The Boris Mints Institute
for Strategic Policy Solutions to Global Challenges
The Gershon H. Gordon Faculty of Social Sciences
Tel Aviv University

THE BORIS MINTS INSTITUTE FOR STRATEGIC POLICY SOLUTIONS TO GLOBAL CHALLENGES

8th ANNUAL REPORT 2023

http://www.bmiglobalsolutions.org

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BMI Conferences: Armenia, Finland, Georgia, Italy, Malta, Montenegro

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LETTER FROM FOUNDER AND PRESIDENT, DR. BORIS MINTS

Another year has passed, unfortunately the terrible and senseless war continues. The civilized part of the world community is trying to cope with the challenges that have arisen. On the one hand, we see a consolidated desire, primarily of countries belonging to the EU, the United Kingdom and the United States to resist the aggression of Putin's Russia in Ukraine. On the other hand, the war continues to this day and people are dying every day, including the civilian population of Ukraine.

For our part, we will continue to work on developing proposals in order to overcome the global challenges that have arisen as a result of Russia's military invasion of Ukraine. To this end, during this year we have restructured the work of the Institute, dividing it into three laboratories: Climate and Energy, Human Development and Institutes. We have also launched the International BMI Club, a forum where the leading minds of the academic world come together to discuss the most pressing problems and potential solutions. After a series of successful webinars during the COVID-19 pandemic, we held two conferences: one in Paris together with Science Po, dedicated to the problems of the world order, and one at our home, at Tel Aviv University. During the first one, we were pleased to welcome the winner of the BMI 2022 Prize, Professor J. Robert Axelrod of the University of Michigan, awarded for outstanding contributions to the field of conflict resolution. The conference, which was attended by outstanding scientists, discussed topical issues caused by the brutal Russian invasion of Ukraine. During our internal session, we listened to our students and researchers, and also had a serious discussion of the international legal system, noting its serious shortcomings and the need to improve it.

I want to thank Prof. Itai Sened, the head of the Institute and everyone who contributed to the work of the Institute this year. My congratulations to our four graduates. I wish them outstanding scientific results. In conclusion, I would like to thank the leadership of Tel Aviv University for their support and understanding.

Dr. Boris Mints
Founder and President of the Boris Mints Institute for Strategic Policy Solutions to Global Challenges

LETTER FROM HEAD OF BMI, PROF. ITAI SENED

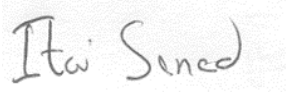
This has certainly been a year full of global challenges. And Institute is dedicated to strategic policy solutions to such challenges. It is clear for everyone to see how closely we follow and address these challenges. Dr Mints, our visionary President, Founder and benefactor has focused his letter on how the annual event in Sciences Po Paris, was dedicated to a close look at the horrible war in Ukraine. We gathered some of the world's best minds to contemplate on what it is all about and how it may end. Unfortunately, the mood in the room was not optimistic, and the somber predictions of the experts who came to comment on the situation seem to materialize on the ground. A long and unnecessary war causing hundreds of thousands of victims on both sides with no end in sight.

Our Ph.D. graduate, Dr. Karen Umansky, and I, submitted an original manuscript, based on her dissertation, to be published next year by Lexington Press. This book, a major production of the Institute, addresses another challenge the Institute is looking at for some years in the rise of populist right wing parties that threaten the very foundations of the institutional structure of modern liberal democracies. While the book covers turmoil in the UK, Austria, Germany and Italy, Israel has recently fallen into the same pattern of small extremist groups that use the democratic system of government to shake and challenge its very foundation.

But not all is bleak, the investment of the Institute in sustainable development has put us in the forefront of the most significant advances in the field. In December, I will receive an honorable mention in the 10th Annual Eilat-Eilot Renewable Energy Conference for the Institute's contribution in collaboration with this organization that has started right at the inception of our Institute. Our Ph.D. graduate, Dr. Gil Barnea has become a central figure in this domain in his own right and is serving in a leadership role in one of the largest public-private investment fund dedicated to invest in water and energy sustainability start-ups. One of the first investment they made was in a start-up headed by our own Professor Hadas Mamane, building on some research that we supported at the outset. Professor Maman was recently promoted to full professor and we sure hope that our support has helped.

The mission of our Institute, grounded in an unwavering commitment to humanity. We strive to formulate solutions to intricate conflicts, envision a sustainable blueprint for the cities of tomorrow, navigate the nuanced interplay between rapid technological advancements such as AI and the dynamic employment landscape and formulate new solutions for institutional stability. Our endeavors go beyond academic curiosity. Our responsibility is to promote principles of justice, intergenerational equity, and environmental justice. This ethical mandate guides and grounds us in every research initiative we undertake.

As we begin a new year of research and discovery, I must extend my sincere gratitude to Dr. Boris Mints. His generous support and visionary approach are a solid base and a compass for our commitment to address humanity's most pressing problems. May the new year be filled with insight, breakthroughs, and meaningful contributions to the betterment of humanity, its institutional foundations and the environment.



Professor Itai Sened
Dean of the Gershon H. Gordon Faculty of Social Sciences
Head of the Boris Mints Institute for Strategic Policy Solutions to Global Challenges

BMI VISION

Founded in 2015, The Boris Mints Institute for Strategic Policy Solutions to Global Challenges at Tel-Aviv University encourages innovative thinking, research and planning to promote a significant positive change in the world. We focus on designing innovative, multidisciplinary and sustainable strategic and operational plans to enhance the welfare around the globe.

The Institute brings together top-tier academics, world leaders, and talented and passionate researchers from Tel Aviv University and other leading universities to;

- Analyze pressing issues from an interdisciplinary, broad systemic perspective;
- Draw on TAU expertise, across various faculties, confronting contemporary challenges of inequality, democracy, economics, human development, environmental engineering, sustainability and welfare;
- Formulate novel and practical solutions backed by rigorous scientific methodology;
- Deliver strategic policy recommendations and detailed blueprints for implementation to decision-makers worldwide.

The Institute currently operates six research labs, conducting collaborative research involving technological, social, and policy factors.

A significant part of our research is based on a Startup-like methodology, including a "hands-on" approach, creating economically logical, sustainable, and fair policy solutions.

Starting 2022, the Institute aims to confront two significant global challenges that pose a substantial threat to global stability and sustainability: The Structure of Democratic and Economic Institutions.

BMI STRUCTURE | Steering Committee

Dr. Boris Mints, President

Dr. Mints has been one of the most influential businessmen in Russia in the 2004 – 2017. Currently Boris Mints is the Vice President of the World Jewish Congress, which is one of the largest and most significant organization that represents Jewish people from over 100 countries, representing their pluralism. He is also the Chairman of the Council of Patrons of the Conference of European Rabbis (CER), which is the primary Orthodox rabbinical alliance in Europe. Awarded the Dashkova's Prize "Philanthropist of the Year" and Honorary Fellow of Tel-Aviv University.

Prof. Milette Shamir, Vice President for International Affairs at Tel Aviv University

Milette Shamir's research focuses on U.S. literature and culture in the nineteenth century. She is the author of Inexpressible Privacy: The Interior Life of Antebellum American Literature (Penn University Press, 2005) and the editor of Boys Don't Cry? Rethinking Narratives of Masculinity and Emotion in the US (with Jennifer Travis, Columbia University Press, 2002). Her work appeared in several journals and essay collections devoted to the study of American literature and cultural history. Shamir is the editor-in-chief of the journal Poetics Today (with Irene Tucker of UC Irvine). From 2015 to 2019 she served as Vice Dean of the Humanities for Academic Affairs. She co-founded TAU's American Studies program in 2006, and served as its head for thirteen years.

Prof. Tami Ronen-Rozenbaum, Former Dean of the Gershon H. Gordon Faculty of Social Sciences at TAU and the Founding Head of the MA program in Developing Countries

A researcher in the field of the Cognitive Behavioral approach and Positive Psychology. Her research focuses on the function of self-control skills, positive emotions and social support as a way of overcoming stress and developing happiness. In her work, Prof. Ronen-Rozenbaum links a complex theoretical model of understanding human strengths and coping abilities to techniques for developing useful interventions in the field.

Mrs. Irina Buylova, Representative of BMI President

Executive director of the Yegor Gaidar Foundation (Russia), a prominent journalist and internationally recognized expert in building effective interaction models for Russian and international NGOs–including educational, economic and social development institutions. In the 1990s and 2000s she reported on social policy and development issues in the context of the turbulent Russian economic and political transitions.

Prof. Itai Sened, Head of BMI, Dean of the Gershon H. Gordon Faculty of Social Sciences

Prof. Sened is the new Dean of the Gordon Faculty of Social Sciences at Tel Aviv University is the founding head of the Boris Mints Institute for Strategic Policy Solution to Global Challenges and the Academic Institute for Structural Reforms.

