

School of
**Sustainability
and Climate
Change**





Global climate change is a threat to life on the planet as we know it

Humankind is facing the consequences of a global climate crisis – the melting of the polar ice caps, rising ocean levels, increasing daily temperatures,

and ever more frequent extreme weather events. If we continue on this path, we can expect intensifying drought, floods, disease, and famine to impact the lives of a growing

number of people around the world. Global climate change is a threat to life on the planet as we know it. Still, it is possible to successfully face this threat and mitigate the extraordinary challenges it poses, if we are prepared and armed with the appropriate knowledge, tools, and experience!

**SCIENCE CAN
PROVIDE US WITH
SOLUTIONS.**

Climate change, sustainability, and the **BGU** mission

We have spent five decades learning how to thrive in the desert

At Ben-Gurion University of the Negev (BGU) finding solutions to the impacts of climate change is a priority out of necessity. We have spent five decades learning how to thrive in the desert through problem-based research. Our researchers have tackled the challenges of water scarcity and food security, developed advanced energy and cooling technologies, and studied the effects of an increasingly hot environment on human health. You could say that excellence in research on sustainability and climate change is part of our DNA.

The challenges of climate change are no longer merely local. They increasingly affect everyone, worldwide. BGU's new School of Sustainability and Climate Change leverages the invaluable experience and knowledge developed across the University by bringing together a supra-disciplinary group of outstanding scientists who will educate the world's next generation of climate change experts, while developing novel solutions to these global challenges.

BGU's accumulated experience, its unique desert location, and its innovative problem-oriented approach, mean that it is uniquely positioned to lead cutting-edge teaching and groundbreaking research, and to develop advanced applications to cope with the global climate crisis and its effects.



Real solutions to real world problems



WATER

Water shortages cause drought and famine, as well as political instability. BGU researchers conduct interdisciplinary research to find real solutions for the problem of deteriorating water resources, with a focus on sustainable water resource management. They also leverage new technologies to provide water for drinking and for agricultural and industrial use, through advances in desalination and water reclamation technologies.


FOOD SECURITY

With increasing pressure on arable land and continued population growth, ever more of the planet's inhabitants live in resource-scarce environments. Food security for future generations depends on developing sustainable drylands agriculture. Researchers at BGU have been adapting various food crops to the desert climate for decades, as well as pioneering the use of saline water in growing a range of crops. Notable recent developments include revolutionizing viticulture with vineyards in the heart of the desert and zero discharge systems for fish farming to support desert aquaculture.



WARMING CLIMATES

As global temperatures rise, increasing numbers of people regularly experience high temperatures. Researchers across the University address different challenges posed by global warming, for example by developing advanced building techniques and materials suitable for the desert heat and sun.



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PUBLIC HEALTH

The Faculty of Health Sciences at BGU has focused on patients and their environment since its inception. Critical insights into population genetics and the impact of heat and dust on human health have improved patient treatment, fueled research, and informed public health policy in Israel and around the world.

CLEAN ENERGY

Humanity must reduce its dependence on fossil fuels and develop new sources of clean energy if we are to avert irreversible climate change. Researchers across the University study multiple technologies for alternative fuels at different scales, from atoms to grid. Research on solar energy, biofuels, and novel nano-materials has already led to developments which will reduce dependence on fossil fuels. Interdisciplinary research on grids and smart cities, supported by BGU's strengths in AI and machine learning, is already yielding savings in energy consumption.



SOCIAL JUSTICE

Sustainable development, especially in resource-scarce environments, is impossible without the equitable sharing of those resources. The active collaborations of social scientists from fields such as human geography, policy and government, social work and education with our laboratory researchers ensures that the social impact of our research does not go unrecognized or unheeded. Indeed, BGU has proven experience in fostering and encouraging social leadership and entrepreneurship, and in including the community, nearby and further afield, in evaluating the goals and results of our work.





