Bloomfield Science Museum

Annual Report *2024*

From the Director



The past year at the Bloomfield Science Museum in Jerusalem was remarkable, filled with both achievements and challenges, as we navigated the unique issues arising from the ongoing conflict. Despite these difficulties, we successfully maintained the museum's stability and continued to offer inspiring experiences to the public.

I am deeply proud of the dedication and hard work of our staff, as well as the invaluable support from our partners and community, which have allowed us to deliver rich educational and scientific content for audiences of all ages.

This report highlights our achievements over the past year, including the improvements and innovations introduced across our exhibitions and programs. It reflects our unwavering commitment to strengthening our role as a leading cultural, educational, and scientific institution, even in challenging times.

We extend our heartfelt gratitude to our partners and donors who share our vision of the museum's importance and potential, and invite you to join us in supporting and advancing this vital work.

Best regards,
Rony Ben-Chaim

1 New Exhibitions



This year, we introduced a range of captivating exhibitions that offered visitors immersive explorations into the realms of science and technology. These exhibitions reflect the museum's mission to make science accessible and to provide enriching, educational experiences for visitors of all ages.



Artistic Periscopes

The museum's courtyard was enhanced with three artistic periscopes designed by Alon and Lilach Chitayat. These periscopes invited visitors to explore their surroundings from new and imaginative angles, sparking curiosity and engagement for all ages.

"Gut"

Developed by the Universcience museum in Paris, this exhibition focused on the digestive system. Displayed for over a year until September 2024, it captivated audiences of all ages.





"Adhesive" Photography

This innovative exhibition provided a surprising perspective on the natural world, showcasing stunning photographs that illustrated adhesive techniques in flora and fauna.

"The Freedom to Flow" Water Exhibition

Opened during the summer, this interactive outdoor exhibition invited visitors to explore principles of flow, water pressure, and transportation, through engaging hands-on activities that were both educational and refreshing.





"Horsepower"

This exhibition delves into renewable energy and sustainability, showcasing innovative solutions for utilizing various energy sources. It emphasizes the importance of sustainable development and environmental conservation.

2
Education

This year, we have continued to provide students and teachers across the country with resources developed by the museum's education department. These tools enable the museum to support educational institutions and help fulfill their objectives.



Some of our primary goals are to promote excellence, enhance the quality of science and technology education, and support students in achieving high performance in schools. We prioritize experiential learning to ignite curiosity and foster creativity.

This year, in response to the challenges of war and displacement, we collaborated with other organizations to support students who were forced to leave their home.

Science Encounters

Science Encounters offer early education and school groups a two-hour, one-time educational experience at the museum.
These programs are designed to demonstrate the applications of science and technology in daily life, tailored to curricula and different age groups.

The encounters include Scientific Demonstrations, Guided Tours, Research and Construction Workshop where Students apply the knowledge gained through hands-on activities.

Each year, tens of thousands of students from diverse segments of Israeli society – including Arabs, Jews, secular, religious, and ultra-Orthodox communities – participate in these encounters.

Teacher Conferences

The museum serves as a central hub for science educators. in Jerusalem and the surrounding areas. At the beginning of each school year, it hosts teacher conferences for educators from the Jerusalem District of the Ministry of Education.

This year, the elementary school teacher conference emphasized outdoor education. Teachers toured various sites in the city before gathering at the museum for a summary session on scientific research. They participated in guided tours of the exhibitions "Gut" and "The Freedom to Create", and experienced demonstrations of digital education platforms provided by the Ministry of Education.

Supporting Science and Technology Education in War-Affected Communities

"Path of Science"

As part of the program, funded by the Maimonides Fundation, museum guides visited southern communities directly affected by the war. The museum guides arrived with equipment to Shaár Hanegev and Amit Highschool in Sderot. The schools also visited the museum for a concentrated day.