BMI STRUCTURE | International Academic Committee

Prof. Yossi Rozenwaks, Faculty of Engineering, Tel Aviv University

Prof. Rozenwaks is a leading researcher in various fields, including nanotechnology, electrostatic force microscopy, atomic force microscopy, nanoscale charge injection in memory devices, solar cells, organic semiconductor devices, biological field effect transistors, charge carrier dynamics in semiconductors, and recombination processes.

Prof. Miranda Schreurs, Professor of Environment and Climate Policy, Bavarian School of Public Policy, Technical University of Munich

Previously the director of the Environmental Policy Research Center and professor of Comparative Politics at the Freie Universität in Berlin and an associate professor in the Department of Government and Politics at the University of Maryland. Prof. Schreurs' focuses on comparative environmental politics and policy in Europe, the United States, and East Asia. She is a member of the German Advisory Council on the Environment.

Dr. Segenet Kelemu, Director General of the International Center of Insect Physiology and Ecology (ICIPE) Nairobi, Kenya

Dr. Kelemu is the Director General of the International Center of Insect Physiology and Ecology (ICIPE) in Nairobi, Kenya. She is a molecular plant pathologist whose work focuses on the elucidation of molecular determinants of host-pathogen interactions, development of novel plant disease control strategies–including genetic engineering–biopesticides, pathogen population genetics and dynamics, and endophytic microbes and their role in plant development. She has first-hand experience with both the challenges and successes associated with African agriculture, from tending to fields to directing world-class laboratories.

Prof. Itai Sened, Head of BMI, Founding Chair School of Social and Policy Studies at TAU and Dean of the Gershon H. Gordon Faculty of Social Sciences

Prof. Sened's specializes in the study of institutions and how they affect policy at all levels. These institutions include not just formal institutions at the national and local level, but also the informal institutions which determine social norms and cultural habits and may enhance or impede economic development and social prosperity. In recent years his research has become less technical and more applied to the fields of renewable energy and institutions that protect the growing inequality in income and assets around the globe.

BMI STRUCTURE | International Advisory Board

Mrs. Joelle Aflalo, Co-Founder of the Matanel Foundation

In 2006, she founded, together with Mr. Gad Boukobza, the Matanel Foundation. This charitable institution encourages social entrepreneurship and is a testament to Mrs. Aflalo's sense of responsibility, spirituality, dedication to philanthropy, and constant desire to help create a better world.

Prof. Armen Darbinyan, Chairman of the Board, Rector of the Russian–Armenian University, Yerevan, Armenia

Prof. Darbinyan is an initiator of economic and political reforms in Armenia, including the development of the private sector and the formation of new governmental institutions. He led important reforms in the fields of telecommunication, agriculture, infrastructure and tourism. In addition, he is the author of national legislation regarding banking, stock companies, anti-trust provisions, and state regulation of public services. He is renowned as an international expert on transition economies and was granted the Young Global Leader award by the World Economic Forum.

Dr. Simeon Djankov, Senior Fellow, Visiting Professor, London School of Economics

Dr. Djankov was deputy prime minister and minister of finance of Bulgaria from 2009 to 2013. Prior to his cabinet appointment, Djankov was chief economist of the finance and private sector vice presidency of the World Bank, as well as senior director for development economics. In his 17 years at the Bank, he worked on regional trade agreements in North Africa, enterprise restructuring and privatization in transition economies, corporate governance in East Asia, and regulatory. Dr. Djankov was declared "Bulgaria's Most Successful Politician" and awarded the President's Award of the World Bank.

Prof. Sergei K. Dubinin, Member of VTB Capital Supervisory Board, Russia

Prof. Dubinin is an economist and professor at Lomonosov Moscow State University. In addition to positions in the Russian government, he served as chairman of the Russian Central Bank from 1995-1998. In addition, he has served on the board of governors of several banks and leading financial institutions.

Prof. Jacob A. Frenkel, Chairman, TAU Board of Governors, former Governor of the Bank of Israel

Prof. Jacob A. Frenkel serves as the chairman of the TAU Board of Governors and chairman of JPMorgan Chase International. In addition, he serves as Chairman of the Board of Trustees of the Group of Thirty (G-30), a private, non-profit, consultative group on international economic and monetary affairs. In addition to filling executive positions for international investment and financial services companies, Prof. Frenkel is also the former head of the Bank of Israel.

Hon. Václav Klaus, Former President of the Czech Republic, Head of the Václav Klaus Institute

An economist by training, Prof. Klaus was forced out of the Czechoslovak Academy of Sciences after the Soviet invasion in 1968. He returned after the Velvet Revolution of 1989 as one of the founders of the Civic Forum Movement. He was the country's first non-Communist Finance Minister and served from 1992 to 1997 as Prime Minister of the Czech Republic. In 2003 Klaus was elected President of the Czech Republic and won reelection in 2008. Since 2012 he has headed the institute which bears his name, a think tank based in the Czech Republic. He is a member of the Mont Pelerin Society, has published more than 30 books, and is the recipient of numerous honorary degrees and international awards.

BMI STRUCTURE | International Advisory Board

Igor Luksic, Former Prime Minister of Montenegro, Founder and Member of the Board of the Institute for Security of Montenegro

Mr. Luksic was an official candidate for the position of UN Secretary General in 2016 and served as Prime Minister of Montenegro from 2010-2012, Deputy Prime Minister and Minister of Foreign Affairs and European Integration from 2012-2016, Minister of Finance from 2004-2010, Member of the Parliament of Serbia and Montenegro from 2003-2006 and Member of the Parliament of Montenegro from 2001-2003. Today, Luksic is the south-east Europe public sector director of PwC. Dr. Luksic holds a Ph.D. in economics and is an associate professor at the University of Donja Gorica Podgorica (UDG). Dr. Luksic is an advocate for transparency and dialogue in a proactive approach to both internal and foreign relations. During his time as Prime Minister, Montenegro opened accession talks with the EU and completed accession to the WTO.

Prof. Itamar Rabinovich, Founder and President of the Israel Institute, Former Ambassador of Israel to USA and President Emeritus of TAU

Prof. Itamar Rabinovich is the president of the Israel Institute (Washington and Jerusalem), Israel's former Ambassador to the United States and the former president of Tel Aviv University (1999-2007). He is professor emeritus of Middle Eastern History at Tel Aviv University, Distinguished Global Professor at NYU and a Distinguished Fellow at the Brookings Institution. Prof. Rabinovich has been a member of Tel Aviv University's faculty since 1971 and served as the Ettinger Professor of the Contemporary History of the Middle East, chairman of the Department of Middle Eastern Studies, director of the Dayan Center for Middle Eastern and African Studies, Dean of the Humanities Faculty, and Rector. Prof. Rabinovich's book "Syrian Requiem" was recently published by Princeton University Press: https://press.princeton.edu/books/hardcover/9780691193311/syrian-requiem

Seppo Remes, Co-Founder and Chairman of the Board, EOS Russia

Mr. Remes is a Finnish citizen and holds a Licentiate of Economics degree from the Turku School of Economics. Working in Russia from 1993-2015, he is the former CEO of the Investment Company Vostok Energo and director of Vostok Nafta, both of which operate in the Russian energy sector. He was selected as the Director of the Year in 2013 by the Independent Directors' Association and the Russian Council of Industrialists and Entrepreneurs. In 2007 he was among the founders of the EOS investment firm and has been company chairman since its inception. He was awarded an honorary Doctorate from the Plekhanov Academy of Economics in Moscow and Turku School of Economics in Finland. He was member of Boards of UES, Rusnano, Rosseti, OMZ, Sollers and Sibur Holding.

BMI STRUCTURE | Management

Prof. Itai Sened, Head of BMI, Dean of the Gershon H. Gordon Faculty of Social Sciences

Prof. Sened is the new Dean of the Gordon Faculty of Social Sciences at Tel-Aviv University and founding head of the Boris Mints Institute for Strategic Policy Solution to Global Challenges and the Academic Institute for Structural Reforms.

Dr. Alexander Pesov, Representative of BMI President

Dr. Pesov hold a Ph.D. in biology and is the author of several scientific publications. Dr. Pesov has previously worked as a journalist, writer, and editor of several top journals and newspapers and served as vice president of the International Press Center in Moscow. From 1998 to 2012 Dr. Pesov was an advisor to the prime minister of the Russian Federation Eugene Primakov, chief of staff of the Ministry of Agriculture of the Russian Federation and vice governor of the Voronezh region.

Dr. Haim Ben-Yaakov, Representative of TAU President

Ben-Yaakov is a senior executive for regional development and public affairs at Tel Aviv University. He served as CEO of the Euro-Asian Jewish Congress, head of the Jewish Agency for Israel in Russia and the Baltic States and as an educational adviser for the Jewish Agency for Israel.

