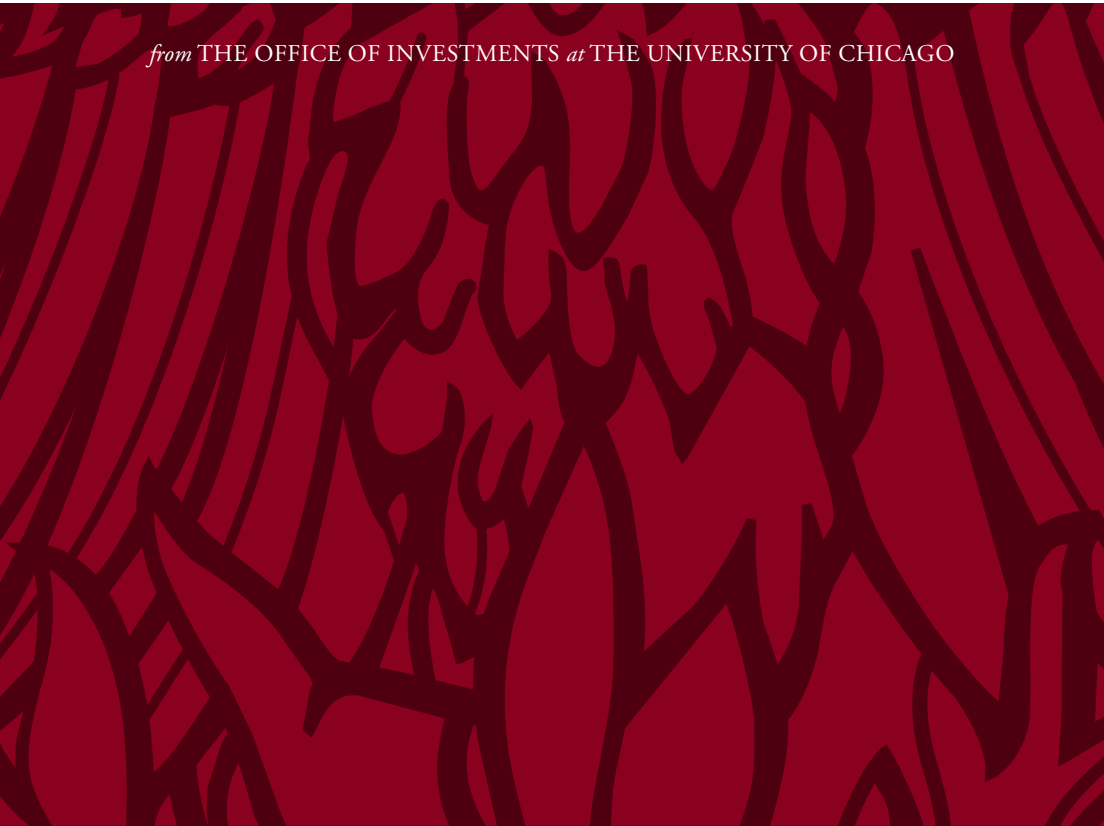
INSIGHTS & INVESTMENTS

from THE OFFICE OF INVESTMENTS *at* THE UNIVERSITY OF CHICAGO



Inspired scholars are drawn to the University of Chicago, where ideas are born that challenge and change the world.

As our partner, you are transforming scholarship into impact.

Together, we are confronting humanity's greatest problems.

Together, we are finding solutions.

UCHICAGO

See more INSIGHTS & INVESTMENTS at **insights.uchicago.edu**

THE UNIVERSITY OF CHICAGO

Office of Investments
401 North Michigan Avenue, Suite 900
Chicago, IL 60611

Welcome to the Office of Investments' third installment of ***Insights and Investments***, a collection of stories about the transformative and impactful research UChicago scholars pursue to improve our world.

In the enclosed cards, you'll find a possible answer to oil spill cleanup and learn about new educational advancements that are allowing the blind to "see" the stars. You'll discover a Nobel laureate's case for putting eight-week-old infants in school, and you'll see evidence that women in the financial industry face harsher punishment than men—findings that are particularly relevant in light of the revelations about discriminatory behavior and sexual predation that dominated headlines last year.

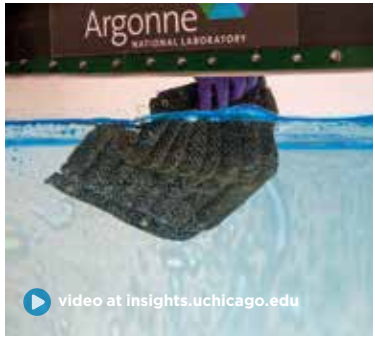
At the University of Chicago, faculty, researchers, and students are addressing questions that have clear relevance to our everyday lives. We thank you for the role you play in the University's continued progress. With your help in ensuring that we have a strong endowment, UChicago has had a year marked by not only revealing findings but incredible accolades and accomplishments, including our 90th Nobel Prize, won by economist Richard H. Thaler; the creation of the Duchossois Family Institute; and the verification of one of Einstein's long-held predictions.

