# The Dual-Use Dilemma: Ethics and Accountability in Israeli R&D

## Panel Report


Panelists (in alphabetical order)
Prof. Michal Bar-Asher Siegal
Prof. David Enoch
Prof. Boaz Golany
Ambassador Michael Mann
Prof. Shimon Marom
Prof. Hagit Messer-Yaron

Moderator
Prof. Eli Salzberger

Coordinators
Dr. Avigail Ferdman
Ms. Rinat Klein



SAMUEL Neaman Institute FOR NATIONAL POLICY RESEARCH




Ethics | 11/25

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MONDAY
3 NOVEMBER, 2025
15:00 - 17:00

CONFERENCE ROOM,
THE SAMUEL NEAMAN INSTITUTE
TECHNION CITY, HAIFA

SAMUEL Neaman Institute FOR NATIONAL POLICY RESEARCH

INVITES YOU TO A

# PANEL DISCUSSION ON THE DUAL-USE DILEMMA: ETHICS AND ACCOUNTABILITY IN ISRAELI R&D

## SCOPE OF DISCUSSION

*The panel will address the ethical and political challenges against growing global scrutiny of dual-use research and institutional responsibility, it will bring together academics, policymakers, and EU representatives to examine how research institutions can uphold ethical standards, navigate human rights obligations, and maintain public trust during times of national crisis.*

## PARTICIPANTS AND SPEAKERS

**MR. MICHAEL MANN**
*EU AMBASSADOR TO ISRAEL*

**PROF. MICHAL BAR-ASHER SIEGAL**
*VICE PRESIDENT FOR GLOBAL ENGAGEMENT, BEN GURION UNIVERSITY; DEPARTMENT OF JEWISH THOUGHT, BEN GURION UNIVERSITY*

**PROF. DAVID ENOCH**
*THE PROFESSOR OF THE PHILOSOPHY OF LAW, OXFORD UNIVERSITY; PROFESSOR, FACULTY OF LAW AND DEPARTMENT OF PHILOSOPHY, THE HEBREW UNIVERSITY OF JERUSALEM*

**PROF. BOAZ GOLANY**
*SENIOR RESEARCH FELLOW, THE SAMUEL NEAMAN INSTITUTE; FORMER VP FOR EXTERNAL RELATIONS & RESOURCED DEVELOPMENT AND EXECUTIVE VP AND DIRECTOR GENERAL, TECHNION*

**PROF. SHIMON MAROM**
*CEO, THE SAMUEL NEAMAN INSTITUTE; FACULTY OF MEDICINE, TECHNION*

**PROF. HAGIT MESSER YARON**
*SCHOOL OF ELECTRICAL ENGINEERING, TEL AVIV UNIVERSITY; CHAIR, BASHAAR - ACADEMIC COMMUNITY FOR ISRAELI SOCIETY*

## OPENING REMARKS

**PROF. ISHI TALMON**
*CHAIRMAN OF THE BOARD, THE SAMUEL NEAMAN INSTITUTE; FACULTY OF CHEMICAL ENGINEERING, TECHNION*

**PROF. SHIMON MAROM**
*CEO, THE SAMUEL NEAMAN INSTITUTE; FACULTY OF MEDICINE, TECHNION*

**PROF. ELI SALZBERGER**
*RESEARCH LEAD FOR ETHICS, THE SAMUEL NEAMAN INSTITUTE; PROFESSOR OF LAW, UNIVERSITY OF HAIFA*

## MODERATED BY

**DR. AVIGAIL FERDMAN**
*ETHICS AND TECHNOLOGY TEAM LEADER, THE SAMUEL NEAMAN INSTITUTE ; DEPARTMENT OF HUMANITIES AND ARTS, TECHNION*

*Contact Ms. Rinat Klein rinat@sni.technion.ac.il*

# Executive Summary

## 1. Introduction

The Samuel Neaman Institute hosted a high-level panel discussion on "The Dual-Use Dilemma: Ethics and Accountability in Israeli R&D," examining the ethical, legal, and political dimensions of research and technology that serve both civilian and military purposes. The event was organized under the auspice of the Institute's Ethics Section, headed by Prof. Eli Salzberger, and coordinated by Dr. Avigail Ferdman and Ms. Rinat Klein.

The panel brought together leading scholars from diverse disciplines: philosophy, engineering, law, and the social sciences, alongside representatives of the European Union. The discussion addressed the growing tension between scientific freedom, global security concerns, and international expectations of ethical accountability in research, particularly considering the ongoing conflict and recent EU policy debates regarding Israel's participation in Horizon Europe programs.

In the Appendix I, you can find the full transcript of the proceedings.

## 2. Opening and Greetings

### Prof. Ishi Talmon – Chair of the Samuel Neaman Institute

Prof. Talmon welcomed attendees, outlining the Institute's role as an independent, non-profit think tank dedicated to national policy research in science, technology, higher education, and society. He emphasized the Institute's autonomy, supported by the Samuel Neaman Foundation, which allows it to engage in sensitive public debates, such as this one, without political interference.

### Prof. Shimon Marom – Director, Samuel Neaman Institute

Prof. Marom reflected on the philosophical depth of the dual-use dilemma, arguing that *dual use is not a special category but the default condition of science itself.* Every act of discovery, he said, carries the potential for both benefits and harm. Ethical foresight, he argued, should *"illuminate, not censor"* - clarifying responsibility without paralyzing creativity. He warned against the instrumentalization of ethics as a political weapon to delegitimize research or institutions, calling instead for honest engagement with moral complexity.

### Prof. Eli Salzberger – Opening Remarks

Prof. Salzberger opened the event by welcoming participants and introducing the theme. He noted that dual-use research - science with both civilian and military potential, represents one of the most pressing ethical challenges of our time. In fact, it is part of a broader and more fundamental ethical question: should the possible consequences of one's research be considered when deciding whether to conduct or support that research? And if so, in what way should research institutions, state regulators, or even international funders intervene? This question is not limited to the STEM fields, but it is equally relevant to the social sciences and the humanities.

He framed the discussion around core questions:

- Should the potential consequences of research influence the decision to conduct or fund it?
- What responsibilities do researchers, institutions, and states hold in ensuring ethical use of scientific knowledge?
- Can ethical foresight coexist with national defense imperatives and international collaboration?

He also highlighted the current political context: the European Commission's deliberations on restricting Israeli access to certain Horizon Europe programs, citing concerns over the military ties of Israeli universities. Salzberger described this as a "fierce reality where academic freedom intersects with global security and human rights."

He concluded by thanking Rinat Klein for her work on both the substantive and organizational aspects of the event, and introduced the first speaker, Prof. David Enoch.

## 3. Keynote Address – Prof. David Enoch

Prof. Enoch opened with conceptual clarification, noting that the term "dual use" is employed in multiple senses - from civilian/military to academic/industrial and moral "good/bad" distinctions. Clarity, he argued, is crucial, as ethical analysis depends on how the term is framed.

He emphasized two foundational principles:

1. Causal complexity: Researchers are always part of extended causal chains; therefore, moral responsibility cannot be determined merely by participation but by nature and foreseeability of consequences.

2. The intention–foresight distinction: Moral and legal reasoning often distinguishes between *intended* and *foreseen* harm (e.g., collateral damage). Even if researchers do not intend to harm, they remain responsible for foreseeable negative outcomes.

He stressed that researchers have duties to minimize foreseeable harm, both through research design and through mitigation measures such as restricted dissemination when necessary - citing EU ethics review processes as an example.

Enoch discussed the pervasive uncertainty in dual-use contexts, particularly when dealing with institutions skilled at concealing their intentions. This, he said, necessitates heightened moral caution and critical evaluation of trust in state and military institutions.

Finally, he expanded the dual-use framework beyond STEM fields, highlighting its relevance to philosophy and legal scholarship, where theoretical work can also be appropriated for political or military purposes.

He concluded by addressing the question of external pressure and academic boycotts: while outside intervention may sometimes be warranted in extreme circumstances, it must be evaluated pragmatically, with attention to its real-world effectiveness and potential for unintended harm.

## 4. EU Perspective – Ambassador Michael Mann

Ambassador Mann provided a diplomatic and policy-oriented perspective. He described dual-use considerations as a daily operational issue in EU humanitarian and research work, offering a tangible example: even importing tents or soap into Gaza can raise dual-use concerns, as some components might theoretically be repurposed for military use.

Regarding Horizon Europe, he clarified:

- EU research funding is limited to *civilian* purposes, though dual-use potential cannot always be foreseen.
- All funded projects undergo independent ethical review, with outcomes incorporated into grant obligations.

Addressing recent proposals to suspend Israel's participation in certain EU programs, he emphasized that these discussions were limited to the *Accelerator* track (for start-ups), not the entire Horizon framework. The measure was intended as a *symbolic gesture of pressure* in response to humanitarian concerns in Gaza, not as a blanket academic sanction.

He expressed the EU's strong opposition to academic boycotts, calling them "harmful to both sides" and reaffirmed that "cooperation between Israeli and European academia has been immensely beneficial and should not be jeopardized."