Yuri Ratomski, Director of BMI

Yuri specializes in creating, developing, and managing multidisciplinary, multidimensional initiatives incorporating human capital, technology, and physical infrastructure, balancing complex team structures for economically logical, sustainable, and fair projects for all stakeholders—consultant to several governmental organizations and large corporations on strategic development and robust policy solutions. Formerly the business development manager for S-Molcho and the project manager for Bat-Yam's Economic Development Company. Yuri holds a bachelor's degree (OU) in Social Sciences and Public Administration and a master's in Public Policy from Tel Aviv University.

RESEARCH

Each of our research labs consists of a Lab Leader – a senior TAU faculty member who is an expert in the relevant field, and a group of research students under their supervision. BMI labs are the operative channel of cooperation with BMI's partners within TAU and international partners. The research seeds BMI has sown have grown into academic and policy publications, international academic collaborations, and additional funds from several foundations and sources.

CLIMATE & ENERGY LAB

Lab Heads:

Prof. Hadas Mamane
Head of the Environmental Engineering Program, Faculty of Engineering, Leading Expert in Water Management and Treatment

Prof. Asher Tishler
Professor and Emeritus, Dean of the Coller School of Management at TAU, Leading Expert in Electricity supply and demand structures

Prof. Vered Blass
Department of Environmental Studies and managing Director of the new Archimedes Institute for Advanced System Analysis, a sister Institute of BMI

We work with experts from diverse fields to address urgent climate change challenges and ensure sustainable development in the energy sector; our research examines the various applications of water, the planning of food security in times of uncertainty and climate crisis, and the nuances of future cities, as well as investigating sustainable energy infrastructures using renewable, hydrogen, nuclear and other energy sources applied in various types of grids.

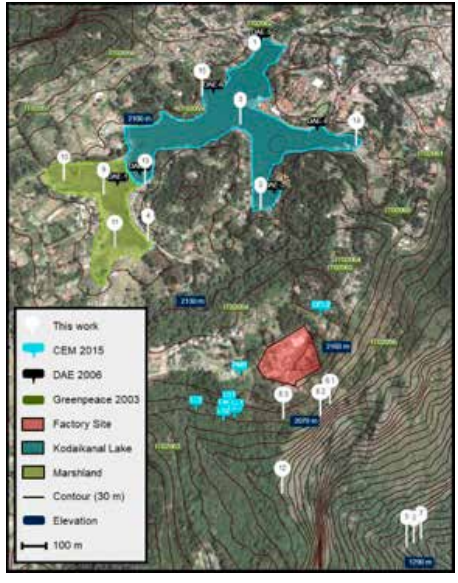
Water

Eitan Yosef Benson, BMI Fellow

Academic Advisor: Prof. Hadas Mamane, Faculty of Engineering

Research project: Heavy Metal Contamination in Developing Countries & Affordable Self-maintaining Ultrafiltration Home Water Treatment

Over the winter of 2022, Eitan conducted research at IIT Madras in Tamil Nadu, working in the research groups of Professor Kumar and Professor Pradeep. The bulk of the research conducted in Tamil Nadu was the thorough assessment of the environment surrounding the Hindustan Unilever thermometer factory site in Kodaikanal. This factory was found in 2001 to have been – for 18 years – dumping large amounts of mercury-contaminated material into the adjacent forest, selling mercury-contaminated scrap without disclosure, and storing said scrap on its own property to ensure it leaked to poison the surrounding environment. A 3D map of the sampling sites assessed is provided in Figure 1. Eitan proposes a new and highly critical policy perspective on this topic, '*The Right to Remediation,*' for both the environment and its residents. This policy perspective will be supported by insights from ecological chemistry and environmental engineering and will be applied to the intersection of national and supranational policy that dictates the regulatory framework in which mercury continues to poison our world.



Sample Locations in Environmental Assessment

Furthermore, Eitan worked on three other projects during the year: Development of Novel Recyclable Platform for the Removal of Mercury from Water combining nano, meso, and macroporous materials to generate high performance, high throughput, mercury selective reactive medium; the platform Eitan developed for mercury could be adapted for lithium, and applied to the brine produced by existing desalination processes, where the concentration is up to three times higher; and Affordable Self-maintaining Ultrafiltration Home Water Treatment, for which Eitan developed an entirely mechanical solution to this problem in the form of a device that requires no electronic components, and thus can be manufactured at very low cost.

Water

Yosef Perlmutter, BMI Fellow

Academic Advisor: Prof. Hadas Mamane, Faculty of Engineering

Research project: Predicting Secondary Effluents' Quality in Reservoirs Covered With Floating Photovoltaic Panels

Water reservoirs, in general, are attractive sites for installing floating photovoltaic (FPV) systems. FPV offers many advantages for the operation of the reservoir and the PV panels. The dual use of the reservoir area saves the need to allocate an additional land area for power generation, which is significant in Israel, where land area is not readily available. The dual use also eliminates or reduces the cost of land in the economic assessment of the PV project. FPV can reduce the evaporation rate and the corresponding water loss compared to uncovered reservoirs. Blocking a part of the solar radiation incident on the reservoir reduces algae reproduction and the need for maintenance operations to control algae. FPV panels' efficiency is usually higher than ground-mounted PV panels due to lower temperatures near the surface of a water reservoir. On the other hand, covering a water reservoir interferes with the processes necessary to maintain water quality. The fraction of reservoir area that the FPV system can cover should then be limited such that effluent quality will still satisfy the relevant quality for irrigation.

The potential impact of FPV coverage on the chemistry and biology of the reservoirs and the impact on physical parameters need to be established, and the scientific basis for these requirements is not based on the rigorous research required to assess percent coverage. Research should address how blocking solar irradiation and reducing the air-water interface affects the WSTRs' water quality. The proposed research includes an experimental investigation of WSTR performance when covered with FPV panels. The experiment will take place at Yesodot Reservoir, located near Kibbutz Revadim. The maximal surface area of Yesodot Reservoir is about 90,000 square meters, and the maximal is 125,000 square meters. Floating photovoltaic panels are installed on the reservoir, covering about 30,000 square meters, 24%-33.33% of the reservoir's surface area. Yesodot's operational details

Parameter	Value	Units
Maximal volume	932,000	m^3
Inflow rate	250	$\frac{m^3}{hour}$
Maximal outflow rate	1200	$\frac{m^3}{hour}$
Depths range (at deepest point)	2-10	m
Surface area range	90,000-120,000	m^2

The research focuses on the reservoirs with the intake of secondary treatment effluent and outflow designated for restricted irrigation. 172 WSTRs in Israel meet this description, providing approximately 229 million cubic meters for irrigation annually, which makes

up 38% of the total effluents used for irrigation in Israel. The total storage volume in these reservoirs is roughly estimated at 113 million cubic meters. Assuming an average depth of 10 m, given that the reservoir depths are usually in the range of 5 m to 15 m, the total surface area of these reservoirs can be estimated at 11.3 km2 when they are full. The Ministry of Health regulation refers to the surface area of the reservoirs when they are at their minimal operational depth. Accounting for sloping reservoir walls, the area at minimum water level is estimated as 70% of the entire area, i.e., 7.9 km2. Covering 80% of this area with FPV panels at a density of 50%, the resulting nominal power of these FPV systems is about 670 MW, and they will produce about 1,150 GWh annually under typical conditions in Israel, enough for about 140,000 typical Israeli households. Yosef's current objectives are: Conduct a comparison between two locations in the reservoir to determine whether the assumption of 1-dimensional changes in the quality parameters is legitimate and assess FPV panels' influence on the water quality in a shallow secondary effluent reservoir.

Future of Cities

Assaf Cohen, BMI Fellow

Academic Advisor: Prof. Hadas Mamane, Faculty of Engineering

Research project: Novel UV-LED water disinfection technology characterization using CFD and optical simulations

Water-borne diseases caused by different microorganisms are still prevalent in low-income countries due to the improper consumption of raw water or water that was disinfected. This is the situation for over 2 billion people worldwide. The use of UV mercury lamps, low or medium pressure (LP/MP), to disinfect water is broadly used worldwide, and its effects are known and well-founded. There has been a major development in UV-LED water disinfection technology in recent years with some promising results. The main advantages of UV-LED compared with the LP/MP Lamps are that the LED is more robust, does not contain any hazardous materials, and can be designed to emit a wider range of UV wavelengths (as opposed to LP/MP, which emits only one wavelength) with different inactivation properties. This research focuses on the latter advantage. Recently, in Prof. Hadas Mamane's water and energy Lab, it was discovered that the combination of certain wavelengths in specific irradiations has a synergetic disinfection effect, meaning that it achieves the same inactivation much faster than the additive effect of each wavelength standalone while slowing down reactivation process. This synergetic effect is yet to be characterized, and it is not yet known what the needed wavelengths and irradiation combinations are to utilize it in different reactor designs. This research aims to deeply examine the effect using CFD and optical simulations, recreating the experiment in which the effect was discovered and following the path of microorganisms through the water and UV light to try and induct the conditions needed in a future UV-LED reactor. Unfortunately, the UV-LED efficiency is relatively low (2-10% approx.), so the electric energy consumption is inferior to LP/MP. Despite that, the lower exposure time required can prove energy superior in a system context, in which less energy will be wasted on flow direction and deceleration. That said, recent articles show a promising improvement in UV-LED efficiency now that the need has risen. Assaf's objectives are: recreating the lab experiment in which the effect was found in a computer simulation, characterization of wavelengths and irradiation combinations to achieve the synergetic inactivation effect, and conducting a first-of-its-kind, two-wavelength inactivation simulation.

