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# THE NEGEV CONNECTION

SPECIAL ISSUE:  
CORONAVIRUS RESPONSE

SPRING 2020



AMERICAN ASSOCIATES  
Ben-Gurion University  
*of the Negev*





## A MESSAGE FROM THE CEO

The outbreak and rapid spread of coronavirus, or COVID-19 to be precise, has created an evolving dynamic that can be difficult to comprehend.

These particular challenges may feel unfamiliar to many of us, but we as a people are not foreign to uncertain or challenging times. The 10 plagues of Passover freed the Jews from slavery. It is my hope that this modern plague heals the world in the end by providing the wakeup call that we are all truly in it together.

It is often during these times that we best demonstrate our mandate of *or la'goyim*, to be a light unto nations, through acts of moral and spiritual guidance. In fact, Ben-Gurion University of the Negev (BGU) is working to mitigate the spread of coronavirus while also serving as an important resource in the diverse communities it serves. The following pages describe the steps the University is taking. As always, American Associates, Ben-Gurion University of the Negev (AABGU) is proud to serve as a partner in raising awareness and resources for the University throughout the United States.

We hope you will join us in our efforts to advance BGU's response to this worldwide pandemic by making a tax-deductible donation today in support of BGU's COVID-19 Response Effort.

Thank you for your partnership.

*Chag Pesach sameach,*

Doug Seserman

Cover photo: A prototype of the self-sterilizing graphene air filter mask designed by BGU's Dr. Chris Arnusch

# BGU'S COVID-19 RESPONSE EFFORT

The worldwide community is grappling for ways to react to the ever-growing threat of the novel coronavirus outbreak (COVID-19). Every day, the news becomes graver, while uncertainty and disruptions to everyday life become more severe.

As such, feeling an acute sense of responsibility to respond, BGU President Prof. Daniel Chamovitz established the BGU COVID-19 Response Effort to harness the University's vast brain power, research skills and ingenuity to help cope with the coronavirus pandemic.

During a meeting convened on March 12 that was attended in person by some 50 scientists from departments across the University, and another two dozen who attended via video conferencing, Prof. Chamovitz stated that the University would devote resources to bring the most promising projects to fruition.

Dozens of ideas were raised by members of various departments and areas of expertise, who then broke off into working groups. In some cases, ongoing projects were quickly repurposed. In others, new collaborations sprung up around the discussion tables.

"Since the outbreak of this coronavirus, it has become an international crisis that affects individuals, families, communities, and countries around the world," Prof. Chamovitz said. "I am turning to you, our researchers, to make the coronavirus crisis and its repercussions your top priority, to be creative and practical in order to achieve significant contributions to the national and international challenges that stand before us."

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**"It is our moral obligation to contribute to coping with this pandemic."**

— Professor  
Daniel Chamovitz

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## AABGU PROMISES FINANCIAL ASSISTANCE

The BGU COVID-19 Response Effort will require financial support, and American Associates, Ben-Gurion University of the Negev (AABGU) is committed to raising emergency funds, enabling BGU to participate fully in the world's efforts at mitigation and containment.

"We support Prof. Chamovitz's call to BGU scientists to pivot and put their efforts into fighting the medical and socio-economic consequences of this global pandemic," said Doug Seserman, chief executive officer of AABGU.

On March 16, AABGU closed its offices throughout the country and instituted a telecommuting program for all employees and a ban on non-essential travel. AABGU is as committed as ever to provide the financial resources BGU needs and asks supporters to make contributions online.

"Your support and partnership are critical at this time of crisis as we seek to advance an array of initiatives," said Seserman.

**To donate, go to [www.aabgu.org/donate-covid-19](http://www.aabgu.org/donate-covid-19)**



## PROJECT HIGHLIGHTS

Dozens of projects involving more than 100 researchers are in various stages of development. Among them are:

### IDENTIFYING ANTIBODIES TO INHIBIT INFECTION

Prof. Angel Porgador, Dr. Ran Taube, Dr. Tomer Hertz, and other researchers in BGU's Shraga Segal Department of Microbiology, Immunology and Genetics have formed a consortium to identify neutralizing monoclonal antibodies capable of inhibiting viral entry into target cells. They are also working on developing techniques based on antibody dependent enhancement to predict the severity of COVID-19 and the resultant need for ICU treatment.

The consortium is bringing together experts with specialization in various facets of immunology and virology, who will collaborate with specialists in infectious disease at Soroka University Medical Center.

### SELF-STERILIZING FACEMASKS USING ANTI-BACTERIAL GRAPHENE

Dr. Chris Arnusch, of BGU's Department of Desalination and Water Treatment, works on water purification by developing membranes with anti-bacterial and anti-viral properties. For the past five years, he has concurrently been working on air filters with enhanced anti-viral properties. The air filters could then be incorporated into individual face masks that are self-sterilizing. They could also be adapted for ventilation systems in buildings and for use in vehicles. Dr. Arnusch is teaming-up with immunology experts to test the air filters and their anti-viral effectiveness.

### A 5-MINUTE DEFINITIVE TEST FOR CORONAVIRUS

Dr. Hadar Ben-Yoav is a member of the Department of Biomedical Engineering. He is working on a device that will allow individuals to test themselves for COVID-19 with definitive results within five minutes. He is collaborating with medical researchers with access to and expertise in naturally produced antibodies.

## RESPONDING TO THE ELDERLY

With a deep concern for the elderly who are especially vulnerable, this project team of geriatric physicians and specialists, emergency medical response personnel, and public health experts (Prof. Mark Clarfield, M.D., Dr. Stav Shapira, Prof. Limor Aharonson-Daniel, and Dr. Paula Feder-Bubis) have already begun to establish a system to identify, map and assist elderly people in need of care in the event of a natural disaster. This initiative is being repurposed for the current corona crisis, and is incorporating innovative technological applications to customize an effective care system for the elderly.

## MORE PROJECTS

- Distress, Compliance and COVID-19: A Psycho-social Study
- Medical Emergency Drones
- Bioinformatics for Coronavirus Health Management

To learn more about the COVID-19 Response Effort go to [www.aabgu.org/BGU-covid-19](http://www.aabgu.org/BGU-covid-19)

## SUPPORT THE BGU COVID-19 RESPONSE EFFORT

Together, we can leverage the talents, inventiveness and resourcefulness at BGU to make meaningful contributions to the worldwide campaign underway and significantly mitigate and contain the coronavirus, allowing life to return to normal.

While a donation envelope is attached, we encourage you to donate online for immediate efficacy at [www.aabgu.org/donate-covid-19](http://www.aabgu.org/donate-covid-19)

For questions or more information, please email [covid-19@aabgu.org](mailto:covid-19@aabgu.org)



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