## 5. Academic Perspectives

### Prof. Hagit Messer-Yaron – Tel Aviv University

Prof. Messer-Yaron spoke from an engineering researcher's perspective. She distinguished between ethical responsibility at three levels:

- Individual researcher – choosing research topics ethically.
- Funding sources – deciding whether to accept mission-driven or defense-related funding.
- Commercialization – determining acceptable uses of research results.

She emphasized that Israeli universities are independent entities, each free to adopt its own policy. She called for greater *transparency* and possibly limits on commercialization for military use, while maintaining academic freedom. Awareness, she argued, is key: researchers must consciously position themselves on the ethical spectrum, understanding the implications of their choices.

### Prof. Michal Bar-Asher Siegal – Ben-Gurion University of the Negev

Prof. Bar-Asher Siegal, Vice President for Global Engagement, highlighted the chilling effect of boycotts and their impact on academic collaboration. She argued that targeting academia is *"both hypocritical and counterproductive,"* since universities are precisely the environments where free thought, coexistence, and liberal values thrive.

She shared her personal experiences leading efforts against academic boycotts and recounted a moving incident at a European theology conference where she successfully persuaded participants to reject a proposed academic boycott of Israel. Her key message: academic boycotts harm the liberal, democratic future of Israel and do not advance peace or human rights.

### Prof. Boaz Golany – Technion

Prof. Golany defended Israel's research community, rejecting the "dual use" label as too narrow. Most research, he said, has *multiple* uses, many unforeseeable. Citing Einstein's relativity theory and its eventual application in atomic weapons, he noted that scientists cannot always predict downstream consequences.

He also listed examples of EU universities conducting defense-related research under Horizon support, arguing that Israel should not be held to a different standard. He called on the EU to take stronger measures against universities engaging in academic boycotts, including possible sanctions.

## 6. Rebuttals and Discussion

Prof. David Enoch acknowledged that not all military research is morally wrong (context matters) but warned against dismissing responsibility merely because harm is unintended. Ethical reasoning, he argued, requires balancing foresight, intent, and proportionality.

Ambassador Mann reiterated that the EU cannot legally penalize universities for boycotts, as doing so would infringe on academic freedom. However, he agreed that the erosion of academic relationships is dangerous and mutually damaging.

Prof. Golany countered that the current situation is already deeply painful for Israeli academia and equally harmful for European institutions that sever ties.

Ambassador Mann responded that while public outrage in Europe is real, it must be contextualized: *"We may judge Israel differently precisely because it is a democracy."* He rejected claims that EU criticism stems from antisemitism and emphasized that there are *no EU sanctions* on Israel - only independent actions by some universities.

Prof. Hagit Messer-Yaron returned to the issue of ethics, stressing that Israel's security reality makes the dual-use dilemma uniquely complex. In a society under constant threat, contributions to defense are often viewed as moral imperatives. Thus, she argued that each researcher and institution must decide for themselves where to draw the ethical line.

Dr. Reuven Gal offered a psychological perspective, recalling his experience as Chief Psychologist of the IDF. He described the moral tension between strengthening soldiers psychologically and thereby enabling further participation in combat. He related this to the framework of *jus ad bellum* and *jus in bello* - the ethics of going to war versus the ethics of conduct in war, suggesting that similar distinctions apply to research ethics and the dual-use dilemma.

A question from Prof. Ehud Behar (Technion) invited comparison with the academic boycott of South Africa under apartheid.

- Prof. David Enoch cautioned that while such comparisons can be enlightening, they are historically limited: *"Different time, different country, different global order."*
- Prof. Michal Bar-Asher Siegal added that even if the South African boycott seemed effective, it succeeded only because it coincided with wide-ranging economic and

political sanctions. "*Academic boycotts alone rarely work,"* she said, *"and in our world today, they do more harm than good."*

- Prof. Eli Salzberger noted that the question of whether universities collaborated with or resisted the apartheid regime is indeed relevant when considering institutional responsibility in Israel.
- Prof. Enoch urged self-reflection: *"We are doing reasonably well given the circumstances, but each of us could have done much better."*

## 7. Closing Remarks

### Mr. Aaretti Siitonen (EU Delegation)

Mr. Siitonen commended the discussion, saying it was *"a real pleasure to see academic freedom in action."*

### Prof. Eli Salzberger – Final Remarks

In his concluding statement, Prof. Salzberger summarized the key ethical insights:

- Every research endeavor carries dual or multiple potential uses.
- Ethical responsibility lies primarily with individual researchers, who must deliberate consciously, guided by education and institutional support.
- Institutions and states must provide *ethical infrastructure:* committees, education, and transparent processes, without overreaching or suppressing academic freedom.

He emphasized that ethical dilemmas are not solved by regulation but by ongoing dialogue and reflection. *"Ethical problems,"* he said, *"are resolved through deliberation, with oneself and with others, not by fixed answers like the law provides."*

## 8. Key Takeaways

- Dual-use research is an intrinsic feature of scientific inquiry, not an anomaly.
- Ethical responsibility must operate at both individual and institutional levels.
- Trust between academia, government, and the international community is central to navigating ethical dilemmas.
- Academic boycotts are widely viewed as harmful, ineffective, and counterproductive to liberal democratic values.

- EU–Israel collaboration remains crucial; both sides expressed a commitment to maintaining open academic dialogue despite political tensions.
- Israel's unique security context complicates the application of universal ethical frameworks, highlighting the need for contextual sensitivity.

## 9. Conclusion

The panel at the Samuel Neaman Institute illuminated the profound moral complexity surrounding dual-use research in an age of geopolitical tension. The dialogue revealed both divergence and convergence: disagreement on methods and motives, but broad consensus on the importance of ethics, academic freedom, and international cooperation.

The discussion reaffirmed the Institute's role as a leading platform for open, interdisciplinary discourse on ethics, technology, and society, and underscored the need to continue these conversations long after the headlines fade.

# Appendix I: Full transcript of the proceedings

### Prof. Eli Salzberger – Greetings:

Welcome, everyone, and thank you for joining this very important discussion on the dual-use dilemma - ethics and accountability in Israeli research and development.

As you may have noticed, I'm not Dr. Avigail Ferdman, who was supposed to moderate this panel and who took a very active part in its planning. Dr. Ferdman unfortunately slipped her disk and is unable to move, but she has joined us online, and we all wish her a quick and full recovery.

I'm Eli Salzberger, Head of the Ethics Section at the Samuel Neaman Institute, which was established only two years ago, and I'll be replacing Avigail as moderator of today's panel.

We have a large audience joining us online. Please note that those of you participating remotely are welcome to submit your questions in the chat. Rinat Klein will collect and process them, and if time allows at the end of the discussion, we will address some of them.

Now, I would like to invite Professor Ishi Talmon, Chairman of the Board of the Samuel Neaman Institute, to open the event, followed by Professor Shimon Marom, the Director of the Institute.

### Prof. Ishi Talmon – Greetings:

I'd like to welcome you all to this workshop and thank you for joining us here today.

As Eli mentioned, I'm the Chair of the Board of the Samuel Neaman Institute, and a Professor Emeritus of Chemical Engineering at the Technion. You are here at the Samuel Neaman Institute for National Policy Research - a public policy think tank located at the Technion, though it is an independent, non-profit organization.

Our mission is to identify, formulate, and analyse national policy issues. The Institute was founded in 1978 by Samuel "Sam" Neaman, a great philanthropist, who also, established the foundations that continue to provide us with perpetual financial support, ensuring our complete independence.

The research conducted at our Institute focuses on policy analysis of nationally significant issues in science, engineering, technology, higher education, and society. The goal is to provide strategic insights and policy recommendations to decision-makers, a task that is not always simple, as many of you know.

We have a diverse team of experts from academia and industry, and the Institute regularly produces in-depth research reports, hosts conferences and workshops like this one, and provides funding for independent research initiatives.

Once again, thank you for joining us today. I wish us all a very productive and thought-provoking discussion.

Prof. Shimon Marom - Opening Remarks:

Thank you, Ishi. I'm Shimon Marom, a professor here at the Technion, and I suppose that, given the topic of today's discussion, that's an important disclosure to make. Thank you to everyone attending here in person, and to those joining us online.

We often speak as though certain research programs or products are *dual-use*, while others are not, as if danger resides solely in application, rather than in the very nature of scientific inquiry. But as every scientist knows, every act of discovery carries dual potential.

An electrophysiological manipulation that evokes activity patterns in neural tissue could just as easily enhance interrogation as advance medical understanding. An algorithm for pattern detection could become a tool for surveillance. Novel material could serve as either a shield or a weapon.

If we are honest, and we should be, this means that dual use is not a special category; it is, in fact, the default condition of science. The only truly straightforward cases are those in which harm is explicit and when a project is initiated or funded by actors whose intent is clearly destructive. Everything else, which accounts for roughly 99% of scientific research, lies in a murky borderland where moral judgment becomes a political instrument.