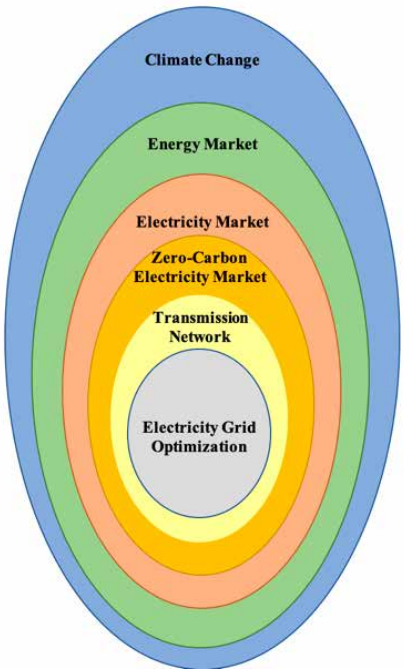
Future of Cities

Eyal Sasson, BMI Fellow

Academic Advisor: Prof. Itai Sened, Dean, Faculty of Social Sciences

Research project: Optimization of the electricity grid: long-term planning for 2030-2050

The study aims to provide an economic model for optimizing the future power grid by solving a linear programming optimization problem. Linear programming is a common method for solving optimization problems for practical and multidimensional design problems. This method is used for determining the optimal electricity network structure, which is required to supply the future electricity demand of the Israeli electricity sector at minimal cost (minimum investment of resources). The objective function includes various constraints, such as meeting the government's national targets for a desired mix of renewable energies, ensuring the reliability of the electricity network, and stabilizing the fluctuations in the amounts fed into the grid. Feasible solutions satisfy all the constraints. The model proposed in this study assumes a competitive electricity economy in which electricity production is determined according to the two-stage model of Milstein and Tishler. To date, Eyal began the introduction to the literature review of the traditional structure of electricity markets and the trend of the transition of future electricity markets to zero-carbon electricity markets. Specifically, it focuses on the structure and costs of the transmission and distribution network. He has also participated at the 80th Midwest Political Science Association Conference in Chicago, USA, and in the Araba Region at the 51st Annual Conference for Science and Environment. Additionally, Drivers of Urban Sustainability Development in Israeli Cities was published in the ecological journal Ecology and Environment, 14(1).



Future of Cities

Lior Gallo, BMI Fellow

Academic Advisors: Prof. Asher Tishler, Professor Emeritus, Coller School of Management & Prof. Itai Sened, Dean, Faculty of Social Sciences

Research project: On the Economic Feasibility of Using Nuclear Energy to Produce Electricity in Israel

Over the course of the research fellowship, Lior has been actively engaged in the establishment of The Israel Futuristic Electricity System Research Lab, collaborating closely with esteemed PhD candidates and industry professionals who specialize in electricity policy. This exciting initiative includes the invaluable contributions of renowned academics, such as Professor Itai Sened, Professor Asher Tishler, Professor Vered Blass, and Dr. Irena Milstein. Within this dynamic forum, Lior had the privilege of presenting my work on two occasions. During the first presentation, he shared insights from a report he published as a chapter in the Bank of Israel's annual report. This report focused on environmental and energy policy in Israel, particularly in relation to the nation's determined contribution to the IPCC. The presentation highlighted the critical aspects of environmental considerations in shaping Israel's energy policies. The second presentation provided an overview of his ongoing PhD thesis, which is centered on investigating the economic feasibility of introducing nuclear energy for electricity production in Israel. This comprehensive thesis is developed in close collaboration with his supervisors, and its outline is meticulously structured. The study commences with an introduction that sets the context and significance of examining nuclear energy implementation. The subsequent literature review explores energy markets and electricity markets, encompassing various elements like production, transmission, distribution, supply, and the role of Independent System Operators (ISOs). Competitive and centralized models in electricity markets are also scrutinized, with a specific focus on Israel's unique electricity market. Another essential aspect of the thesis explores the technical, safety, economic, and environmental facets of nuclear energy in electricity production. Throughout this section, Lior delves into models of optimal capacity mix, considering the interplay between nuclear technology, natural gas, photovoltaic cells, and storage solutions. As the report concludes, he reflects on the significant progress made during the past year, which includes formulating the thesis outline, advancing the literature review, and completing relevant courses. Additionally, his active participation in The Israel Futuristic Electricity System Research Lab has been instrumental in shaping his research journey. The upcoming phases entail finalizing the literature review, conducting empirical analysis, and preparing the crucial results and conclusions section of the thesis.

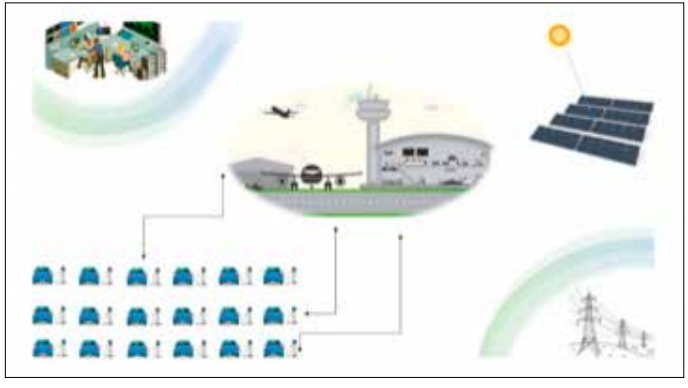
Future of Cities

Aviram Ohad, BMI Fellow

Academic Advisors: Prof. Itai Sened, Dean, Faculty of Social Sciences & Prof. Asher Tischler, Coller School of Management

Research project: A feasibility study & building a model for managing storage and a virtual power station using electric vehicles in long-term parking lots at airports

After a comprehensive study in which articles and previous studies were reviewed about virtual power plants and the correlation between the load profile of an institution and the storage volume of a fleet of electric vehicles, it was found that such a study does not exist and it is possible that the establishment of a network of chargers for long-term parking lots may exist only in a model of sharing and diverting loads to the network. A literature review was performed about the previous studies, and the engineering challenges involved in building such a model were studied. It was decided that Ben Gurion Airport would be a case study for implementing the model, and contact was made with the airport managers to coordinate cooperation and receive energy consumption data. During the second semester, a mathematical model was built in which the objective function was to minimize energy consumption, but in a mid-term meeting, it was determined that it would be better to build a model that would maximize the economic profit and also minimize the energy losses.



A scheme of participating factors

HUMAN DEVELOPMENT LAB

Lab Heads:

Prof. Isaac Sasson
Department of Anthropology and Sociology

Prof. Adriana Kemp
Department of Anthropology and Sociology, Head of the School of Social and Policy Studies

Dr. Nimrod Rosler
Department of Public Policy , Head of the International Program for Conflict Resolution

We collaborate with diverse organizations and professionals to address global challenges related to human well-being and socio-economic progress. Our objective is to develop policy solutions for a more balanced and capable society through rigorous, interdisciplinary research and evidence-based analysis that addresses demography, conflict resolution, inequality, and the future of labor.

Demography

Dr. Shayna Bernstein, Postdoctoral BMI Fellow

Academic Advisor: Dr. Isaac Sasson, Department of Anthropology and Sociology

Research projects: Educational differences in subjective survival & Social inequalities in longevity in Israel

Shayna just completed a joint paper with Prof. Isaac Sasson entitled "The Educational Gradient in Subjective Life Expectancy: An Examination across Genders and Birth Cohorts." The main research question is how individuals with different years of schooling perceive their life expectancy. Education level might significantly affect individuals' personal estimates of longevity; those with higher education perhaps make more accurate predictions, or those with lower education perhaps have more variable longevity. Their principal findings, performed on a nationally representative U.S. dataset called the Health and Retirement survey, can be summarized as follows: More than half of mid-aged respondents with 0-11 years of education predicted their probability of surviving until the age of 75 to be 50% or less. In contrast, slightly less than one-third of highly educated respondents (some college or more) made the same prediction.