"World School"

the "World School" program was implemented in three Jerusalem schools in partnership and funding by JDC-Ashalim. This initiative provided teachers with tools to integrate community and environmental resources into their teaching, aiming to inspire learning, boost motivation, and strengthen academic achievements in STEM subjects.



STEM Enrichment Programs

This year, the museum operated a variety of STEM enrichment programs for children and teens, combining engineering, MAKE culture, and hands-on STEM learning.

Programs included:

• "Leading Together": A collaborative initiative for children from East and West Jerusalem, funded by the Jerusalem Foundation.

• Programs designed for children from families with limited access to scientific resources, supported by the Jerusalem Municipality Education Department.





Young Scientists

This year, the museum hosted the 28th Young Scientists and Developers Contest, which showcased over 200 outstanding projects submitted by teens from across the country, despite the challenges posed by the war. Around 50 projects reached the finals, covering topics across natural sciences, technology, humanities, social sciences, and interdisciplinary research.

Finalist projects are displayed on the contest's **website**, accompanied by explanatory videos, serving as a resource to inspire other students working on final projects. Winners of the contest will represent Israel in international competitions across Europe, the United States, and in research camps.



Youth Parliament

The Jerusalem Science Youth Parliament, a program in partnership with Jerusalem Municipality Education Department has been running at the museum for over a decade. Designed for 10th and 11th-grade students, it addresses the societal and ethical implications of scientific and technological advancements.

This year's parliament focused on artificial intelligence (AI) and its impact on society, with an emphasis on the lives of teenagers. Students from 20 high schools across Jerusalem participated in three days of discussions and activities at the museum, which included meetings with researchers and experts.

Scientific Urban Advantage

The Scientific Urban Advantage initiated by the museum, has been running for a decade in collaboration with the Jerusalem Municipality Education Department. The program supports students in grades 6 and 9 in conducting scientific and technological research projects.

Operating in informal education organizations for science and nature education in Jerusalem, the program equips teachers and students with essential research skills and guides them in completing curriculum-mandated projects. It broadens the range of research topics, enhances teachers' facilitation skills, and introduces students to engaging subjects while connecting them to STEM opportunities and resources in Jerusalem.

Contest to Develop Solutions for Challenges Faced by Displaced Residents in Jerusalem

This contest is a collaborative initiative of the museum, the Ministry of Education, Jerusalem Municipality Education Department, Bezalel Academy of Arts and Design, and the Hebrew University in Jerusalem. It was funded by the Trump Foundation.

Focusing on the physical environment challenges faced by displaced populations in Jerusalem, the contest engaged 150 9th-grade students from science and technology Academic "Atuda" programs, as well as top-performing students from Jerusalem and Bet Shemesh. Participants attended a five-day science and technology camp.



The students were guided of teachers and industrial design students from Bezalel.

The winners were announced in a ceremony attended by representatives from the municipality and the Trump Foundation.

The Al-Khwarizmi Program

The museum actively participates in the Jerusalem Municipality Education Department Al-Khwarizmi program, which focuses on promoting and strengthening the teaching of science, technology, and mathematics in schools in East Jerusalem, particularly in elementary and middle schools.

In early 2024, the museum hosted the program's closing event, which brought together over 300 students, teachers, supervisors, and partners from East Jerusalem. During the second half of 2024, museum guides conducted workshops in seven schools, covering topics such as the brain, sensory systems, and physics for elementary and middle school students.



The Jerusalem Science and Technology Fair

The Jerusalem Science and Technology Fair is an annual event celebrating the top scientific and technological research projects by 6th and 9th-grade students across the city.

The fair is the culmination of a year-long learning process, where selected projects are showcased through scientific posters. One or two outstanding projects from each school are chosen to represent their institution at the fair.

During the event, projects are evaluated, and the most exceptional ones are selected to represent Jerusalem at the National Fair.





