

# Research and Development

The administration and academic faculty have been working together for a number of years to improve the University's standing as a top-tier research institution. This has resulted in a significant increase in the quality and size of competitive research grants and commercial contracts received by the University and its ability to attract outstanding graduate students. We have also seen a significant increase in the number of publications in prestigious journals.

These impressive achievements have been made possible thanks to the support of individuals and foundations around the world who have become our partners in this process. These resources have allowed us to significantly upgrade our investment in advanced research facilities and manpower, including the ability to offer competitive start-up packages, and the completion of a number of major physical infrastructure projects and improved administrative services for researchers.

This has had a major impact on the University's ability to compete for peer-reviewed research funding and other important sources.

We are proud of the accomplishments of the University's researchers, reflected in the quantity and quality of competitive, prestigious grants received this year. Highlights include:

- Dr. Amir Aharoni from the National Institute of Biotechnology in the Negev

and the Department of Life Sciences has won the highly prestigious grant from the European Research Council on "Protein Engineering for the Study of Detoxification Enzymes" and another European grant on "Directed Evolution of Functional Proteins";

- The Human Factors Engineering group, led by Prof. David Shinar of the Department of Industrial Engineering and Management, has received important awards for the promotion of road traffic safety; among them two Seventh Framework Programme (FP7) grants "ITERATE" and "2 Be Safe";
- Prof. Ron Apte, together with Dr. Elena Voronov, both from the Shraga Segal Department of Microbiology and Immunology, received a prestigious grant from the FP7, as part of INFLA-CARE – a project uniting 21 European cancer research groups;
- The Israel Science Foundation created a new Center of Excellence at BGU for the study of cognitive and brain mechanisms involved in arithmetic. Headed by Prof. Avishai Henik of the Department of Psychology, the newly-created Center for the Neurocognitive Basis of Numerical Cognition (CNBNC) includes researchers from BGU, Haifa University and Achva Academic College;
- Prof. Sammy Boussiba and the team at the Landau Microalgal Biotechnology Laboratory of the Jacob Blaustein Institutes for Desert Research have started a multi-year, multi-million dollar collaboration with Primafuel Inc. on development of algae biorefinery

technologies for the production of renewable fuels;

- Prof. Elisha Qimron from the Department of Hebrew Language has been commissioned by the Yad Ben-Zvi Institute to prepare a comprehensive edition of all the Hebrew non-biblical scrolls.

Interdisciplinary institutes and centers are one of the most important tools for advancing research. The Government of Israel has committed \$30 million in a three-way partnership to fund the National Institute for Biotechnology in the Negev.

The Ilse Katz Institute for Nanoscale Science and Technology, supported by the Israel National Nanotechnology Initiative and the Negev Foundation, continues to develop and provide the critical infrastructure for conducting high level research.

The Zuckerberg Institute for Water Research, the French Associates Institute for Agriculture and Biotechnology of Drylands and the Swiss Institute for Dryland Environmental Research at the Jacob Blaustein Institutes for Desert Research have had a significant positive impact on their development and growth.

The Homeland Security Institute has been established and is currently in its formative stages. Among other fields, it deals with information technology, sensing threats and protective technologies and medical treatment of mass disasters.

The Ben-Gurion Research Institute for the Study of Israel and Zionism and Heksherim: The Research Institute for Jewish and Israeli Literature and Culture are important tools in the research of the humanities.

In addition to our more established frameworks of research, new initiatives based on our proven expertise are being promoted in the fields of renewable and green energies, concentrated in nearly four decades of work in solar energy, renewable fuels, fuel cells and energy crops.

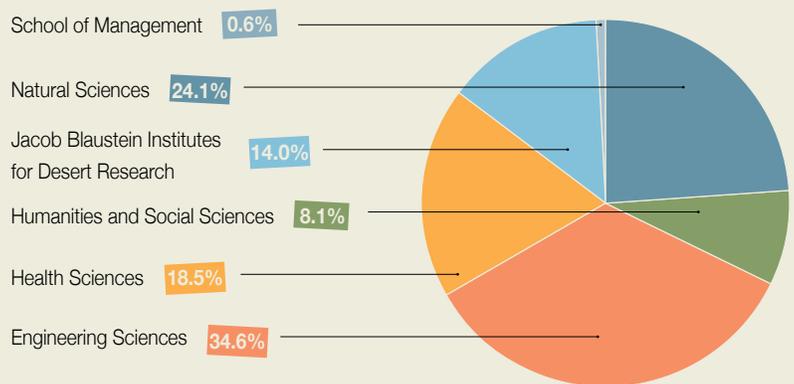
## BGN Technologies

BGN Technologies is BGU's technology transfer company, responsible for the protection and commercialization of know-how and innovation technologies created by University researchers. Through the development of novel technologies and creative partnering with industry and investors, BGN brings value to the technological marketplace and to the University and its researchers, filing patent applications worldwide and managing the University's patent and IP portfolio.

Despite the worldwide economic crisis, 2008 was a very good year for BGN and the University. An eight percent increase in yearly revenue was reported – including research and royalties – totaling some \$12 million, which represents the highest figure ever.

BGN also applied for more patents than ever before. Almost 60 patent applications were filed, three times higher than only five years ago. BGN successfully licensed a number of technologies that were developed at BGU to internationally-recognized companies such as Deutsche Telekom, Bayer CropScience, Primafuel, Microsoft and ExxonMobil.

## Percent of Grants by Faculty 2007/08



## Total External Research Funding (\$US m)



## Total Investment in Research (\$US m)

