



# BIRAX

# BIRAX Ageing Summer 2023



The British Council is the United Kingdom's international organisation for cultural relations and educational opportunities. It supports peace and prosperity by building connections, understanding and trust between people in the UK and countries worldwide.

### We all deserve to age well and experience our families with dignity.



Lea's mother and father

# 69

I lost my mom twice. Once as she slipped away from us, more and more, as Alzheimer's pulled her into her own world, unrecognizable to herself and to those who loved her. Then I lost her again and forever, a bit over five years since her diagnosis. As time passed by, and she could not lead an independent life, our roles reversed and i became her caregiver.

With utmost love I did everything in my power to make her feel happy and comfortable during the years she fought the disease as she tried to hold on to memories, to our names and faces. Together we cried thinking of what is to come.

Will I be next? Will I be able to escape the same future? Will my daughters have to take care of me as I did with my mother? Is there anything that can be done today to prevent this horrendous fate? Will I get diagnosed when it is already too late?

Lea Goldberger, Chief Community Relations, Israeli Alzheimer's Association (EMDA)

# Age-related diseases: A global challenge

Population ageing, along with its numerous medical, social, and economic challenges, has become an urgent global problem. Age-associated chronic diseases, increased risk of disability and the effects of ageing on mortality are all issues which must be addressed.



According to the World Health Organization (WHO) the number of people over 60 years of age – 605 million in the year 2000 – will reach two billion by 2050. In the UK, 18.6 per cent of people are at least 65 years old and this age group is expected to double between 2016-2039. In 2020 in Israel, there were 1.2 million over the age of 65; this population is growing at double the rate of the general population.



# Britain-Israel Research and Academic Exchange

Established in 2012, BIRAX is an initiative of the British Council and the British Embassy in Israel in collaboration with the Pears Foundation as the Founding Partner. Harnessing the scientific prowess of Israel and the UK in the field of medical research, this ambitious programme tackles global medical challenges by shining a spotlight on critical areas. BIRAX provides funding for joint research projects and exchange of expertise, while promoting cultural relations, political ties and generating further economic opportunities for both countries.

Known for its academic excellence and scientific innovations, BIRAX has invested £13 million in 26 projects over the course of a decade, firmly establishing its reputation as a leading UK-Israel platform for scientific research collaboration. In addition, further funding has been allotted to build a platform for nurturing and maintaining long lasting connections through international researcher mobility, large biennial conferences, engagement opportunities and workshops.

BIRAX supports scientific UK-Israel research and sows the seeds for sustained collaborations between researchers, labs and institutions

# Funding pioneering joint research projects

by British and Israeli scientists

#### Creating valuable networking and other engagement opportunities

for its growing network of British and Israeli scientists. These include conferences, workshops, meetings with senior stakeholders and connections to other organisations that support scientific activity and exchange.



#### Increasing researcher mobility

by allocating travel grants for fellowships, lectureships and symposia to early career and senior researchers.



69

What is particularly exciting about BIRAX is that it brings together people of different ideas, different cultures, different ways of approaching things... We have the cultural experience of talking to people across what would have been a divide.

Prof. Lynne Cox, Oxford University, BIRAX Principal Investigator, UK



BIRAX grantees and speakers at a BIRAX workshop during 2023 UK-Israel Science Days in London

# **Areas of focus**

#### BIRAX Regenerative Medicine Initiative (RMI) and BIRAX Ageing

## BIRAX Regenerative Medicine Initiative (RMI)

was the first focus of BIRAX over five years. BIRAX RMI supported exciting stem cell and regenerative medicine therapy collaborations which were designed to provide new insights into cardiovascular and liver diseases, diabetes, Parkinson's disease and other chronic conditions.

# 69

Academic excellence sees no gender, but we need this sensitivity to ensure that the talent of women is realised to the full. And this sensitivity can be most heartedly applied when women work with women, as was the case in the BIRAX project.

Prof. Rivka Dresner Pollak, Hadassah Medical Center, BIRAX Principal Investigator, Israel

#### **BIRAX Ageing**

is the second and current focus. Launched in 2018, the programme seeks to establish and grow an exceptional academic community of scientists whose work can spawn innovative solutions to the challenges of healthy ageing. It is committed to investing £5 million in support of groundbreaking research as well as public engagement and media activities that increase awareness of scientific breakthroughs in this field.

Following its 2018 call for proposals in the field of ageing, BIRAX allotted £2.8 million to seven research projects focusing on ageing and its impact on human health. The selected proposals under the 2018 first round of BIRAX Ageing projects encompasses seven leading UK and five top Israeli research institutions. Following a second call for proposals, BIRAX Ageing is now seeking to expand the coalition of partners for this new round of promising research collaborations in a variety of related diseases and conditions.