The gap in both objective and expected life expectancy between individuals who completed high school and those with at least some college education is widening across birth cohorts. Men and women with at least some college education tended to have more accurate predictions of their life expectancy, particularly when those expectations were pessimistic, compared to their less educated peers. Shayna and Prof. Sasson are now embarking on a second project to document and understand social inequalities in the length of life in Israel. They applied for (and recently gained) access to restricted population data at the Israeli Central Bureau of Statistics (CBS) research data room for this ambitious project. Using these data, we plan to examine the dynamics of inequality in length of life in Israel by social class, gender, and ethnicity. At a later stage, we intend to compare those inequalities with patterns and trends found in the United States. By analyzing these social determinants of longevity jointly, we aim to understand the variations in length of life across time and sociopolitical contexts. There are significant differences in life expectancy between Jews and Arabs in Israel, and since 1996, life expectancy among Jewish men has increased by five years, whereas life expectancy among Arab men has increased by only one year. However, the specific role played by socioeconomic status, education level, area of residence, immigration status, and other demographic and social factors remains to be clarified. Shayna presented her published paper, titled "Black and white differences in subjective survival expectations: An evaluation of competing mechanisms," at the annual BMI conference in May.

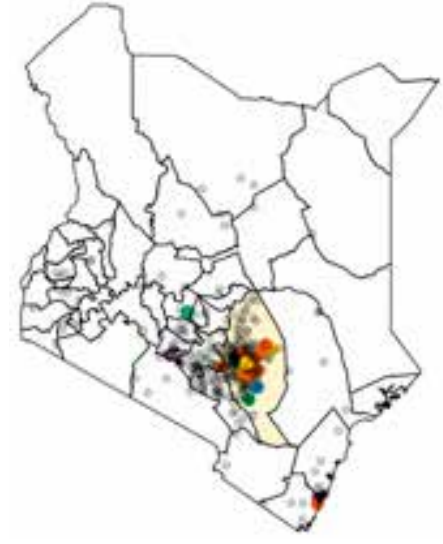
Inequality

Eve Guterman, BMI Fellow

Academic Advisor: Prof. Itai Sened, Dean, Faculty of Social Sciences

Research project: Community Currencies, Decentralization, and International Humanitarian Aid

The pressures of sustained and persistent drought and crop failure on the agricultural communities in the study led to widespread food scarcity and undernourishment in the region. Thus, both the treatment and control groups were equally exposed to an overwhelmingly negative impact on their ability to consume and save, creating supply-side gridlocks and declining consumption across the board. As such, statistical analyses, including linear regression and difference of means analyses, produced inconclusive results regarding the impact of the intervention on the chosen metrics. Overwhelming evidence from the financial journals, confirmed with qualitative evidence from the study summary survey, shows extensive use of the CIC tokens by individuals and entire chamas that were not onboarded as part of the CIC experimental intervention. This extensive spillover justified a regrouping of the cohorts followed by a re-analysis of the indicators of interest. The CIC group, both before and after the spillover regrouping, was the only cohort to experience a statistically significant decline in the incidence of household hunger over the course of the study period. Given the World Food Program's selection of participating villages based on exposure to sustained poverty in subsistence farming due to drought, the hunger metric acts as a microcosm for the driver of the intervention itself and its goals – namely, to increase the efficiency of alleviating hunger in poor agricultural communities facing drought.



Furthermore, the hunger metric includes the dynamics of consumer surplus and social welfare, particularly among study participants whose consumption is limited to basic needs. The plot below depicts the network analysis of transaction data for participating individuals over the 12 months of the study. This map displays a much larger and more diverse economic reach for smallholder farmers than we assumed, both in the geographic distance between the transacting villages and the diversity and quantity of villages included in their economic networks. Simply put, the size and reach of these existing

economic networks calls into question the validity and productivity of promoting and supporting subsistence farming as the most effective way of increasing resilience to external shocks. If these villages were isolated from other agricultural village-economies and exchanged only with the port cities resulting in pervasive capital flight, then the model would be justified. However, transaction data from the financial journals tells a more complex story of inter-village dependence, where these small rural communities conduct exchanges with a far more diverse group of villages than we thought. This visualization also helps to understand the dynamics of the spillover, in that we can see extensive clustering of exchange around participating chamas and villages in Kitui East (yellow shaded area), as well as neighboring regions, and even as far as the southern and western borders of the country. Eve observed clusters of villages that exhibit economic dependencies or pre-existing linkages that could be taken into consideration as an underlying facet of their economic network and used productively in humanitarian intervention. From a policy perspective, these clusters could be linked villages in a functional ecosystem rather than as discrete villages with the goal of each achieving self-sufficiency.

Conflict Resolution

Dr. Boaz Hameiri, BMI Researcher

Research assistant: **Yasmeen Shamshoum**, BMI Fellow

In the past year, Prof. Hameiri had several important projects that concluded. The most important project is a book he edited with Eran Halperin and Rebecca Littman, entitled, *Psychological intergroup interventions: Evidence-based approaches to improve intergroup relations,* which is currently in press and will be published in October by Routledge. This book includes 14 chapters with research on intergroup interventions and their applications to the field from a global collection of leading voices in the discipline. It also includes a conceptualization of intergroup interventions, a typology of different types of interventions, as well as a guideline for the effective development of intergroup interventions. Dr. Hameiri contributed two chapters. One chapter is on paradoxical thinking, a type of intervention he developed as part of his Ph.D. (e.g., Bar-Tal, Hameiri & Halperin, 2021, *Advances in Experimental Social Psychology*), coauthored with Shira Hebel-Sela and Nadine Knab. The second chapter discusses mass media as a platform for administering psychological interventions. In addition, he co-edited another book, *Encountering the Suffering of the Other: Reconciliation studies amid the Israeli-Palestinian conflict* got published. The book examines from different perspectives how a greater readiness to reconcile can occur among individuals and groups who experience the "suffering of the other," even amid a protracted conflict such as the Israeli-Palestinian one. Dr. Hameiri contributed three chapters to this book on victimhood. A paper partly led by Roman Gallardo (Gallardo, Moore-Berg, & Hameiri, in press) was accepted to the leading social and political psychology journal, *Political Psychology*. This paper utilizes an intervention tournament (Hameiri & Moore-Berg, 2022, *Perspectives on Psychological Sciences*) to identify an effective media intervention to reduce dehumanization toward Muslims in the U.S. Another project that Dr. Hameiri is leading with Daniel Bar-Tal, Nimrod Rosler, and Keren Sharvit in which they are developing a new intervention we termed the Informative Process Model (IPM). In a nutshell, IPM includes facilitating unfreezing and attitude change through informing individuals about the socio-psychological processes through which conflict-supporting narratives develop and suggesting that they can change via comparison to similar conflicts that have been resolved peacefully. After that, one paper from this project was published recently (Rosler et al., 2022, *Frontiers in Psychology*), another paper he leads with Inbal Ben-Ezer, is currently in the very last stages before submission. Two additional projects are also in their writing stages. First, a remarkable project examines education entertainment's role in promoting better intergroup relations between Christians and Muslims in Nigeria. As part of this project, the researchers incorporated a narrative within a soap opera with a weekly viewership of approximately 40 million Nigerians and examined its effectiveness on the residents of Kaduna, a region in Nigeria that suffered numerous violent riots and inter-religious

clashes in the past few years. Second, together with Nechumi Yaffe, they assessed the work of an Israeli organization, Gesher, that aims to promote better intergroup relations between secular and ultra-religious (Haredi) Jews in a large-scale field experiment in dozens of high schools throughout Israel. Finally, the work on meta-perceptions, i.e., 'how I think outgroup members think about my group,' has been progressing. Dina Kravchik conducted a study on meta-perceptions among Jews and Arabs in Israel. Yasmeen Soumsoum, a BMI fellow, has been an integral part of this project. Dina found that Arabs were much more accurate (and, in some cases, completely accurate) than Jews in their meta-perceptions. She received the Sergio Grywac Award from the Social Sciences Faculty for her work.