A school for the research and study of climate change and sustainability

Dealing with the threats of global climate change requires wide-scale observation and the combination of different fields of study and research. It requires collaboration between experts and the ability to think outside the box in order to innovate and translate local approaches into global solutions. To take advantage of the knowledge and expertise from over 150

research labs and multiple research centers and departments and to facilitate exchanges among them, BGU established a multidisciplinary school focused on studying the impacts of climate change.

The new School of Sustainability and Climate Change builds on our well-established strengths to further facilitate the multidisciplinary integration of BGU researchers and research programs

The new School of Sustainability and Climate Change builds on our well-established strengths to further facilitate the multidisciplinary integration of researchers and research programs across BGU's three campuses, actively encouraging

cross-unit collaboration, to generate impactful solutions to the most pressing need of our generation. The supra-disciplinary framework and ethos of collaboration fostered by the School facilitates the hiring of researchers with diverse multidisciplinary interests and the development of unique study programs, which will attract the best and the brightest students to tackle these critical issues – all leading to groundbreaking new approaches to climate change and sustainability.



Educating the next generation of climate change experts

The School offers a range of study tracks for graduate and undergraduate students, Israeli and international, based on an interdisciplinary and integrative approach. It provides students with a wide range of tools for the development and advancement of practical and sustainable solutions to global climate change, within an international research framework, integrating multiple perspectives from leading fields of study at BGU.

The School prepares students for a wide range of careers in scientific, planning, policy, management, and economic aspects of sustainability in Israel and abroad, providing its graduates with tools for success in facing 21st century challenges. Graduates can become entrepreneurs in start-ups in the fields of sustainability and environmental development, researchers and academics in a range of disciplines, experts in the public and private sectors, and leaders in organizations promoting social change and justice.



ACADEMIC FACULTIES AND DEPARTMENTS ASSOCIATED WITH THE SCHOOL



Faculty of Engineering Sciences
Department of Civil and Environmental Engineering • Department of Energy Engineering • Department of Materials Engineering



Faculty of Natural Sciences
Department of Earth and Environmental Sciences • Department of Life Sciences • Department of Chemistry



Faculty of Humanities and Social Sciences
Department of Economics • Department of Geography and Environmental Development



*Providing graduates
with tools for success
in facing 21st century
challenges*



**Guilford-Glazer Faculty of
Business and Management**
Department of Public Policy



**Jacob Blaustein Institutes for
Desert Research**
*French Associates Institute for
Agriculture and Biotechnology of
Drylands • Zuckerberg Institute for
Water Research • Swiss Institute for
Dryland Environmental and Energy
Research • Albert Katz International
School for Desert Studies*



Faculty of Health Sciences
School of Public Health



*Don't miss the opportunity
to be part of a unique
venture that can truly
change the world*