The language of ethics can then be used either to normalize us, the scientists, into compliance, or to delegitimize others under the guise of addressing dual use. And here lies the real danger: ethics can become a rhetorical weapon - a way to discredit ideas, people, or institutions, when what is truly at stake are ideology and power.

We must resist that slide. Ethical foresight should illuminate, not censor; it should clarify our responsibilities, not paralyze our imagination.

I look forward to the discussion in the next couple of hours, with the hope that it will not become another stage for preaching ideology, we have enough of that everywhere. From my point of view, our task today is not to define pseudo-categories of "good use" or "bad use" research, but rather to ensure that ethics does not become yet another instrument of control.

I wish us all a meaningful and successful meeting.

Prof. Eli Salzberger – Opening Remarks:

Thank you very much.

As was once said, dual-use research, scientific work that can serve both good and bad purposes, civilian and military alike, is among the pressing ethical challenges of our time. In moments of conflict, the stakes become even higher. Technologies designed to heal, innovate, and advance our understanding can be redirected to harm, to surveil, or to wage war. This raises profound questions about the responsibilities of researchers, institutions, and the state.

These questions go beyond the realm of ethics; they reach into the domains of law and international relations. Following the conduct of the IDF in Gaza, the European Commission proposed suspending Israeli access to the European Innovation Council Accelerator grants, which typically support start-ups and other initiatives. Restrictions on Israeli universities' participation in Horizon Europe and other EU research funding programs were also suggested, portraying Israeli academia as being closely connected to the army and the defense industry.

Today we face a challenging reality, where academic freedom intersects with global security concerns on one hand and human rights on the other, and where decisions made in laboratories can reverberate across humanitarian crises.

On the ethical level, the dual-use dilemma is part of a broader and more fundamental question: should the possible consequences of one's research be considered when deciding whether to conduct or support that research? And if so, in what way should research institutions, state regulators, or even international funders intervene? This question is not limited to the STEM fields, but it is equally relevant to the social sciences and the humanities.

One manifestation of this ethical dilemma, especially in science and basic research, is the *problem of many hands*: when a complex, distributed activity causes harm through many individual actions that contribute to it in small ways, making it almost impossible to assign backward-looking responsibility or to structure forward-looking responsibility. The problem of many hands also, requires us to confront another normative concept – *'collective responsibility'*, whether it lies with the research institution, the state, the discipline, or academia at large.

When we talk about the state, another question arises: that of trust. Should academic ethics regarding dual use depend on trust in state institutions and the military, trust that they adhere to international law and human-rights norms? The current discussion is prompted

not only by pure ethical interest or the threat of sanctions, but also by a possible crisis of such trust.

We will begin today's discussion with the ethical dimension. Professor David Enoch will give us a brief overview of the moral and ethical considerations that are, or should be, at the heart of the normative discussion around dual use. I hope he will address questions such as: how can we ensure that scientific progress does not come at the cost of human rights? What frameworks can guide us when the line between innovation and weaponization blurs? What is the role of scientists and practitioners on the one hand, and philosophers and regulators on the other? How can we begin to address collective responsibility in practice? And finally, how can trust be rebuilt between nations and research communities when ethical boundaries are tested?

We will then invite the EU Ambassador, Mr. Michael Mann, to briefly present the EU's position on the topic of dual use, including key principles and practical considerations at the heart of EU policy. He may also, reflect on the ongoing discussion regarding Israel and its universities vis-à-vis EU institutions.

Afterward, we will hear from an esteemed panel representing different Israeli universities and disciplines: Professor Hagit Messer-Yaron, Professor Michal Bar-Asher Siegal, Professor Boaz Golany, and Professor Shimon Marom. They will continue to explore these questions from philosophical, diplomatic, and practical perspectives, perhaps seeking pathways to uphold integrity in research while sustaining international collaboration in times of geopolitical tension.

We will then open the floor for questions from both our panelists and the audience, including those joining us online, followed by a concluding round of reflections.

Before passing the floor to Professor David Enoch, I would like to thank Rinat Klein for her work on both the substance and the organization of this event, and to thank Dr. Avigail Ferdman again.

It is now my pleasure to invite Professor David Enoch, Professor of Philosophy of Law at the University of Oxford, and Professor of Philosophy and Law at the Hebrew University of Jerusalem.

Prof. David Enoch - Opening Remarks:

Thank you very much. I'll try to address some of the points you mentioned, though I doubt I'll have time to cover all of them. I'd like to begin with a brief conceptual clarification,

because while preparing for this discussion it became clear to me that there is, ironically, more than one use of the term dual use.

I think it's used to capture at least three different distinctions. One distinction is between research that has civilian use and research that has military use. That's one way of drawing the line, and I think that's typically how the term is used in EU legal documents.

But sometimes the term is used more broadly to describe research that has both a scientific, perhaps purely intellectual or academic kind of use, alongside an industrial or technological use.

And sometimes, the term is used in a way that is more overtly moral - to describe research that has both good and bad uses. For instance, I've heard it is used to distinguish between a certain technology and its use in defensive warfare, compared to its use in purposes that sound less benign.

For some purposes, it matters greatly which of these distinctions we're talking about. So, clarity here is not just a philosopher's hobby, it certainly matters legally, and perhaps in other domains as well. Most of what I'll say next applies to all three of these distinctions, though perhaps not equally. The distinction itself, however, is important.

The first general moral point I want to raise is about a constraint on our discussion, which comes from the simple observation, perhaps trivial, but crucial, that causal chains are always long and complex.

So, if you want to determine who is responsible for something, or what I am responsible for, or what kinds of considerations I should take into account when deciding whether to conduct research or publish findings, you can't just ask: "Will I play any role in a causal chain that might eventually lead to a harmful result?" That question is far too broad because all of us play such a role, all the time.

By paying taxes in a country that funds immoral activities, or by purchasing something from someone who does, we're all entangled in causal chains that might lead, indirectly, to harm. Clearly, that can't be the relevant moral test. The distinction we are after, between responsible and irresponsible research, must lie within the causal chain, not merely between being part of one or not.

Another important point in the background of this moral discussion is one that Eli already hinted at, is what is often called the intending versus foreseeing distinction. You may have encountered it in discussions about the morality of war or international humanitarian law.

We often tolerate, given certain conditions, the killing of innocents if it's not intended but merely foreseen as a side effect. The very term collateral damage rests on this distinction. Much of common-sense morality depends on it.

Now, this distinction is controversial, as everything in philosophy is. But for the purposes of our discussion, I'll assume that something like it is morally relevant. If you, as a researcher, do not intend your findings to be used or abused by the military in problematic operations, then you are not, in that respect, intending harm to innocent people. However, you may still foresee that harm might result.

That, I think, provides the right general framework for our discussion. We can treat dual-use research as a case where harm is foreseen but not intended. And just as in other cases, we can say that one may still be responsible for harm that is merely foreseen. The mere fact that you didn't intend it doesn't necessarily absolve you of responsibility.

On the other hand, we typically think that intending harm requires stronger moral justification than merely foreseeing it. So, there are still moral standards that apply even when you don't intend the problematic use. You can't simply say, "That's not me, I'm just doing research." That doesn't work here or anywhere else.

However, it's true that the standards are somewhat less stringent when you don't intend the harmful use. This means that certain duties still apply - duties to minimize foreseeable harm, to mitigate risks, to take precautions. These duties apply both to the kind of research you choose to conduct and to the measures you take to limit or prevent misuse.

For instance, there might be cases where mitigation means restricting publication. I saw an EU document that mentions this kind of measure. It goes against our ethos as academics, but then, So, does killing innocent people. Sometimes, trade-offs must be made.

Another point mentioned in the questions I received and by Shimon earlier concerns the huge role of uncertainty. Often, we simply don't know how our research will be used or misused by others. Uncertainty is omnipresent; it's part of life, and it's true here as well.

One thing we could do, and I won't bore you with the details unless you twist my arm, is to apply general lessons from discussions of moral uncertainty. There's a large body of literature on this, and much of it applies directly here.

But I want to highlight something more specific. The institutions on the other side of dual-use research - the potential users or funders, are not random members of society. We know something about them. They are particularly skilled at creating and maintaining ignorance about their intentions, about what they do with your research.

This means the kind of uncertainty we face here is not just large, it's of a special kind. Unless you deliberately close your eyes, you know that you will remain uncertain, that you will remain ignorant of crucial facts, and that your ignorance will be actively manipulated by powerful actors.

This must influence the level of caution required by us. It also relates to another key issue Eli mentioned earlier - the question of trust. How much trust can we place in the relevant institutions? And how does the level of trust we can place in them affect the level of caution needed, both at the individual and institutional level?

I'll mention two or three more points, and then I'll stop.

One thing I was initially proud to think of before realizing it was already in literature, is that when we talk about dual use, we tend to think of examples like biological research into toxins, or certain uses of data science, or explosive technologies. But the category is actually much broader.

Let me mention two areas closer to my own work that I think are relevant: philosophy and law.