Conflict Resolution

Noy Kalif, BMI Fellow

Academic Advisor: Dr. Boaz Hameiri, School of Social and Policy Studies

Research Project: Trait Victimhood

Previous research has demonstrated that individuals with higher levels of Tendency of Interpersonal Victimhood (TIV), also known as trait victimhood, tend to perceive others as victims, even in the absence of any explicit indication that those individuals have experienced victimization. Over the past eighteen months, Noy conducted four experiments to investigate this phenomenon. The findings revealed that participants with higher levels of TIV displayed a greater inclination to assist these perceived victims and exhibited higher levels of empathy towards them, in comparison to participants with low levels of TIV (empathy was surprisingly significant and was used in all the following experiments as a main variable). In another experiment, she explored how competition for resources influenced the perception of victims among individuals with high levels of TIV. The results indicated that participants with high TIV continued to display empathy towards the other player, whom they perceived as a victim, even when their support for this player conflicted with their personal interests. However, when asked if they wanted the other player to win, knowing that this would result in their loss, high TIV participants showed reduced support for the other player compared to low TIV participants. This suggests that the situation's competitive aspect influenced high TIV individuals' willingness to support the victim when their own resources were at stake. In the most recent experiment, Noy examined the reactions of individuals with high levels of TIV when a self-identified victim intentionally caused harm or favored the division of resources in their own favor, as opposed to when a neutral third party randomly allocated resources. While the findings did not yield the expected significance level, combined with the results of the other three experiments, they contribute to a comprehensive understanding of trait victimhood. On the one hand, individuals with higher levels of TIV exhibited higher empathy, yet on the other hand, they demonstrated competitiveness and a reduced willingness to relinquish their resources. By consolidating the findings of these four experiments into a cohesive paper, Noy aims to provide a deeper understanding of trait victimhood, shedding light on its multifaceted aspects. Specifically, individuals with high TIV possess both empathetic tendencies and a competitive nature, highlighting the potential conflicts inherent in their responses to social situations. Noy has also focused on studying and learning research tools, conducting analysis, and interpreting networks using various characteristic measures. She aimed to acquire knowledge and skills in these areas. In the upcoming year, she will delve deeper into conducting diverse analyses, including an attempt to predict external variables using the networks. The research plan involves analyzing existing data from two surveys conducted among samples from Arab and Jewish societies. These surveys have identical structures and wording. This study aims to compare dominant attitudes and their related attitudes using network analysis

in Israeli and Arab societies. Network analysis enables the identification of influential attitudes and their connections, thereby facilitating the design of targeted interventions. By using network analysis to examine attitudes in Israeli and Arab societies, this research aims to deepen our understanding of the relationships between dominant attitudes and their related attitudes in each social group. Such analysis will shed light on influential attitudes and their connections, providing valuable insights for developing targeted interventions and fostering better intergroup understanding. Attached are two graphs depicting the attitudes of Jewish and Arab groups.

Conflict Resolution

Dr. Nadine Knab, BMI Postdoctoral Fellow

Academic Advisor: Dr. Boaz Hameiri, School of Social and Policy Studies

Research project: When helping is a wolf in a sheep's clothing – how the interplay of norms and threat perceptions can maintain social inequality

Extreme weather, rising water levels, and a damaged ecosystem will heavily impact the already large number of refugees. The need to help people that flee their country will be a significant future challenge. Helping as a concept inherently entails unequal power relations, as the help provider has resources the help recipient does not have. Thus, Dr. Knab argues that helping can lead to maintaining power relations, especially when helping is offered in a dependency-oriented manner (help that makes the recipient dependent on continued help instead of providing the tools, i.e., autonomy-help). In this project, Dr. Knab proposes that norms to help the disadvantaged group (in one's social environment and on a country level) impact which of these seemingly different action tendencies is shown. Concretely, people who feel threatened by the disadvantaged group but perceive strong norms to help the group should opt for dependency-oriented help because it allows them to follow the norms in their environment but also satisfy their underlying motivation to maintain hierarchy due to the perceived threat. Data from a pilot experimental study (N = 110) and three studies conducted in Germany and Israel (combined N = 823) show that dependency-oriented help is highest when participants perceive strong norms but feel threatened simultaneously. This interaction was not visible for autonomy help. Whereas studies 1-3 were conducted with refugees as the disadvantaged group, study 5 (N = 365) aimed to extend the findings to a different intergroup setting and shows also that Jewish Israelis offer more dependency-help to Arab Israelis when there is a high threat and strong norms perceptions (in contrast to weak norms). In a fifth study conducted in the US (N = 200), Dr. Knab aimed to reduce negative emotions (including threat) to give rise to autonomy-oriented help. By creating interdependence between citizens and people migrating to the country, people showed higher autonomy helping in contrast to a control group. The results have implications for initiatives that can increase social equality.

Conflict Resolution

Nora Meissner, BMI Fellow

Academic Advisor: Prof. Adriana Kemp, Head of the School for Social and Policy Studies

Research projects: "Examining civil society's crisis responses for refugees and asylum seekers in Israel during the COVID-19 pandemic"

Summary of work in progress for research publication

The aim of the article in progress is to analyze *how civil society organizations navigate crises in the context of protracted displacement*.

Nora draws on participatory ethnography and 17 interviews conducted between 2020 and 2023 with Israeli CSOs and municipal actors working in support of asylum seekers (AS), mainly from Eritrea and Sudan, which focused on their efforts during the COVID-19 pandemic. The assumption guiding the analysis is that the issues in response to which CSOs are established often constitute crises. These crises' dynamics shape the organizational landscape and organizations' operations, provide experiences and knowledge, and therefore equip organizations to deal with unprecedented crisis events. She suggests that *how* Israeli CSOs working in support of African asylum seekers navigated the COVID-19 pandemic needs to be understood in the broader context of their support for a long-term displaced population, including the history of that displacement, and their relative positions within the organizational field that formed with respect to that context. The findings indicate that the ways organizations acted during the COVID-19 pandemic were not merely pragmatic but rooted in the experience of working within the critical conditions of protracted displacement and previous critical events. Specifically, Nora proposes that the notion of a *crisis management habitus* (CMH) captures the field-specific mechanism that structures and implicitly guides organizations' activities. In other words, we address organizational practice's diachronic and synchronic contingency on the field, its history, and its structure. Nora shows how the organizational field of support for African asylum seekers in Israel has formed, eventually including organizations that existed before the arrival of AS in the mid-2000s, bringing their experiences, knowledge, and expertise from other fields with them and newly established organizations, bringing the access to AS community knowledge, both specific to different AS sub-populations and to the locations in which they work. These are the organizational dispositions through which the CMH performs: Firstly, *reactivity* shapes the operational strategies of organizations, reflecting their responsiveness to emergent challenges coming from changes in governmental policies. Secondly, the *balancing act between service provision and advocacy* signifies the inherent tension within the field constituted by the limitation of organizations' scope of action due to limited means and resources and the refusal of the state to assume its responsibility for the living conditions of AS. Thirdly, *adaptation* illustrates how the field and organizations' operations within it evolve in response to the persistent displacement crisis, accommodating new realities and changing

circumstances, including, but not limited to, the dispersal of AS communities across localities, diversification of community needs, and community leadership drain. Lastly, *interactions within and outside the field* have produced a relational infrastructure that facilitates collective efforts in addressing critical events amidst the broader critical conditions. Nora then shows how the CMH performed in the crisis navigation of a triad of interrelated critical events that the COVID-19 pandemic introduced: The overall health crisis, the humanitarian crisis, and individual-level pandemic-related crises of access to rights. In fact, Israeli CSOs showcased their reactive disposition developed within a field that is inherently responsive to governmental decisions and policy alterations. On this occasion, however, their reactivity was not prompted by a policy change but rather by the far-reaching consequences of the exclusionary policies that the government has been implementing toward asylum seekers for nearly two decades. Nora argues that the *crisis management habitus* of Israeli CSOs working with African asylum seekers is produced by crisis and further develops through crisis. As such, the case study provides insights regarding the relation between PD as context for CSO work and crisis navigation as organizational practice.

Outcomes:

1. Kemp, A., & Meissner, N. (2022). Paradoxes of Control. In G. Ben-Porat, Y. Feniger, D. Filc, P. Kabalo, & J. Mirsky, *Routledge Handbook on Contemporary Israel* (1st ed., pp. 351–363). Routledge. https://doi.org/10.4324/9780429281013-31.
2. Presentation at BMI Conference in May 2023: "Navigating through Crises: Civil Society Organizations working with African asylum seekers in Israel."

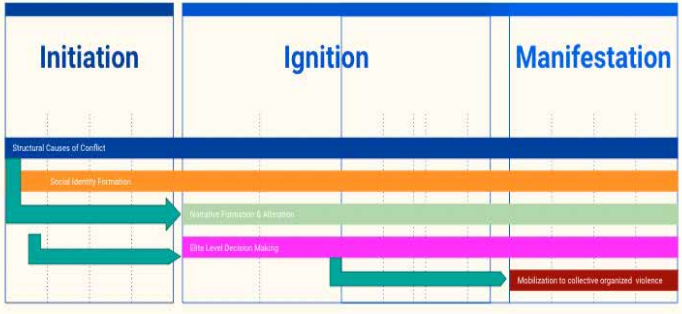
Conflict Resolution

Petr Pesov, BMI Fellow

Academic Advisors: Prof. Itai Sened, Dean, Faculty of Social Sciences & Prof. Udi Sommer, Department of Political Science

Research project: Conflicts as Processes: An Attempt at an Interdisciplinary Modern Conflict Typology