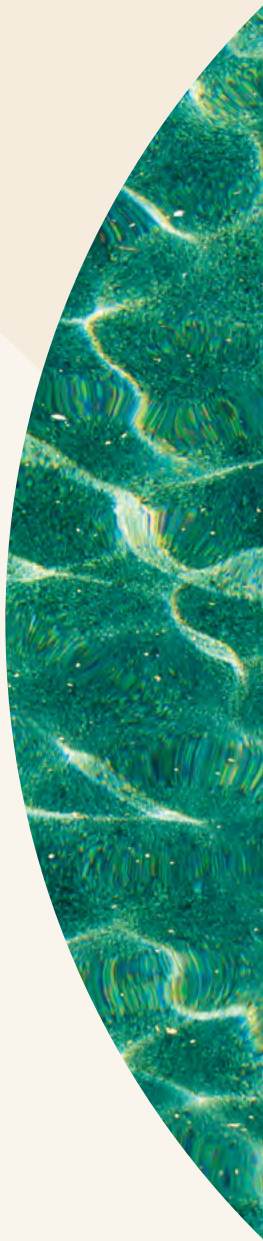
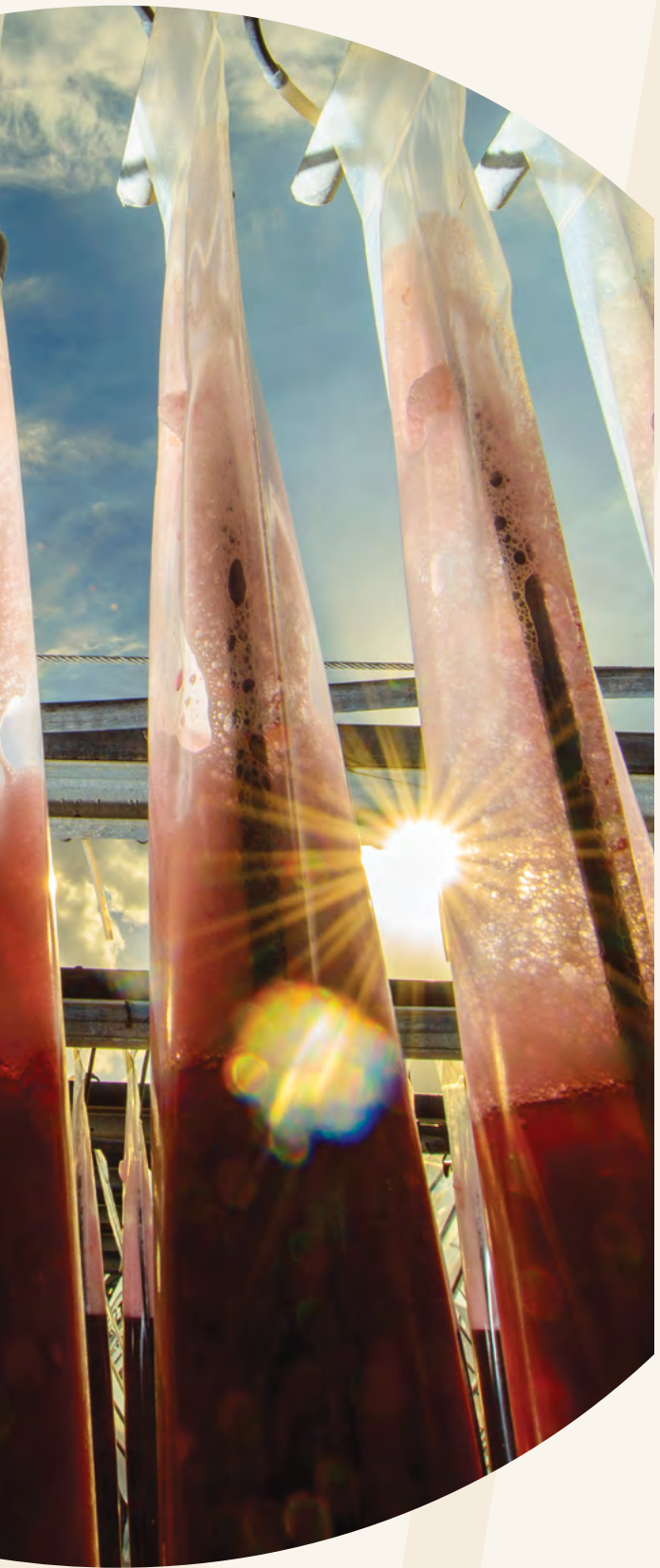


Join us

BGU has a long history of successful partnering with industry and government to generate solutions for real-time, real-life problems. BGU's School of Sustainability and Climate Change builds on a well-developed innovation ecosystem and the recently initiated Beer-Sheva-BGU Innovation District to interface with local and global industries and leverage world-class academics for concrete action and implementation. Our partnerships make it possible for outstanding research to be translated into real-world solutions to the critical problems presented by sustainability and climate change today.

**BEN-GURION UNIVERSITY OF THE NEGEV
WELCOMES PARTNERSHIPS, COLLABORATIONS,
AND SUPPORT IN OUR QUEST TO MAKE AN IMPACT.**

CONTACT US AT: SSCC@BGU.AC.IL



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