As a philosopher, I write about questions that interest me. I'm paid to think about them, and usually, that's that. Typically, decision-makers don't read my papers. But sometimes they do, and sometimes it's entirely predictable that they will, especially if, based on purely theoretical reasoning, I end up justifying a conclusion that's extremely convenient for the current Israeli government, for instance.

So, what should I do? Philosophical integrity requires following the argument where it leads and publishing the results. But there may also be foreseeable, though unintended, consequences. And the dilemmas here are not so different from those involved in biological or data science research with potential for misuse.

The same applies, perhaps even more clearly, to legal research. Legal scholars often see themselves as academics, but their work is frequently cited by courts or used by attorneys, sometimes to defend a country facing serious accusations in The Hague. The same moral dilemma applies.

This shows that the scope of research raising dual-use dilemmas is much broader than we tend to think. And considering these dilemmas in "softer" fields, like philosophy or law, may offer useful distance or perspective when thinking about the same issues in science and technology.

Finally, most of what I've said so far has been from the point of view of a well-intentioned researcher deliberating about their own work. Some of it also touches on institutional responsibility. But I want to end with a different angle: external intervention.

When it comes to dual-use research, what forms of outside intervention, said by governments, international organizations, or funders, might be justified? Is this different from intervention in purely academic research, to the extent such a thing even exists?

Here again, uncertainty looms large. And I should note - this will be obvious to Israelis but perhaps less so to others. I don't represent anyone. I've never held any senior administrative position in academia, unlike many here, so I can afford to speak frankly.

We know some of what Israel has done in Gaza, even under considerable outside pressure. So, while it makes sense to worry about academic boycotts or other forms of external pressure, surely the more frightening thought - the one that should shake us to our core, is how Israel might have behaved without any external pressure.

That thought is terrifying. And it leads me to say that, in principle, I'm open to all kinds of external pressures, even painful ones, including in the academic domain.

Of course, questions of efficacy are crucial. What kinds of actions are productive versus counterproductive? I don't have expertise in that. These questions are highly contingent; answers will vary depending on circumstances, fields, and cases.

But given what we know, given the realities of the state and its actions, I don't think any kind of intervention should be ruled out in principle. I'm open, in principle, to any form of external pressure that might promote accountability and restraint.

I think I'll stop here. Thank you.

Prof. Eli Salzberger - Moderator:

Thank you very much. The last point you raised reminds me of something from a few months ago, when a colleague of yours presented a paper in our faculty seminar on *the morality of revenge*.

In a sense, this connects not only to the issue of foreseen versus intended consequences, but also, to the question of *why* we choose to write about certain topics at certain times. That, by itself, can be an interesting *ethical question*.

As was once said, in Latin, of course, we tend to finalize these things in Latin while everyone else speaks English. Usually, our problem is that when we write in other languages, too many people read us. Latin might be safer in that regard.

Now, let me turn the floor over to Ambassador Michael Mann, the EU Ambassador to Israel, who arrived only recently to our country, just two months ago. We're very pleased to have you here for your first visit to Technion.

Before his EU career, Ambassador Mann was a journalist, working with outlets such as The Economist, The Financial Times, and Bloomberg. Prior to his current appointment, he held several other senior posts, including serving as the EU Ambassador to Iceland - quite a different place, with quite a different climate and problems, as Chief Spokesperson for European Commission, EU Special Envoy for the Arctic, European External Action Service and many others.

Ambassador Michael Mann - Opening Remarks:

Well, thank you very much for inviting me. I'm very pleased to be here today, feeling slightly intimidated to be surrounded by such academic and intellectual prowess, but I'll do my best to keep up.

Just a few introductory remarks from me.

Dual use is something that, in our daily work, we are regularly confronted with. A recent and very concrete example, of course, is that the European Union is currently the largest provider of humanitarian assistance to Gaza. And naturally, we face significant difficulties even getting basic items, such as tents or soap, into the area. For instance, tent poles can be considered potential weapons, and soap contains glycerin, which can be used to make explosives. So, we are confronted with such dual-use dilemmas on a very practical level all the time.

In terms of the Horizon programme, David already touched upon the various possible definitions of dual use, for us, within Horizon, the definition is quite specific. We require that any research or innovation resulting from a Horizon project be strictly for civilian use.

That doesn't mean that after a project is completed, or once research is published or a product is developed, it cannot later be adapted or further developed for other purposes. But that phase would be outside our purview. That's one of the issues we constantly face, given the kind of causal links David mentioned. If you followed those links too far, you would never be able to fund anything, because almost any research could, one day, be used differently. So, again, David's point about causal chains is very relevant here.

All Horizon projects, during their development phase, must go through a review process. First, there is an evaluation by external, independent experts. Then, there is a self-assessment by the researchers themselves. But crucially, there is also, an ethics review. The

outcome of this ethics review becomes part of the legal obligations under the grant agreement. So, there is quite a thorough process in place to ensure compliance with ethical standards.

Now, I want to address a couple of the elephants in the room.

As you mentioned in your introduction, there was a proposal made to suspend Israel's participation in part of Horizon Europe. I should underline that this concerned only a very small part of the programme, the Accelerator, under the European Innovation Council. That section provides grants to start-ups and companies, rather than to the academic community.

The reasoning in Brussels was that political leaders were deeply concerned about the way the military campaign in Gaza was conducted. While there was strong support for Israel at the beginning of the war, there was growing concern about the blockade of humanitarian aid entering Gaza and the continuation of the military campaign into densely populated areas such as Dar al-Salaam and Rafah. Our political leadership sought ways to apply leverage, to persuade Israel to change its behavior.

However, the leverage available to the European Union is relatively limited. The proposed suspension of the Accelerator was one such symbolic measure intended to apply pressure. I want to stress - this was never about stifling academic research or innovation. Israel has been a massive success story in science and innovation, world-renowned, and a crucial partner for us.

This proposal was meant as a symbolic gesture of pressure, not as a statement against academic cooperation. In our system, such proposals require unanimous approval from all member states to be adopted as law. That has not happened. The measure remains on the table, but it has not been agreed upon, and it's quite possible that it never will be.

Of course, things can change, depending on developments. Thankfully, the situation on the ground has now significantly improved, with the ceasefire and the beginning of a new framework for Gaza's future.

That said, even without formal adoption, the proposal itself has had what we call a "chilling effect." We've been made aware that some European universities and companies are becoming hesitant to participate in research consortia with Israeli institutions.

Let me be very clear: this is not something the European Union supports. On the contrary, we believe that cooperation between European and Israeli researchers has been immensely valuable, to both sides, and we strongly encourage it to continue. Whenever we receive

letters from universities expressing concern, we respond robustly to reaffirm our commitment to maintaining this collaboration.

So, I hope, and I think everyone here hopes, that now, as the situation improves, we are entering a more optimistic period, and that this chilling effect will fade before it causes any serious or lasting damage.

I'll leave it there. Thank you.

Prof. Eli Salzberger - Moderator:

Thank you for your words.

Now let us turn to Professor Hagit Messer-Yaron. Professor Messer-Yaron is Professor Emerita at the School of Electrical and Computer Engineering at Tel Aviv University, and a very important figure to know. Over the years, Hagit has held several leading positions, including serving as the Chief Scientist at the Ministry of Science, the Vice President for Research at Tel Aviv University, the President of the Open University, and the Deputy Chairperson of the Council for Higher Education.

Prof. Hagit Messer Yaron - Opening Remarks:

Thank you. The topic is very interesting, and I decided to take a personal point of view, as an active researcher in engineering, who is naturally involved with the issue of dual use in academic life.

There is, of course, both an internal perspective and an external one, as you just mentioned. And I think that all of us who are actively involved in international collaborations clearly see the chilling effect that you referred to. I'm not as optimistic as you are, it will take quite some time for that effect to disappear, even if things move in the right direction, but it is certainly an issue.

In Israel, we fortunately still have two levels of governance in the academic field. One is the individual level, the responsibility of each researcher, and the other is the institutional level. Each university or college in Israel is an independent legal entity. Even if it is publicly funded and supported by the state, it still has the right to decide how it operates.

Given this reality, my question is: how should individual academic or the institution deal with the dual-use dilemma?

If we take as given the ethical issues that David raised, we can see that each researcher must make a series of ethical decisions along a continuum. As individual researchers, we have the freedom to choose our research topics, and here, an ethical decision must already be made.

But research also requires financial support. And sometimes, that financial support comes with strings attached, especially when it comes from mission-driven sources, such as private companies, public corporations, or the Ministry of Defense.

When you have a project that needs funding, you may feel pressure to seek it from any available source. Yet it remains your decision, as a researcher, which kinds of support you are willing to accept. So, there are three levels of decision-making: you can choose the topic, you can choose the source of support, and you can decide how to handle the commercialization of your research results.

All Israeli universities are deeply involved in the commercialization of research outcomes. Naturally, at this stage, the commercialization stage, the dual-use dilemma becomes dramatic. Research can be commercialized for different purposes, for multiple users, not all of them civilian.