The field of conflict resolution is unique due to its interdisciplinary properties and the ability to synthesize theories that belong to a vast array of fields of knowledge. Many scholars have worked on analyzing different disputes to create models of their escalation, with the goal of understanding which factors result in collective violence. Despite this, there has yet to be an agreement in the field as to what exactly is the process behind escalations. Existing models are either single or dual-disciplinary, while due to the field's interdisciplinarity, conflicts are affected by an extensive amount of both internal and exogenous factors. This is a crucial gap in research, as without this, it is not possible to classify conflicts according to their type, which could help develop better strategies for more efficient resolution processes, mitigation efforts, and confidence-building measures. The attempt to fill this gap through Petr's doctoral dissertation is best explained in two distinct phases. Firstly, a new model of escalation was proposed by reviewing existing ones. Having a multi-level, interdisciplinary, and chronological model of escalations, the theoretical basis provided is an attempt to review all angles that most conflicts tend to have while being able to see which ones happen when in each one, as well as what are the effects of each corresponding factor within the model. Following that, in the second stage, a conflict typology will be created by looking at the model's variations between case studies. This typology will have a scope of looking at conflicts that are of the violent, intergroup type. Theoretical works on conflict escalations are very context-specific to the conflicts that scholars analyze. Because of this – a significant limitation of all the existing models that were reviewed in this section is that they are single, or best-case dual disciplinary, omitting many significant factors that influence the flow of the conflict. Through a process of developing a theoretical framework, five key elements were identified: Structural Causes & Institutions, Social Identities & Groups, Narratives, Elite Level Decision-making, and Mobilization towards organized collective violence. Petr proposes three distinct stages: initiation, ignition, and manifestation. The first stage is when the conflict is invisible. However, the oil for it is already



put in place, and the gears are starting to shift. At this stage, structural causes of conflict and social identities are formed, impacting the communities through unmet needs and establishing the in and out-groups. Furthermore, the conflict moves in the ignition stage, where it finally becomes visible to the naked eye, through establishing and altering the narrative, according to the social identity parameters, while elites are starting to make decisions that can serve as early indicators of conflict. At the last stage of manifestation – the society becomes mobilized to carry out acts of collective organized violence towards the out-group, so the conflict takes full effect and is no longer visible but rather blinding. The process occurs on both sides of the conflict; thus, to grasp the complete picture, two models need to be filled with inputs from each group and juxtaposed against one another. In order to fill in the gaps of knowledge as per the current literature on typologies, the model will be used to address typology conflicts. For this purpose, the following research question was adopted for this purpose: How does the violent intergroup conflict group according to the process model? The candidate is preparing the first draft of the Ph.D. proposal for review, which will be submitted to the advisors by September 2023. Petr participated in BMI's 9th Annual Research Conference.

INSTITUTIONS LAB

Lab Head:

Prof. Itai Sened,
Dean, Faculty of Social Sciences &
Head of BMI

We live in a rapidly changing world where trust in government is decreasing, resulting in the instability of institutions and presenting new and complex challenges for society. This field of research focuses on democratic, economic, and global institutions with a strategic perspective of fostering geopolitical collaborations essential for addressing prosperity on multiple levels.

Significant outcomes with former BMI Fellow Karen Umansky

1. Karen Umanski and Itai Sened. 2023 ***Multiparty Democracies in Crisis*** (temporary name) book manuscript under contract with Lexington.

2. Gianneti Daniela Itai Sened and Karen Umanski. 2022. "The Entry of the M5S and the Reshaping of Party Politics in Italy (2008-2018)" *Government and Opposition*, accepted for publication.

RESEARCH UPDATES AND GRADUATING FELLOWS

We are happy and Proud to have supported the following fellows who have successfully Graduated:

- **Assaf Cohen**, Climate & Energy Lab
- **Eve Guterman,** Human Development Lab
- **Nora Meissner,** Human Development Lab
- **Yosef Perlmutter,** Climate & Energy Lab

BMI CONFERENCES

A NEW WORLD ORDER

Sponsored by Sciences Po Paris, The Boris Mints Institute, and the International School of Social Sciences at Tel Aviv University
January 25th–26th, 2023

After recovering from the COVID-19 pandemic, the world plunged into one of its darkest moments in modern history unveiling some fundamental challenges within the political, economic, and social issues of our society. Russia's war in Ukraine has demonstrated multiple faults in the existing systems of governance, at both the national and international levels. "A New World Order", the Sciences Po – Tel Aviv University conference explored facets of this frightening reality to see if strategic responses to these global challenges could be developed. Ignoring such challenges would lead to catastrophic consequences for humanity. Developing new institutional solutions and the reorganization of existing ones is vital towards creating a common global eco system for humanity for the future. There was a focus on four topics, the cornerstones for the conference. The first two focused on the heart of the problem, while the others explored where answers may come from. Two hot beds of conflict are the wars in Ukraine and in the Middle East. The conference summoned the best minds in the world to look at these and rethink whether light can be found, in the middle of these dark and long-lasting conflicts. The other two panels investigated what may change things. There too, the conference brought together the most renowned experts to explore the options. The first of these panels focused on political and economic institutions: to what extent the existing institutions are really failing us, how, why, and what could we propose as optional remedies. The last panel focused on digital governance and cyber governance. In the future, institutions will be mostly digital or, at very least, will rely heavily on digital mechanisms to govern. The most obvious example with which one has accumulated a significant amount of experience and knowledge is the cyber world, an arena that is mostly governed by digital structures of governance. The conference summoned the top global experts on cyber governance to highlight what their experience of the structure of the cyber world tells us about Artificial Intelligence and other mechanisms of digital governance, the challenges they face and the extent to which they can solve any of the generic problems that characterize our traditional forms of governance.

BMI CONFERENCES

BMI'S 9TH ANNUAL CONFERENCE – INSTITUTIONS, SOCIETY AND GLOBAL POLICY

Tel Aviv University
May 17th, 2023

During the BMI 9th Annual Research Conference – the topics addressed varied from Institutions, Society and conducting global policy. BMI fellows have contributed to the discussion by presenting progress in their research focusing on conflict resolution, demographics, and inequality this year. The presentations included ground-breaking theoretical and practical contributions the students have worked on in their doctoral and post-doctoral positions. Additionally, two expert panels took place. The first focused on the rise of the European far-right, analysing both the demand and supply side of the challenge to determine what increases the support for the populists in electoral cycles, establishing that both have significant effects and act in synchrony with one another. Second, they addressed the challenges in the international legal system, as they pertain to the accountability or rather the lack thereof, of international organizations like the United Nations, proposing new ways of solving this problem that is of great relevance during the war in Ukraine and the aftermath of the COVID-19 pandemic. After the 9th year of operation, BMI is looking forward to expanding its activities in sustainability, human development, and institutions; the next step will be a conference in Krakow in the fall of 2023.

THE 2022 BMI PRIZE

The Boris Mints Institute was founded with the intention to encourage research, planning and innovative thinking to promote significant positive change in the world. BMI is focusing on finding strategic feasible solutions to provide strategic plans and innovative projects to enhance the welfare of communities around the globe. Starting 2017, BMI awards a $100,000 prize to an exceptional individual who has devoted his/her research and academic life to the solution of a strategic global challenge, and whose research public action and ideas had transformative impacts on global policy formation and a proven contribution to the welfare of a significant number of communities worldwide.

The 2022 BMI Prize Laureate is Prof. Robert M. Axelrod, Distinguished University Professor of Political Science and Public Policy, Emeritus, at the Gerald R. Ford School of Public Policy, University of Michigan. The prize is awarded to Prof. Robert Axelrod for his contribution to the field of conflict resolution in its broader sense, focusing on his ground-breaking work in applying game theory to conflict resolution. In his research, which employed the Prisoner's Dilemma, Axelrod discovered that cooperative choices and beneficial behaviors, with punishments in place for those that do not adhere to such, are the best way to manage conflicts. He has applied his academic findings to modern conflicts, working with the United Nations Peacekeeping Forces in the former Yugoslavia and sitting down with professionals from all sides. Axelrod has also shared his ideas with Prime Minister Netanyahu of Israel and published his research in Science and Harvard's Negotiation Journal. The value of Prof. Axelrod's research and policy engagement on conflict resolution has previously been recognized by the National Academy of Sciences (USA), with their award for Contributions of Behavioural and Social Science to the Prevention of Nuclear War, and by President Obama from whom Axelrod received the National Medal of Science.