Development of Activities

The museum continues to expand its expertise in designing educational programs in STEM and MAKE culture. Over the years, we have participated in European projects that have broadened our perspective. Additionally, we have developed tailored programs for external organizations and institutions.

Ofanim

Ofanim, a non-profit organization operating in Israel's periphery, approached the museum to develop educational activities. These programs are designed to maximize participants' potential by fostering engagement, ownership of tasks, motivation, and learner interest. Participants are encouraged to become more aware of their surroundings, and see themselves as individuals capable of questioning, growing, exploring, and taking part in planning their future and environment.

Nitzana Educational Community

Nitzana, a unique residential and educational youth village in southern Israel, sought the museum's expertise to enhance its activities on climate and energy crises. In response, the museum developed three learning units with kits focusing on renewable energy and energy storage. These kits, designed and built in the museum's workshop, have been uniquely tailored to the needs of the students at Nitzana.

STEM Teaching Units for Maker Spaces

The museum has developed 22 learning units for grades 1–8 to enable science teachers to teach in MAKER-oriented technological environments. These units feature hands-on activities that integrate the scientific method, engineering processes, problem-solving strategies, and the development of scientific, technological, and social skills, all aligned with curriculum standards.

Frontiers for Young Minds

For the fifth consecutive year, the museum has published the Frontiers for Young Minds Hebrew scientific journal, led by Professor Idan Segev. Supported by the Sagol Foundation and the Shashua Family Foundation, and guided by a scientific steering committee, the journal offers teenagers access to cutting-edge science. To date, over 650 hebrew articles have been published, written by leading scientists from Israel and abroad.

In 2024, we launched two new programs designed to introduce young people to cutting-edge science thorough Frontiers for Young Minds. These programs involved working with schools to read scientific articles and present them in short lectures and grade-level workshops. Today, the program is active in three schools. We also presented cutting-edge science content to young patients in two hospitals, Shaare Zedek and Ichilov. The highlight of the year was a unique scientific conference held in December at the Center for Brain Sciences at the Hebrew University of Jerusalem.





Free Events

The museum offered several free entry days, including Space Day, Museums Day, and Researchers' Night, bringing in a wide and diverse audience.

Summer

The museum celebrated the opening of the "Freedom to Create" exhibition with activity zones such as "Freedom to Build" and "Freedom to Flow", featuring construction and water-based activities. These proved to be highly popular with museum visitors with a record number over the past decade of 74,610 visitors. The museum also hosted foam parties, attracting diverse audiences, including increased participation from the Arab community.

3 Public Engagement

The museum was bustling with visitors throughout the year, especially during holidays and vacations, despite the challenges posed by the ongoing war. In 2024, the museum welcomed approximately 250,000 visitors, including individual guests and educational groups.



Open House Festival

As a new initiative, the museum participated in Jerusalem's Open House Festival, offering visitors a behind-the-scenes look at the museum's architecture and workshop techniques.

Sukkot

The "Building on It" event blended circus arts with science. Visitors explored scientific concepts through questions such as how to construct stable structures, how to stand on eggs without breaking them, and the principles that help acrobats keep their balance. A highlight of the event was KirkasYosi, a captivating performance by circus artist Yossi Kobi, a displaced resident from Shlomi. The performance was highly popular and enthusiastically received by visitors.





Passover

We hosted a "Sticky" event focused on the science of adhesives. Visitors had the opportunity to experiment with different types of adhesives, create their own sticky sea creatures, and learn about the forces that bind materials together, such as gravity, electricity, and air pressure.

Musical-Scientific Performance

In collaboration with musician Rali Margalit and neuroscientist Yoav MaTov, we launched "What's All the Noise About?", an interactive performance exploring the origins of sound.



4
Social Impact

The museum prioritizes social responsibility, actively contributing to community well-being through various programs.



Reserve Soldiers' Families

As part of the Double Impact Program, funded by the Jerusalem Foundation, the museum hosted numerous family groups of reserve soldiers from Jerusalem. Additionally, we organized a family event specifically for reservists in collaboration with the Parenting Unit Jerusalem Municipality Education Department.