Here we find major differences among universities. As individual researchers, our research results formally belong to the university; this is part of our employment agreement. According to the bylaws of every Israeli university, the institution holds the right to commercialize the research results. The question is: can a researcher say, “I don’t want my invention to be commercialized for military purposes”?

At my university, Tel Aviv University, the bylaws are, I believe, quite fair. I was involved in shaping them many years ago, and they allow the researcher to make such a decision. But if you look at the bylaws of other universities, particularly in England, in many cases the university has the right to decide the direction of commercialization without consulting the individual researcher.

So, on the spectrum of ethical dual use, each researcher must decide where they stand within these three levels: the research topic, the source of funding, and the commercialization pathway.

For me, the most important thing is that researchers are aware of the ethical issues that David described, and that they make informed and conscious choices in dealing with these dilemmas. They should know exactly where they stand. But within the framework of academic freedom, I believe that each of us must make our own decisions, within the constraints that exist, and there are many.

Unfortunately, when it comes to the chilling effect, I don’t think that the ethical standards of individual researchers have much influence. The chilling effect we see in international collaborations doesn’t depend on personal ethics. Our colleagues abroad don’t ask whether

we protested the government or where we stand politically. They simply decide whether to include or exclude Israeli researchers. This is something we must live with personally and professionally.

As I said, each university can and should decide on its own policy regarding dual use. Since, at the end of the day, research is conducted by individual scholars who are responsible for their topics, the university's main role, in my view, lies in two areas: financial support and commercialization. These are the two domains directly controlled by the institution.

To the best of my knowledge, all universities in Israel strongly encourage researchers to seek external funding, and they do not differentiate between sources. But perhaps a university that is ethically aware should consider setting limits, for instance, restricting the proportion of external funding that comes from dual-use technologies or, even more specifically, from military-related sources.

After all, the Ministry of Defense and the IDF invest significant amounts of money in academic research. The university must decide how, and to what extent, it wants to be involved in that.

The second issue, again, is commercialization. All universities in Israel actively promote commercialization, but, to my knowledge, there are no restrictions or ethical considerations regarding who the technology is sold or licensed to. I believe universities should think carefully about this and adopt a policy of transparency. Now, to the best of my knowledge, there is no such policy.

So, to conclude - awareness of ethical dilemmas is crucial, but also is maintaining academic freedom, allowing each researcher to decide, within existing constraints, where they stand on this spectrum. At the same time, universities and researchers alike should establish clearer boundaries regarding funding sources and commercialization practices.

That is my personal view. Thank you.

Prof. Eli Salzberger - Moderator:

Thank you very much for that.

Professor Michal Bar-Asher Siegal is the Vice President for Global Engagement at Ben-Gurion University of the Negev and a Professor of Jewish Thought. Even within the field of Jewish thought, there are "dual uses," as she reminded us earlier, reflecting the deep layers of interpretation and meaning found in our texts.

She is also, a senior researcher at the Belmonte Greenbaum International Center for Jewish Thought at Ben-Gurion University and a member of the Israeli Young Academy of Sciences.

Prof. Michal Bar-Asher Siegal - Opening Remarks:

Thank you. I want to make it very, very clear that I am a professor of Ancient Judaism. I don't know anything about technology or about dual use in the contemporary sense, it "exploded" in a very different way in ancient Judaism. But I'm here today to speak from my role as Vice President for Global Engagement and to share a little about the effect you mentioned.

Since you brought it up, I'll begin by saying that when we usually talk about dual use, we tend to think about technology. But as was pointed out earlier, the concept extends far beyond that, and religion, in fact, is full of dual use.

Our own central text, the Babylonian Talmud, written in the 4th century CE, includes mocking references to Jesus. Those same lines were later used as justification to attack Jews. I teach this to my students as an example of how interreligious dialogue can evolve, and be weaponized, over time. I was teaching this material at Harvard Law School on October 9th, just two days after the October 7th massacre, while the tragedy was still unfolding.

So, when we talk about dual use, we really need to broaden the concept and recognize its wider implications. When we speak about boycotts or sanctions in the context of technological dual use, we should also, consider what it means to take the idea seriously in other domains, like fake news, social media, or the social sciences. If we want to engage seriously with the ethics of dual use, we must apply the same reasoning consistently, across all fields, including those I know much better than engineering.

But let me now turn to the issue of leverage, a word the Ambassador used earlier, as a means of putting pressure on Israel. I want to explain why even a symbolic act of partial boycott, such as the proposed exclusion from one part of Horizon Europe, what I call the "salami method," slicing off a small piece at a time, has serious ramifications.

I'll say it plainly: I believe such an action is both hypocritical and unwise. And I say this from both a personal and professional point of view, having spent the past two years fighting BDS and academic boycotts. I've seen the chilling effect you mentioned, first-hand, and what has happened, particularly after the ceasefire, is deeply troubling.

First, why do I think it is unwise? Because it's not symbolic. Once you act in one small area, you create a precedent, and we all know where that leads. It's a slippery slope. It doesn't matter if the step is small or large, it inevitably leads to broader boycotts.

And it's not just unwise; it is counterproductive. It harms precisely the one sector in Israel that is actively working toward liberalism, coexistence, and the preservation of free speech, that is, the academic community.

I come from a university where 20% of our students are Arab, many of whom identify as Palestinians. They sit side by side in class with Jewish-Israeli students who have just completed their army service, sometimes still carrying their weapons. This kind of coexistence happens only in Israeli universities.

We run programs for army officers who come to study in civilian settings, to learn about free speech, democracy, and critical thinking. It's within the university that these officers encounter pluralism and liberal values. If you harm academia, you are harming the one environment in Israel that fosters coexistence and dialogue.

The best proof of this is the Israeli government's own attitude toward academia. We have been asking for greater governmental support, and the response we get is that universities are "too liberal," that there's "too much free speech," and that we are "not loyal enough." That's exactly the point: academia is being criticized by the government for its openness, and that proves that we represent the liberal future of Israel. Hurting us because it's politically easy or symbolically convenient means targeting the one sector that should not be harmed.

As you yourself said, Ambassador, you have limited tools for applying pressure, but this is the wrong lever. When this war is finally over, the liberal renewal of Israel will come from academia. So, measures like these don't help; they hurt the cause.

It's also hypocritical, because dual use exists everywhere, in every university around the world. As David pointed out earlier, the chain of connection to dual-use outcomes is vast.

Let's talk about universities that buy Israeli technology, which then ends up being used for military or security purposes. Countries like the Netherlands and Ireland purchase such technologies, medical, engineering, and defense related. Even we have been targeted for offering academic programs to army officers, yet universities abroad, including my own alma mater, Yale University, run numerous programs for officers in the U.S. Army and Navy.

I know, from personal experience, that such programs can have a positive impact: they expose military personnel to higher education, to open dialogue, and to democratic values. So, if you want to impose external oversight on academic dual use, then let's do it properly, let's look at all universities equally, not selectively.

Even setting aside the question of whether such pressure achieves its intended results, which it doesn't, the question remains: why Israel alone? If dual-use oversight is to be applied, apply it consistently, or it becomes an act of discrimination rather than ethics.

Now, about external supervision. When we talk about external pressure on Israel's academic community, who are we talking about? If it is governments or political bodies intervening, we must ask what this means for academic freedom.

As academics, we hold a core principle: no one should tell a scholar where their research should lead. We have ethical review systems, committees within universities and among grant providers, to ensure responsible conduct. But when external, non-academic actors begin to impose political or ideological oversight, that changes the nature of research itself.

I'm not saying that universities must police themselves without accountability, we already participate in ethical review processes for international grants, including those outside Israel. But when external supervision is political rather than academic, it undermines the freedom of inquiry and creates long-term consequences for the nature of scientific and scholarly work.

Finally, as promised, let me speak from my experience as Vice President for Global Engagement. My job is to connect my university, Ben-Gurion University of the Negev, with other leading universities around the world, to build partnerships and promote collaboration. We specialize in areas like desert studies, solar energy, and water technology. We've developed technologies that have solved Israel's water shortage and have contributed globally to renewable energy and environmental science.

But over the past two years, I've seen the scope of academic boycotts grow dramatically. Israeli research universities, through the Committee of Vice Presidents for Global Engagement, under VERA (the Association of University Heads), have joined forces to coordinate our response. We collect information, share strategies, and act together when one university faces a boycott.

The boycotts come in many forms:

- Individual scholars are disinvited from conferences.
- Presenters are forced to remove their institutional affiliation from conference programs.
- Papers rejected solely due to affiliation.
- Exclusion from international research consortia.
- Universities reneging on memoranda of understanding and cutting ties altogether.

This has been happening for two years, but since March, with the renewed fighting in Gaza, the situation has worsened dramatically.

We hoped that after the ceasefire things would improve. Sadly, that hasn't happened. The chilling effect remains strong. We continue to see universities announcing that, regardless of the ceasefire, they will maintain their boycott of Israeli institutions, including Ben-Gurion University.

I am deeply worried about what this means for Israeli academia. I'm worried that talented researchers, unable to secure grants or publish abroad, will simply leave Israel. That would not only damage the country's academic standing, but also undermine the liberal, open, democratic spirit that universities sustain.