2022 BMI PRIZE LAUREATE
PROF. ROBERT M. AXELROD

Robert Axelrod, Professor Emeritus at the University of Michigan, remarked: *"I am truly honoured to have been selected as 2022 Prize Laureate of the Boris Mints Institute Prize. The conflicts we witness around the world seem endless. However, as my research has shown, when two sides expect to interact for a long time, cooperation based on reciprocity can emerge and be sustained."*

Dr. Boris Mints, Founder and President of the BMI, added: *"I am delighted that Robert Axelrod has been awarded this prize. His academic contributions, which are so relevant to the work of the Institute, make him a very worthy winner."*

BMI CLUB

THE STATE OF THE WORLD WHEN PEACE RETURNS TO UKRAINE

Inaugurating the BMI International Club Discussion Meeting

Sep 28th, 2022

The Boris Mints Institute and the International Graduate School of Social Sciences have joined forces to start a new discussion forum inaugurated as the "International Club". The 'International Club', an open forum of the top minds currently active in diverse disciplines fill the void of practical reason regarding the welfare of the society. The club, made of 20 global leaders in various disciplines will engage each member to pursue original ideas towards a coherent body of practical wisdom regarding the well-being of human society, share them with members of the club and develop them conceptually and research wise until they mature enough to be shared with the public at large, and, most importantly, as they are handed off to leading national and international decision makers to reflect upon and implement. The discussion participants included:

- **Prof. Shlomo Ben Ami,** Vice President of the Toledo International Centre for Peace, Former Israeli Minister of Foreign Affairs, Professor Emeritus of History, Tel-Aviv University, on *Conflicts and their Resolution*
- **Prof. Simon Hix,** Department of Political and Social Sciences, European University Institute, on *The European Union during and Post the War in Ukraine*
- **Prof. Miranda Schreurs,** Professor of Environmental and Climate Policy, Technical University of Munich, on *The EURO zone Energy crisis, now and later*
- **Prof. Paul Romer,** Nobel Prize Laureate (Economics), Professor of Economics at NYU and Distinguished Honorary Academic Head at IGS3, on *Enabling economic growth in devastated environments*
- **Prof. James Wersch,** Director Emeritus of the McDonnell International Scholars Academy, Professor of Sociocultural Anthropology at Washington University in St. Louis, on *the collective memory of this and other conflicts*

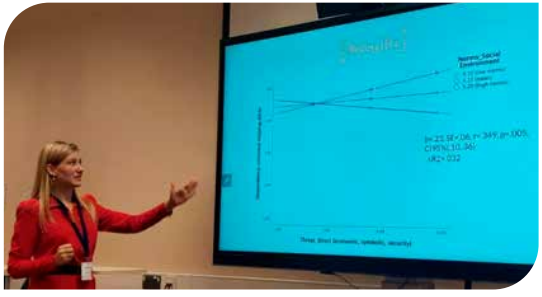
The Discussion was moderated by **Prof. Itai Sened**, Dean of the Faculty of Social Sciences, Head of the International Graduate School of Social Sciences and of the Boris Mints Institute for Strategic Policy Solutions to Global Challenges.

OTHER BMI ACTIVITIES

DR. NADINE KNAB REPRESENTING BMI AT THE ANNUAL CONFERENCE OF THE BRITISH SOCIETY OF SOCIAL PSYCHOLOGY IN LONDON

Sep 7th, 2022

Post doc Fellow Nadine Knab presented a talk in a symposium at the Annual Conference of the British Society of Social Psychology in London (5th-7th September 2022) which focused on Innovations and impact in addressing global challenges. The symposium was titled "When Social Identities Face Contemporary Challenges: Implications for Intergroup Relations" – including studies from a wide range of intergroup relations from Northern Ireland, to Germany and Israel.



BMI SUPPORTS EWB'S TANZANIA DELEGATION

Sep 15th, 2022

A team from Engineer Without Boarders travelled to Tanzania to spread knowledge and implement infrastructure that will create sustainable water solutions, some of which are being developed by our water lab scientists.

OTHER BMI ACTIVITIES

THE 11TH ARAVA SEMINAR ON RENEWABLE ENERGIES AND POLICY SOLUTIONS

Sep 18th, 2022

As part of a collaboration with Afeka college and the Eilat-Eilot renewable energies organization, the institute is proud to lead the methodological development allowing Social Science students from TAU and future engineers from Afeka college to participate in a one-week intensive seminar devoted to developing interdisciplinary and robust solutions in fields of renewable energies. During the seminar, students are introduced to the diverse renewable energy eco-system in the Arava region and attend numerous lectures and workshops given by top-tier industry leaders and researchers to lay solid foundations for accurate and contemporary work by the students in the future.

BMI GRADUATE DR. GIDEON SEGEV WON THE PRESTIGIOUS R&D 100 AWARD

Sep 23rd, 2022

BMI graduate Dr. Gideon Segev, among six other researchers, won the prestigious R&D 100 award for developing **a Solar Fuel Generator Including a Catalytic Mesh**. Hydrogen produced from green resources is a clean, renewable alternative to the hydrogen produced from fossil fuels today. With the invention, unlimited quantities of green hydrogen can be produced using only sunlight and water, while only oxygen is produced as a byproduct. Its modular, standalone design promises to bring the benefits of clean hydrogen everywhere, even in areas without an electrical grid or large-scale manufacturing infrastructure, as required by current electrolyzer technologies.

OTHER BMI ACTIVITIES

A NEW ARTICLE PUBLISHED BY PROF. SENED & DR. UMANSKY

Oct 24th, 2022

Dr. Umansky & Prof. Sened published an article examining how challenger parties enter the political area and the effect of this entry by looking at the Italian 5 Star Movement (Movimento 5 Stelle – M5S).

A NEW PUBLICATION BY EVE GUTTERMAN

Oct 26th, 2022

The paper briefly introduces models and basic design principles of community currency systems from economic and network analytical perspectives. Policymakers, grassroots organizations, and activists can find in this paper the necessary analytical and practical tools to start and enhance their own community currency projects.

BMI SENT FOUR REPRESENTATIVES TO THE IIASA-ISRAEL SYMPOSIUM ON SUSTAINABILITY PATHWAYS EMPOWERED BY SYSTEMS ANALYSIS

Nov 28th–29th, 2022

In the context of sustainable development, the IIASA-IL Symposiums will focus on developing strategic solutions using applied systems analysis and how these systems interact with the public and private sectors. There were three BMI researchers attending this prestigious event, which is known to attract many distinguished speakers: **Water Panel** – Prof. Hadas Mamane; **Demography Panel** – Prof. Issac Sasson; **The Energy and Transport Nexus Panel** – Dr. Vered Blass, while Prof. Itai Sened Mastered the Ceremonies.

OTHER BMI ACTIVITIES

WEBINAR: SMALL WATER DISINFECTION SYSTEMS

Jan 19th, 2023

Prof. Hadas Mamane-Stindl attends the IWA seminar on UV light and the role of women in remote communities. The webinar is organized by the IWA Sanitation and Water Management in Developing Countries Specialist Group and it is co-hosted by the International Ultraviolet Association (IUVA).. Women and girls often carry the responsibility of collecting water, and they are disproportionately affected by poor water services and contaminated water.

LAUNCHING THE 12TH ARAVA SEMINAR FOR SUSTAINABLE DEVELOPMENT

Feb 15th, 2023

The result of a collaboration between Tel Aviv University – the Boris Mints Institute for Strategic Policy Solutions to Global Challenges, the School of Social and Policy Studies, the Department of

Public Policy, Afeka College of Engineering, and the Eilat-Eilot Renewable Energy Company, located in southern Arava. Eilat-Eilot has been working for a decade for regional economic-technological-socio-development based on the most significant geographical resource – The sun. This resource is the heart of all the organization's activities: generating solar-free electricity for 100,000 people, promoting technological innovation and cleantech, regulation and policy advancement, international conferences, a training center, and more.

OTHER BMI ACTIVITIES

A NEW ARTICLE PUBLISHED BY SHAYNA BERNSTEIN & PROF. ISSAC SASSON

Black and white differences in subjective survival expectations: An evaluation of competing mechanisms

Apr 4th, 2023

Shayna & Prof. Sasson found that blacks—men in particular—were overly optimistic about their survival, but this effect had waned with successive birth cohorts. Furthermore, whereas subjective survival expectations and actual survival were correlated among white men, the most optimistic fared worst among black men. Blacks and whites differed in their response patterns and how they weighed the different factors (socioeconomic, psychosocial, health, parental longevity) associated with expected survival.

BMI WELCOMES THE EWB DELEGATION BACK FROM TANZANIA FOLLOWING A SUCCESSFUL TRIP IN APRIL 2023

Apr 26th, 2023

The EWB delegation, supported by BMI, came back from Tanzania following a successful trip in April 2023. The team built a scalable water filtration system using ceramic filters connected in parallel, which was installed in Sabilo Primary School. The project has given 1,000 children and staff access to clean water year-round. The EWB team also constructed a new 60,000-liter rainwater harvesting system, the most extensive system built to date by the team and the community. It covers around 1,000 square meters of the roof and 115 meters of gutters, providing clean water for 800 children.

OTHER BMI ACTIVITIES

BMI SUPPORTS THE "TZAHEI" INITIATIVE FOR EMPOWERING ETHIOPIAN WOMEN

During the coming year, BMI will support the "Tzahei" initiative, a program designed to empower Ethiopian women to participate in leadership roles in their communities, societies, and political institutions. Participants in the program will learn about topics such as the political game, power relations, resource distribution, and politics in Israel. Also, ethnicity, economic status, feminism, identity politics, and multiculturalism enable them to acquire critical skills and competencies for effective participation in public life. The institute will assign its researchers to provide training and assistance alongside the program's leaders.