosevic, Christina Avagyan, Sherry Lassiter, Chelsea Lynn, Gregoire Durrens, and Tatev Hartenyan.**

Our gratitude goes to all who shared their expertise, knowledge, and talent through our community workshops: **Dr. Clint Goss and Vera Shanov; Ashot Margaryan; Gevorg Yeghyan; Gurgen Harutyunyan; Svetlana Khachatryan; UWC Dilijan students Mariia Trofimova, Chau Pham, Hayk Asatryan, Nweke Chizitalum, Nartey Baby Tei, Rahman Aymaan, Ziyodabegim Jumakhonova, and Aimira Adambekova.**

We are grateful to all who joined Fab Lab Armenia's Community Days, brought their ideas to life, and created projects using the lab's resources, tools, and shared knowledge. Their curiosity, creativity, and willingness to experiment have been an essential part of building an open and collaborative maker community.

Every person who has walked through the doors of Fab Lab Armenia has come with an open mind and an open heart, contributing their knowledge, skills, experience, and imagination to a shared vision of a better future. Through this spirit of generosity, collaboration, and mutual learning, they have enriched our community and strengthened our collective capacity to create positive change. We are deeply grateful to all of them—young and old, from every background, profession, and culture—for helping build a community where learning, making, and innovation belong to everyone.

Impact Report Co-Producers

Anna Badalyan – Manager and Experience Designer

Erika Mirzoyan – Immersive media designer. Fab Academies Instructor



Heartfelt gratitude for your continued support. Please donate generously by clicking this DONATE link: [**fablabarmenia.com/donate**](https://fablabarmenia.com/donate)

IMPACT REPORT

2024-2026