I care deeply about this country. I want it to remain liberal, free, and democratic. Academia must be part of rebuilding that future. Boycotts don't advance peace or justice; they harm both Israel's academic excellence and its liberal future.

That is what I'm here to say, very strongly: this must stop. This is not the way forward. Thank you.

Prof. Eli Salzberger - Moderator:

Thank you very much, Michal.

Our last panelist is Professor Boaz Golany, Emeritus Professor at the Faculty of Data and Decision Sciences at the Technion. Over the years, he has held several key leadership positions, including Dean of the Faculty, Vice President for External Relations and Resource Development, and Executive Vice President and Director General of the Technion.

Prof. Boaz Golany - Opening Remarks:

Thank you very much. I'll add to the list of references that have been mentioned that, over the past year and a half, I have led a task force here at the Neaman Institute to combat the boycott initiatives. We have written several reports that are available on the Neaman Institute website, in both Hebrew and English, and I invite our distinguished guests to look at them.

I'll start with the so-called chilling effect. In fact, I think this is a very moderate term for what is really happening. Following the line of my colleague here, Michal, I would say that it's not only hypocritical, and it's not only stupid, but also, evil. It's evil because, at least in part, it is clearly motivated by pure antisemitism.

Most EU member states are signatories to the international treaty known as the IHRA, the International Holocaust Remembrance Alliance, which defines what antisemitism is, what it is not, and what should be done about it. And yet, singling out Israel for such actions, while ignoring everything that has been done by other countries, including European ones, not so long ago in Bosnia and elsewhere; forgetting what happened during the Iraq War by U.S. and British forces; and speaking about "collateral damage" in Gaza while citing statistics such as a ratio of three or four terrorists killed for every ten casualties, compared to what happened in Mosul, where the ratio was one in ten, and there are many, many other examples, shows that we are being treated differently.

That is unfair. It is not equal, and it should stop.

I appreciate very much what you said, Ambassador, about your own personal perspective and the fact that the EU should do more to discourage those who are taking the "chilling effect" to extremes. I would encourage you, and other members of the EU, to go even further in emphasizing how important it is to continue collaboration with Israel, both at the individual and institutional levels.

Now, I am moving to the topic itself. I don't accept the term dual use, because I see multiple uses in almost any kind of research that people do. Research can branch out in many directions, and most researchers cannot even foresee where it might lead.

When Albert Einstein was working on the theory of relativity in 1905, I doubt he imagined that, forty years later, his work would contribute to the development of the atomic bomb in 1945. There are countless examples like this. So, it would be more accurate to speak of multiple-use research, or simply research.

I can echo what Shimon Marom said earlier: in almost every type of research, whether in medicine, architecture, or any other discipline, there is a possibility that it may ultimately be used in unintended ways.

Speaking personally, I can tell you with pride that in my own research, in applied operations research, I have conducted many projects supported by U.S. defense agencies: the U.S. Navy, the U.S. Tactical Air Force, the U.S. Strategic Air Command, the U.S. Doctrine Command, the U.S. Marine Corps, and, of course, the Israeli Defense Forces. I am proud of this work because I believe, and continue to believe, that it was done in defense of these countries, their societies, and their citizens.

I brought with me, though I won't go through them all, dozens of examples of European universities doing similar research, at the Technical University of Munich, Eindhoven

University of Technology, the Danish Technical University, École Polytechnique in Paris, Cambridge, Delft, ETH Zurich, and many others. I have a list of projects and their sponsors, including Horizon funding, and these are not hidden topics, they are clearly listed as projects involving, for example, AI for both civilian and military applications.

So, if the EU feels that there is a need to strengthen oversight of research that might be used for illegal purposes or in violation of international law, I say: fine, but such oversight should apply to everyone. Sitting here and addressing this only from an Israeli perspective is not the right approach. There should be roundtables that include representatives from many European countries, to discuss the ethical issues together, and I would fully support that.

We already have ethics committees at every university. Whenever you want to conduct research involving human subjects, you must apply for approval, explaining exactly what you intend to do and for what purpose. I can imagine similar committees being established to examine other types of research, including those with potential dual, or multiple, use implications.

I do not see any need for government intervention, certainly not in Israel, and not in any European country. As my colleagues mentioned, every Israeli university is completely independent in determining its own research direction, and we take all necessary measures to ensure responsible conduct.

Yes, universities could consider expanding the scope of their internal ethics committees. We even have a kind of sarcastic joke, though it's not funny, dating back to the 1970s. A professor teaching fluid dynamics once gave his students a homework problem: designing a pipeline to transfer large quantities of blood from one city to another. The students, being classic engineers, went home and applied all the relevant equations, returning with their technical solutions, but none of them asked the obvious question: why would anyone want to transfer blood between cities?

Whether or not this story happened, we use it as an illustration of how scientists and engineers sometimes focus on the how rather than the why. And that is exactly the kind of question I would expect an internal university ethics committee to raise.

Now, referring to some of the points made earlier by my colleagues about funding sources, unlike what Hagit mentioned, we do exercise some control over where funding comes from. I can give you an example: we once received a very generous offer of support from a subsidiary of Huawei, the large Chinese corporation. They wanted only modest recognition, their name on a laboratory door and occasional visits from their staff. They did not even

request intellectual property rights. Nevertheless, we declined. It was a large sum of money, but we said, “No, thank you.”

Let’s not forget that while we in the Western world are placing more restrictions on ourselves, there are other countries, Russia, North Korea, Iran, and others, where there are no such restrictions and no such ethical discussions.

Here at Technion, we have a Faculty of Aerospace Engineering, and I’m very proud of it. I don’t know exactly who first designed the engine that powers the Arrow 3 missile, perhaps one of our people, but that’s what aerospace engineers do: they build rockets. And today, that same Arrow 3 missile is being deployed to protect the skies over Berlin, Warsaw, and other capitals facing an imminent threat from Putin. So, is that what you want to boycott? Think about that.

I’ll stop here and will be happy to answer any questions later.

Prof. Eli Salzberger - Moderator:

Thank you. We can have a short round of responses.

Prof. Shimon Marom - Response:

I don’t have much to add, except for two brief comments.

First, several colleagues here asked, “Why only Israel?” I deeply disagree with any approach that singles out one country. Please, do not constrain research anywhere. I wouldn’t want to be boycotted or restricted, and I wouldn’t want others to be, either. As long as research is not intended to harm anyone, that is enough for me.

What we should do, instead, belongs to the realm of education. The real challenge is to educate researchers, institutions, and societies to make good use of science. That is difficult work. It’s much easier to impose boycotts, restrictions, or limits on academic freedom, but that is a dangerous slope.

We should be very careful when we talk about ethics and human research. The answer is education, not constraint.

Thank you.

Prof. David Enoch - Response:

Yes, maybe I’ll start with something a bit more surprising, something on which I actually agree with Boaz. I think it is important to note that not every kind of military research, even research explicitly intended for military purposes, is bad. I’m not a pacifist, I don’t think

anyone should be, and, the real question is whether such research is used, to put it dramatically, by the "good guys" or by the "bad guys," or, less dramatically, whether it is used for good or for harm. On that, I definitely agree.

However, I want to strongly disagree with Shimon's last point. Shimon said something along the lines of "do not restrict research unless it is intended to harm." That cannot possibly be the right standard. If you know that some research will result in harm, then you should restrict it, whether it was intended to harm.

Typically, of course, you don't know for sure what the consequences will be, uncertainty always plays a role. There are also concerns about abuse of power, and questions about whether restrictions might become mere excuses for exerting power over others. All of these are serious and complex issues, there are no easy, one-line solutions. But neither is Shimon's approach. It simply cannot be that as long as you don't intend to cause harm, it doesn't matter how much harm you actually will cause. That just can't be right.

And the idea that education is the sole solution seems to assume that we're somehow much more relaxed, morally and politically, about the use of power and control within education than we are elsewhere. I'm not. I don't see why we should be.

Finally, and I would really like this to happen at least once, I wish there could be a discussion, on any topic even remotely related to a boycott, where people didn't immediately claim that everything is antisemitism. I don't see what your evidence for that is. Of course, there is antisemitism; things are complicated in that regard as well. But there are strong arguments to be made, including the one I made earlier, that have nothing to do with antisemitism and everything to do with how we bring about positive change in a messy, complex world.

Ambassador Michael Mann - Response:

I'll just make a few points.

First of all, regarding BDS, let's be absolutely clear: we, the European Union, do not support BDS. We disapprove of it. It is not EU government policy. It is not part of our institutional framework. The EU is, and continues to be, committed to maintaining a deep and constructive relationship with Israel, as we always have.

The boycott of universities is something else entirely. It is not a government or EU-level policy; it is the policy of certain individual academic institutions or specific departments within universities in some EU member states. So, I don't think we should see this as a general European trend. As I said in my earlier remarks, the EU is strongly opposed to calls for cutting academic ties with Israeli institutions. We push back firmly against such

suggestions, both for ideological reasons, and for practical ones, because those who disengage lose out as well.