# Impact

The vision of BIRAX and the British Council in Israel extends well beyond identifying and funding cutting-edge research projects. It is about building scientific bilateral partnerships that bring government stakeholders on board, large-scale collaborations, creating connections and building communities around areas of impact. We initiate conferences and enable researchers at all stages in their careers to use their knowledge and talent in the advancement of science. We offer scholarships and mobility opportunities to enhance strategic cooperation around topics of interest. We build an environment where grantees and stakeholders continue their collaborations and networking far beyond the life of their funded projects.

#### **BIRAX-funded research projects** are at the forefront of scientific innovation.

In recent years, their findings have been published in countless leading journals and presented in hundreds of prestigious conferences and other forums around the world. In addition, BIRAX researchers have been the recipients of many distinguished awards and prizes.



(7

**BIRAX** is the only programme that has brought us together in a way that just wasn't possible before. Our collaboration is so strong now that it goes beyond science.

Prof. Eldad Tzahor, Weizmann Institute of Science, BIRAX Principal Investigator, Israel

#### Your investment is worth 4.7 times more

A Price Waterhouse Coopers assessment of the impact of the work of the British Embassy and the British Council in Israel published in July 2022 asserted that '... academic and scientific partnerships have become a cornerstone of international collaboration between the UK and Israel'. The report further it stated that:

... funding for Israeli early career researchers to come to UK universities generates economic contributions in the UK of 1.53 times the value of grants provided to them through programmes delivered via the British Embassy and British Council. Further, outcomes from joint UK-Israel medical research have the potential to generate net direct economic benefits of approximately 4.7 times the value of the research funding in a single year alone, and up to 18.3 times in the first four years.'









21,000+ scientists exposed to the scientific outputs of BIRAXenabled research through

> **/U+** synergy meetings

Ŀ

patent applications

**9,000+** citations of UK-Israel collaborative research outputs in leading journals (400% higher than the global average in the same field (\*based on FWCI))

A BIRAX survey conducted in 2018 among BIRAX principal investigators found:

84% 4% of respondents believe of respondents agree that of respondents had no prior research collaborations with the that without BIRAX, they could **BIRAX** generated new not have conducted their partnerships for them or their partnering country before the institution research **BIRAX grant** of respondents believe of respondents feel that their of respondents feel that BIRAX has improved the involvement in the BIRAX project that their involvement in reinforced their belief that their capacity and skills of their **BIRAX has contributed to** building trust between the UK researchers partner country was a leading scientific research force. and Israel



Partners Forum during 2023 UK-Israel Science Days, London

# **Partnering in BIRAX Ageing**

#### Your support will help us focus on three priorities:

- Promoting research on the effects of ageing on human health including heart disease,
  diabetes, Alzheimer's disease, Parkinson's disease, multiple sclerosis, frailty and multimorbidity.
- Promoting the use of advanced technologies and precision medicine in ageing research,
  including innovative biomarkers, algorithms and computational and measurement techniques.
- Building long-lasting communities of researchers, well beyond the life of the research project, for collaborations and opportunities further down the line.

The research projects are selected based on their scientific excellence. The rigorous selection process was led by a committee of leading scientists from Israel and the UK and informed by numerous peer reviews.

# Public reach and media

Science communication is embedded from the outset in all BIRAX projects. To that end, this round will reach the wider public and professional community through a range of media activities, conferences and workshops.





BIRAX Ageing





Partners and stakeholders, London 2023

#### Partner with us

To maximise the impact in this field and to continue to build a strong platform for UK-Israel scientific collaboration and trust, we are seeking to fund as many research projects as possible. The labs' cost of a full research project is approximately £400,000.

BIRAX's growing coalition of partners forms a unique ecosystem of opportunities for engagement between policy makers, government officials, scientists, medical charities, professional research organisations and other stakeholders. A diverse range of platforms enable constructive discussions on strategy while expanding partnerships and investment opportunities.

#### We seek partners and stakeholders who are committed to finding solutions to the global challenges of age-related diseases through the support of critical scientific research collaborations between the British and Israeli medical scientific communities.

#### **Partnership opportunities**

- Support one or more UK-IL research projects
- Co-fund a research project with other partners in the coalition
- Fund part or all of one strand of a specific research area
- Sponsor or host the BIRAX Ageing projects announcement
- Invest in other direct programme costs such as conferences and community building.

# 69

I think that the ability of the British Council to bring people together physically can't be underestimated... it really accelerates the ability to get good work done. The British Council builds interesting networks in a way that we cannot.