Sensory-friendly hours

The museum hosted seven Quiet Time sessions, reserving the museum for families with children with special needs. Designed to accommodate their unique needs, these events have fostered a growing community and consistently sell-out with minimal marketing.

5 Partnerships



Zoological Gardens in Jerusalem Afterschool Programs

This pilot program, developed in collaboration with the Zoo and Aquarium, offers after-school programs for 3rd–6th graders. Sessions were held both at the museum and at the zoo or aquarium.

Jerusalem Botanical Gardens Summer Camp

Building on the success of the past two years, we expanded the Growing Science summer camp in partnership with the nearby Jerusalem Botanical Gardens. This year, the camp hosted four groups, totaling 80 children aged 7–11.

Unboxing

The museum is part of a collaborative project centered on "out-of-the-box" learning. This initiative develops documents, recommendations, and tools to support policymakers, municipal education managers, school teams, and nonprofits organizations in adopting and implementing innovative educational approaches. Launched and managed by MindCet, the project includes partners such as the Center for Educational Technology (CET), teacher training colleges, the Mifras Educational Entrepreneurship Incubator, and other educational initiatives.

This year, the initiative held its annual conference at the museum, bringing together around 100 participants for lectures and roundtable discussions.

European Collaborations

The museum leadership actively engages with European networks to represent its work and gain insights for innovation.

EUSEA

The Bloomfield Science Museum in Jerusalem remains an active member of EUSEA, with Rony Ben-Chaim serving as Vice President of the organization's Executive Board. This year, the director represented the museum at EUSEA's annual conference in Tbilisi, Georgia.





ECSITE

In June, Rony Ben-Chaim, the museum's Director, and Shir Peri, its Operations Manager, attended the annual ECSITE conference in Ljubljana, Serbia. The museum, a long-standing ECSITE member, collaborates on various projects with the organization.

At the conference, the team presented programs and tools developed at the museum to share knowledge and insights. For the first time, the museum's Director participated in ECSITE's Directors' Forum.

ScratchJr

The museum continues to promote ScratchJr, a visual programming language developed at MIT to introduce coding skills to children aged 5–7.

As a member of the global Scratch Education Collaborative (SEC), the museum has actively contributed to translating ScratchJr materials into Arabic, culturally adapting and implementing them. This effort aims to equip early education teachers in Arabic-speaking institutions to teach computational thinking and basic coding skills.



Learning Spaces

In partnership with Beta Educators – the innovation hub of the Jerusalem Education Administration – and thanks to funding from the Jerusalem Foundation, the museum launched an innovative teaching and learning program.

The Learning Spaces program invites students from East and West Jerusalem to participate in six learning days at the museum, where they are guided by museum staff in collaboration with teachers. This initiative fosters a sense of belonging within the museum and encourages a deeper understanding of learning outside the classroom. It also equips teachers with tools for outdoor and museum-based teaching.



6 Future Plans



The museum is committed to expanding its initiatives and enhancing visitor experiences, solidifying its position as a leading cultural, scientific, and educational center.

In the coming years, the museum will focus on further developing the anticiapted Nature Wing, designed to introduce visitors to the world of Israeli nature through interactive and enriching experiences. Additionally, the museum will invest in creating new and exciting exhibitions that address contemporary and thought-provoking topics.

A unique historic train carriage, a gift from the Jerusalem Municipality, now stands on the museum grounds. In 2025, this carriage will open to the public, featuring installation of miniature model trains running within it. The display will immerse visitors in the fascinating world of trains, visitors of all ages.

The museum places significant emphasis on investing in its staff, enhancing their professional skills, and broadening their areas of expertise.

Strengthening relationships with both longstanding and new partners is another key priority, enabling the museum to amplify its impact and fulfill its long-term vision.

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