I should also add that this goes beyond academic cooperation. Similar proposals arise in other areas, sports, for example. There are debates about whether Israel should be barred from the World Cup or from Eurovision. It's all a bit absurd, but that's the climate we're in, and it's important to distinguish between what individual organizations do and what the EU as an institution believes or supports.

I represent the European Union. My counterparts are the Israeli authorities, and it is crucial to distinguish between the policies of the Israeli government, whoever happens to be in power at the time, and Israel and the Israeli people.

Now, I'm here as an EU representative, so, my personal opinions don't really matter. But I listened carefully to what Michal said, and much of it made sense. You mentioned that since the ceasefire you've seen no change. That may well be true, but I would say that these things take time. I'm an optimistic person by nature, and I believe that as the ceasefire holds, as the situation on the ground improves, and as we start implementing the broader plan for Gaza's recovery, we will see improvements in bilateral relations.

I also think the public atmosphere will calm down. Having been a journalist myself, I know how news cycles work, things eventually fade. Once Gaza starts to fade from the daily headlines, hopefully for the right reasons, I expect attitudes to gradually soften and cooperation to resume more fully.

As for the question of why Israel seems to be singled out, it's possible that we hold Israel to a different standard precisely because you are a democracy, because Israel has long been viewed as a beacon of democracy in this region. But I would disagree with the claim that we don't apply similar standards to others. In many cases, we simply don't have comparable relations with other states.

Our political leadership is trying to navigate a very delicate balance, maintaining excellent relations with Israel while also, responding to genuine public concern about how the war has been conducted. That public concern is real. It's not, as some have suggested, the result of an "overwhelming influence of Muslims" in Europe. Muslims make up a relatively small percentage of our population, though they are of course an important part of our societies. The current disquiet reflects broader public sentiment, moral unease about the humanitarian consequences of war.

When the situation improves, and I believe it will, I'm confident that we will rebuild bridges.

And to clarify another point: no one is talking about tightening controls on research or about any new restrictions. The discussion today is about existing mechanisms that already ensure research funded under Horizon Europe is used for legitimate, peaceful purposes. Some universities may have chosen to temporarily suspend specific collaborations, but that's not an EU directive. It's a local, time-bound decision, and I hope it will soon pass.

That's all I wanted to add, thank you.

Prof. Eli Salzberger - Moderator:

A quick question, there are universities or organizations which are banned from receiving European money under the Horizon programme. Is that correct?

Ambassador Michael Mann - Response:

No, no one is banned from receiving European funding. There is no EU-level decision barring any country or institution. Any member state of the European Union, or any associated country under Horizon, can apply to join a consortium or seek Horizon financing.

Now, it's true that in Hungary, for example, there have been reports of certain universities having difficulty obtaining funds. But that's not due to a policy of exclusion. There's no formal rule preventing them from applying. It may simply be that some institutions are not considered fully independent in terms of governance, that the government has taken too much control, but even then, there is no EU ban.

I suspect that some of the claims you've heard are more urban myths than reality. In principle, any academic institution, whatever its political context, has the right to apply objectively for funding. It could well be that universities in other European countries are choosing not to collaborate with those institutions, that's their decision, but there is no overarching EU policy that excludes them.

Any country that is a member of the EU or an associated state has, at least theoretically, equal rights to access Horizon Europe funding. It ultimately comes down to the choices and policies of individual universities and researchers, whether they wish to collaborate.

Prof. Hagit Messer Yaron - Response:

I'd like to return to the title of this discussion, The Dual-Use Dilemma: Ethics and Accountability in Israeli R&D, and focus on the ethics aspect, particularly within the academic sector, which is part of that title.

You were speaking about the effect on international relations, the impact on Israeli scientists and science more broadly, but I'm not sure that this issue is directly related to the ethical dimension itself. As you mentioned, there are many factors involved.

Personally, I believe, and I think this is fundamental, that academic research must be ethical. Let's take that as a given. It is our responsibility as researchers to be aware of ethical dilemmas of all kinds, not only those related to dual use. We must do our best to ensure that our research upholds ethical standards, both on the individual level and at the institutional level, as I mentioned earlier.

Since in Israel we enjoy full academic freedom and autonomy, it is up to us, from the bottom up, to take responsibility for these issues.

But the point I want to make now is more of a summary of what has been discussed here. The ethical dilemmas surrounding dual use, in the Israeli context, are quite different from those faced elsewhere. Israel is in a unique situation, where nearly every citizen has some form of military involvement, whether active or passive.

The last two years have been terrible for all of us, personally and nationally. This is something that, I believe, many in Europe may not fully understand. For us, contributing our research results to military or mission-driven defense applications can sometimes feel not only acceptable, but even desirable, given the circumstances, the constant threats, the terrorism, the security challenges.

So, while ethical questions are never simple, in the case of dual use they become especially difficult within the Israeli reality. Whatever we do, the context we live in, the constant state of threat, makes the ethical boundaries much harder to define.

Even within universities, as researchers, we want to help our country protect itself. But sometimes "defense" can cross into "attack," and actions may fall into morally grey zones, or even beyond acceptable boundaries. I'm not sure where that line lies, and that uncertainty is precisely the challenge.

So, my point is this: we must conduct ethical research, but within the framework of the dual-use dilemma, Israel is a special case. There is no universal answer here. The responsibility lies with each individual researcher, and with each institution, to determine where to draw the line between what is ethical and what is not, within this very complex and unique reality.

Prof. Michal Bar-Asher Siegal - Response:

I have two points to make.

The first is that I agree, we've been talking about BDS and boycotts, while the main argument here concerns dual use and how we define it. The link in my mind, when I spoke earlier about boycotts, may not have been fully clear, so, let me explain it better.

Because it is so difficult to define what dual use really means, and because the concept is so complex, for all the reasons that were mentioned here, including how broad its scope is and how hard it is to apply consistently, I feel that sometimes it becomes an excuse. An excuse, or a justification, used to contribute to academic boycotts of Israel.

That's the connection I was trying to make: the conceptual complexity of dual use often turns into a practical tool for exclusion. We are repeatedly asked, when engaging with foreign institutions, to "define our connection to the Israeli army", as if such clarification is a precondition for collaboration. That's where my thoughts came from.

But I accept your point, if we look purely at the theoretical definition of dual use, it doesn't necessarily entail boycotts or punitive measures. I'm simply describing what we see happening, on the ground: the concept is being used as a pretext for disengagement.

The second clarification I want to make is about the term antisemitism. I did not use that word earlier, and that was deliberate. Coming from the humanities, and especially from the field of Jewish history, we are very careful with this term. Antisemitism is a complex phenomenon, and I don't use the word lightly.

Yes, I have witnessed antisemitism, particularly, I must say, among certain circles in feminist studies, when it came to responses to the sexual assaults of October 7th. In those cases, I clearly saw antisemitism at play. But in the context of the academic boycotts, I don't think that's what's happening. I believe this is more a matter of misunderstanding than hatred.

And though I'm generally not an optimistic person, I tend to be quite cynical, I do want to share one experience that gave me a little hope. In August, I attended a conference in Marburg, Germany, a large gathering of about 7,000 women studying theology across Europe. I was invited to give a very specific talk on the concept of justice in rabbinic literature.

Just ten minutes before my talk, I learned that the next day a motion would be raised, one that hadn't been announced before, calling for an academic boycott of Israel, proposed by one of the conference's regional chapters. I realized I couldn't just stand there and give my academic paper as if nothing were happening.

So, at the beginning of my talk, I spoke for ten minutes, saying: "I know you want to do good. I know you want to support the Palestinian people. I know you mean well. But this is not the

right way to do it. We should support academia, we should support free speech, not suppress it."

I was the only Israeli in the room, I didn't know anyone, and I'll admit, I was scared. I don't get scared easily, but that was one of the scariest moments I've had.

And then, something unexpected happened: when I finished, I received a standing ovation. Afterwards, several participants came up to me and said, "We just didn't understand what an academic boycott actually does. Thank you for explaining." As a result, the proposal for the boycott was withdrawn; it was never even brought to a vote.

So, yes, I share your optimism, at least cautiously. I think that when we explain what's at stake, that academia is not the place for boycotts, and that academic boycotts harm the very values they claim to defend, people listen.

I don't believe the majority of those who support boycotts are motivated by antisemitism. I think most of them simply don't understand that academic boycotts, including those justified under the label of "dual use," actually achieve the opposite of their stated goal. They harm academic freedom, they weaken liberal voices, and they obstruct dialogue, which is precisely what we should be protecting.

Ambassador Michael Mann – Response:

Let me just add, absolutely, in no way do we wish to undermine liberal, moderate, or open-minded academic Israel. But our political leadership's room for maneuver was very limited; there wasn't much we could do at that moment. Still, I completely agree we have no desire whatsoever to weaken the very people - the liberal, free-thinking academics, who are essential to Israel's future.