**UK Medical Charity, Partner** 

Since 2012, our generous partners have helped us advance medical knowledge in critical fields through the support of groundbreaking research collaborations between UK and Israeli scientists



And other partners whose policy is to remain anonymous

# BIRAX funded projects

#### Regenerative Medicine Initiative

#### First call, 2013

**Changes to DNA that affect the fate of stem cells** Azim Surani, University of Cambridge Jacob (Yaqub) Hanna, Weizmann Institute of Science

#### Persuading the immune system not to attack stem cells

Paul Fairchild, University of Oxford Yair Reisner, Weizmann Institute of Science

#### Developing a regenerative therapy for type 1 diabetes

Anne Cooke, University of Cambridge Yuval Dor, Hebrew University of Jerusalem

#### Regenerative cell therapy for Parkinson's disease

Kevin Shakesheff, University of Nottingham Sharona Even-Ram, Hadassah – Hebrew University Medical Centre

#### Towards regenerative medicine in multiple sclerosis

Siddharthan Chandran, University of Edinburgh Tamir Ben-Hur, Hadassah - Hebrew University Medical Centre

#### Understanding and Building the Human Liver

Holger Gerhardt, Francis Crick Institute Yaakov Nahmias, Hebrew University of Jerusalem

#### Second call, 2015

#### Finding the role of blood vessels in nerve cell regeneration

Eli Keshet, Hebrew University of Jerusalem Charles ffrench-Constant, University of Edinburgh

#### Finding the most effective cells in the body to rebuild the heart

Bruno Peault, University of Edinburgh Joseph Itskovitz-Eldor, Technion – Israel Institute of Technology / Rambam Health Care Campus

#### Controlling cells with light to mend broken hearts

Chris Denning, University of Nottingham Lior Gepstein, Technion – Israel Institute of Technology / Rambam Health Care Campus

#### Identifying genetics of diabetes to find new treatments

Neil Hanley, University of Manchester Benjamin Glaser, Hadassah - Hebrew University Medical Centre

#### Regenerating immune cells to treat diabetes

Susan Wong, Cardiff University Gideon Gross, MIGAL – Galilee Research Institute

**Repairing nerve cell damage in Multiple Sclerosis** Mark Kotter, University of Cambridge Shlomo Rotshenker, Hebrew University of Jerusalem

#### Using a breath test for rapid diagnosis of Parkinson's disease

Roger Barker, University of Cambridge Hossam Haick, Technion – Israel Institute of Technology

#### Regenerating the liver using a patient's own stem cells

Stuart Forbes, University of Edinburgh Yaakov Nahmias, Hebrew University of Jerusalem

#### Using Heart Cells to Restore Damaged Muscle Following a Heart Attack

Paul Riley, University of Oxford Eldad Tzahor, Weizmann Institute of Science

# 69

Without BIRAX [this research] would have taken much, much longer. My partner has a certain expertise that I don't have. Funding this project has made things so much faster, and we have saved two to three years by collaborating.

Prof. Lior Gepstein, Technion – Institute of Technology, BIRAX Principal Investigator, Israel

# 67

The future of science in general is collaboration and I think programmes such as BIRAX provide a platform for researchers to collaborate. They give us the means and infrastructure to exchange data.

Prof. Yaniv Assaf, Tel Aviv University, BIRAX Principal Investigator, Israel

#### Third call, 2017

#### Regenerating new blood vessels to restore healthy tissue

Andrew Baker, University of Edinburgh Igor Ulitsky, Weizmann Institute of Science

**How ageing affects the blood and immune system** Elisa Laurenti, University of Cambridge Liran Shlush, Weizmann Institute of Science

#### A new window into understanding, diagnosing and treating type 1 diabetes Richard Oram, University of Exeter Yuval Dor, Hebrew University of Jerusalem

Combatting Alzheimer's Disease

#### Thimo Kurz, University of Glasgow Michael H. Glickman, Technion – Israel Institute of

Technology

#### Ageing

#### Fourth call, 2018

Age-related bone fragility in type 1 diabetes – the role of bone cell senesce Lynne Cox, University of Oxford Rivka Dresner Pollak, Hadassah Medical Center

**Microstructural MRI of the ageing brain** Heidi Johansen-Berg, University of Oxford Yaniv Assaf, Tel Aviv University

#### How does ageing-associated niche stiffening disrupt nucleus mechanotransduction signalling and suppresses the regenerative capacity of adult CNS progenitor cells?

Robin Franklin, University of Cambridge Amnon Buxboim, Hebrew University of Jerusalem

#### Vascular ageing, rejuvenation and healthspan extension

Manuel Mayr, King's College London Eli Keshet, Hebrew University of Jerusalem

**Cellular senescence, ageing and diabetes** Masashi Narita, University of Cambridge Ittai Ben-Porath, Hebrew University of Jerusalem

#### Algorithms for diagnosis and management of agerelated macular degeneration

Tunde Peto, Queen's University Belfast, Anat Loewenstein, Tel Aviv University

#### **Failures of neuronal homeostasis in Alzheimer's disease and ageing** Tara Keck, University College London

Inna Slutsky, Tel Aviv University



# **Contact us**

**Ravit Capauner** Programme Manager British Council in Israel



+972 (0)54-9806767



israelscience@britishcouncil.org ravit.capauner@britishcouncil.org.il



www.britishcouncil.org.il



#### **The British Council**

The British Council is a registered charity: 209131 (England and Wales) SC037733 (Scotland)

The Friends of the British Council in the USA – Section 501(c)(3)

The Friends of the British Council is a US 501(c)(3) non-profit organisation, and is affiliated to the British Council.