Thank you for your partnership in this progress.

TECHNOLOGY

CLEANUP

Super-Absorbent Sponge Soaks Up Oil Spills



Petroleum Pickup

1.3
million gallons of oil are spilled in the ocean every year.

39,000
tons of oil were spilled from 2010 to 2016.

1
sponge can hold 90 times its weight in oil.

300+
organizations have contacted Argonne about Oleo Sponge licensing, manufacturing, or distribution options.

Oil spill cleanup just got easier.

The Oleo Sponge is a hyper-absorbent, reusable sponge that not only soaks oil directly out of the ocean, but enables the oil and petroleum to be salvaged and redistributed.

The new technology minimizes both the environmental and economic costs of oil spills. The reusable sponges help prevent large-scale pollution, and they save millions of dollars.

The innovation, created by scientists at the University of Chicago–managed **Argonne National Laboratory**, is a revolutionary improvement over current methods of oil spill cleanup, which often risk unnecessary damage to the ecosystem by burning oil on top of the ocean or adding chemicals to disperse the oil that's under the water's surface. Instead, the new technology uses a substance found in household items: polyurethane foam.

Often found in couch cushions, polyurethane foam is central to the Oleo Sponge's efficacy. A metal oxide "primer," safe for the environment, works as a glue to trap the oil molecules.

POLICY

Women Fired for Misconduct More Than Men

Measuring the Gap

16%
of manager positions in finance are held by women.

92%
of misconduct in the finance industry is linked to male behavior.

88%
of female financial professionals believe gender discrimination exists in the field.

Times haven't changed for women in the finance industry—new research shows they are 20 percent more likely than men to be fired following misconduct and 30 percent less likely to find new employment afterwards.

In "When Harry Fired Sally: The Double Standard In Punishing Misconduct," researchers found that men are three times more likely to engage in misconduct in the first place and two times as likely to repeat the same transgression in the future.

"Overall, our results suggest that gender differences are driven by discrimination by male executives of financial advisory firms," said Gregor Matvos, a visiting professor of finance at the **University of Chicago Booth School of Business** and member of the research team. "Men seem to be more forgiving of misconduct by men."

EDUCATION

Starting Early

An Economist's View of Preschool

What's the youngest age children can start their education?

Eight weeks old. That's the recommendation of James Heckman, a Nobel Prize–winning economist at the University of Chicago who directs the **Center for the Economics of Human Development**.

The Zero-to-Five Program

13%
return on investment in zero-to-five programs

7–10%
return on investment for traditional preschool programs

$6.30
social benefit for every dollar invested

According to Heckman's research, vast improvements were found in children from low-income backgrounds who were placed in preschool programs from infancy to age five. This distinct education model, coined "the zero-to-five program," is a stark contrast to customary practices. Many low-income children enroll in school for the first time after they've already turned five.

Heckman found that introducing a regular education regimen into a child's life at infancy results in elevated IQ and a higher likelihood of graduating from high school.

"Starting at age three or four is a little too late, as it fails to recognize that skills beget skills in a complementary and dynamic way. Efforts should focus on the first years for the greatest efficiency and effectiveness," said Heckman.

Heckman's findings are based on research from two studies that monitored up to 200 test subjects from infancy to age 35. The benefits of high-quality care extended past the children themselves. Due to increased availability for full-time work and increases in income, the children's families experienced improvements to their overall quality of life.

ASTRONOMY

SEEING STARS

Blind See Advances in Learning Tools

To date, the study of stars, planets, and galaxies has been reserved for those who can see them. But that's changing.

Afterglow Access is a software program that will allow the blind and visually impaired to experience the wonders of astronomy through sound, touch, or other means. Researchers from **Yerkes Observatory**, a facility of the University of Chicago **Department of Astronomy and Astrophysics**, developed the software and are partnering with teachers and students between eighth and twelfth grades to test the software's capabilities in educational and professional use.

Ultimately, Afterglow Access seeks to remove the barrier into STEM (Science, Technology, Engineering, and Math) research for the blind and visually impaired. That barrier is partially caused by a lack of vision-neutral tools.

"We won't consider ourselves successful unless within three years we have developed new computer tools with and for the blind and visually impaired that can be used in real applications, learning situations, and scholarly research," said Kate Meredith, director of education outreach at Yerkes Observatory and education lead for IDATA (Innovators Developing Accessible Tools for Astronomy). The project is funded by the National Science Foundation.

IDATA

7 million

Americans are considered visually disabled by the National Federation of the Blind.

200

students will participate in the IDATA project annually.

20

teachers are committed to working with students in both a localized and national effort.

Astronomical data is already collected through software that converts light into computer-generated images to view. With the help of their collaborators, UChicago astronomers can now take these efforts to the next level—letting blind and visually impaired students, and many others, hold the galaxy in their hands.