Prof. Boaz Golany - Response:

Well, while I'm certainly a minority here, I'll stick to my position: part of the BDS movement is motivated by antisemitism. I strongly believe that. I'll give you a true story as an illustration.

When you compare public attitudes in European capital cities and on university campuses, look at what happened in Ukraine since February 2022: hundreds of thousands of dead, many civilians among them, millions displaced. Yes, countries-imposed sanctions on Russia and took other actions, but you did not see anything like the percentage of public emotion or the intensity of campus action that we've seen against Israel.

By contrast, over the last period there were violent demonstrations on campuses, encampments, and explicit linkages made between Israel and Jewish communities more broadly, slogans heard across campuses in Europe, North America, Australia, and other Western countries. There is no way to explain the eruption and the intensity of these emotions and actions except to say that at least some of it was motivated by antisemitism.

On a more positive note, I applaud your words and your attitude, and your strong statement, that the EU you represent does not endorse BDS or its contingent movements. If you believe it is wrong, it should be opposed and limited. The actions taken by certain universities in certain countries were wrong, and it's correct for you to single those out.

But I would also say our expectation of EU leaders is to do more than merely express disapproval. If, for example, Trinity University and the island (or any other institution) decide to cut all relations with Israel, and existing contracts or memoranda of understanding are abandoned, I think there should be some form of response from the EU against specific universities that take such extreme measures.

Today, no European university faces any penalty for taking these actions, nothing happens. We have a list of at least forty universities, mainly in Spain, Norway, the Netherlands, and Ireland, and to a lesser extent in France and Italy, that have taken restrictive measures. And when that happens, there is no penalty whatsoever.

Ambassador Michael Mann - Response:

I'll say two things. First, it's not even clear that we have the legal authority to take such measures. And second, once you start considering that kind of action, you immediately run into questions of freedom of speech and academic autonomy. It's a very tricky balance.

But you're absolutely right that the so-called "chilling effect", or what I'd rather describe as a gradual erosion of the academic relationship, is damaging. If we allow this process to continue unchecked, the gradual weakening of ties between Israeli and European universities will harm both sides.

Prof. Boaz Golany - Response:

It's not going to damage only us, though it certainly already has. It's been very painful for Israeli academia, Michal described it clearly, but I believe it's also, harming those who choose to disengage from us. The loss is mutual.

I think everyone around this table genuinely wants to do good. And if that's the case, then we should fight against the bad developments we're witnessing, not quietly accept them. That's my observation.

Ambassador Michael Mann - Response:

I think part of the issue is that, with Russia, we've more or less given up. Russia has never been a friendly partner state, and perhaps that shaped the response. But maybe, and I'm just speculating, if the EU and other countries had imposed serious sanctions on Israel the way they did on Russia, students might not have felt the need to demonstrate to pressure their governments.

As it stands, there are no sanctions on Israel, and the frustration among parts of the public reflects that absence.

Prof. Eli Salzberger - Moderator:

The other side of what the Ambassador mentioned, and this relates briefly to our topic, is the distinction between the government and civil society. I think it's important to emphasize that point. Personally, I would like to see fewer boycotts targeting civil society, including academia, and, if anything, more targeted sanctions directed at specific government ministers or politicians responsible for policy decisions.

Rinat, do we have any questions from the online participants?

Rinat Klein - Coordinator:

Yes, we have one question from Professor Ehud Behar from the Technion's Physics Department:

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*"I'm not an ethics scholar, but while looking up the Wikipedia page on the academic boycott of South Africa during apartheid, I found an interesting discussion of the pros and cons, almost identical to the arguments raised here today. We didn't invent anything new. It also, includes analogies drawn with Israel, though of course there are fundamental differences. Can any of the experts on the panel comment on this comparison? Can we learn anything from it?"*

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Prof. Eli Salzberger - Moderator:

Thank you. And we also have a comment or question from Dr. Reuven Gal, Senior Research Fellow, at the Samuel Neaman Institute.

Dr. Reuven Gal - Comment:

I'm not in the theological or industrial fields, I come from the social sciences, specifically psychology and social psychology, and I'd like to add another angle to the discussion, one that connects both to the practical-political aspects we've been talking about and to the ethical dimension.

I'll share an example from my own experience in IDF. For a period in my career, I served as the Chief Psychologist of the IDF. The army employs many psychologists, some working on improving morale and leadership at the organizational level, and others providing individual psychological support, including combat soldiers.

And many times, a dilemma arose: when we, as psychologists, work to enhance soldiers' morale, to strengthen their combat readiness, or to treat their stress reactions, what are we actually doing, ethically speaking? Are we helping to enable or even strengthen individuals who may then go on to take part in potentially harmful actions?

This raises a deep ethical question, both at the organizational and at the personal level. For example, if you treat a soldier who is suffering from stress, help him recover, and then send him back into combat, where does that leave you, ethically? What exactly are you contributing to?

In my view, one way to approach this dual dilemma is through the framework of just and unjust wars, the classic distinction between jus ad bellum (the justification for waging war) and jus in bello (the ethics of conduct within war).

We might recognize, for example, that the events of October 7th provided a just cause for Israel's military response, jus ad bellum. But that still leaves open the ethical question of just in bello: how that war is conducted, and what actions are justified within it.

So, often, the answer lies in asking ourselves: What am I serving? Am I serving a just cause, or am I supporting an unjust manifestation of that cause?

This line of questioning, I believe, can help us grapple not only with the dilemmas of dual use in science and technology, but also with the broader behavioral and social dimensions of responsibility in conflict situations.

Prof. David Enoch - Response:

So, I'm not a historian by any stretch. Of course, it can be very enlightening to read or hear what others have said in somewhat similar circumstances in the past. But, as I believe the person who asked the question also, noted, such comparisons are always very difficult.

A lot depends on the specific historical, political, and social details, and those don't easily transfer from one context to another. The case of South Africa during apartheid was a very different situation: a different country, a different moral issue, a different historical period, and a very different global order.

So, while we may be able to draw insights from what people said and did in that context, whether we can draw lessons, in the sense of applicable principles or precedents, is a much tougher question.

Prof. Eli Salzberger - Moderator:

I think that, well, I also, don't know enough about the historical specifics, but questions such as whether universities in South Africa under apartheid collaborated with the government or resisted it are certainly very relevant when we think about the role of Israeli universities today. These parallels, even if imperfect, do raise meaningful questions about institutional responsibility.

Prof. David Enoch - Response:

I would suggest that we be a little less self-congratulatory. Yes, we're doing reasonably well given the circumstances, but let's be honest, each of us could have done much better. The situation is terrible, though it's true that it's not as terrible as it could have been, or, perhaps, as it might still become.

Prof. Michal Bar-Asher Siegal - Response:

One comment about the South Africa comparison. Even if we were to assume that the situation is similar, and that the academic boycott of South African institutions "worked", which is often what people claim, we need to look more carefully at what that really means.

People often say, "Well, it worked in South Africa; it created pressure and helped bring about change." But we must understand that the South African case was unique. The academic boycott there was only one of many levers, alongside massive international economic sanctions, political isolation, and public condemnation. It was the combination of those forces that made an impact, not the academic boycott by itself.

If we look elsewhere, at other examples, like North Korea or China, academic boycotts simply don't work. They do not create meaningful political change. So, using South Africa as a model is not only unhelpful, but it can also actually be misleading and even damaging.

In today's global reality, academic boycotts don't achieve their intended goals. They harm Israeli academia, which, as I said earlier, is one of the most liberal and open sectors of Israeli

society, but they don't contribute to the kind of political or ethical "pressure" people think they're applying.

Prof. Eli Salzberger - Moderator:

Would anyone from the EU delegation like to add anything or reflect on the discussion?

Mr. Aaretti Siitonen:

Just to say - it's been a real pleasure to witness academic freedom in action.

Prof. Eli Salzberger – Final Remarks:

I can't really summarize, and if I tried, it would inevitably reflect my own perspective. But I would say this: we began with the topic of the ethics of dual-use research, and although our discussion diverged into related questions, boycotts, responsibility, and the political context, we've still touched the heart of the matter.

If I may attempt a brief synthesis, and David can correct me if I misrepresent anything, I think we can distinguish between first-order and second-order ethical considerations.

First-order ethics concerns the individual researcher and the ethical dimensions of the research itself. Every study, in principle, has dual or multiple potential uses. Unless the research is intended to cause harm, it's very difficult to justify external constraints on the individual scientist beyond those of knowledge, education, and ethical deliberation. Ethical problems, unlike legal questions, are not solved by fixed rules but through thoughtful reflection, sometimes alone, often with peers. There is rarely a single "right" answer.

Second-order ethics, by contrast, concern institutions and the state. Here, the challenge is how to maintain oversight without overstepping. Institutions must preserve autonomy while also, ensuring that ethical awareness and accountability are embedded in research culture, through ethics committees, transparent information flows, and educational efforts that empower individual scientists to make responsible choices about what research to pursue and how to conduct it.

Thank you all very much for joining us. I hope this conversation will continue, because these are questions that, by their nature, never truly end.

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Ethics

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