

ORIGINS PROJECT  
**NEWSLETTER**  
**2016-2017**



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# LETTER FROM THE DIRECTOR



**The past year was exciting and monumental for the Origins Project, thanks to your support and participation in what was our largest and most significant year to date.**

I invite you to read about our impactful activities highlighted throughout this newsletter, from fostering forefront research to engaging scholars and the public in meaningful topics and debate, all of which have garnered significant recognition.

In 2015-16 we focused generally on the theme of Life and Death in the 21st Century. From the Origins Project Antarctica Cruise to over 10 events held in Arizona and throughout our Origins Education Portal, the Origins Project continues to explore fundamental questions facing humankind today. Our Origins Project Dialogue series in 2015-16 included Peter Singer, Hugh Downs, Johnny Depp, and Mariette DiChristina, each of whom took us in new directions to explore the intersections of science and culture. We hosted a scientific workshop on Pattern Processing in partnership with the National Institutes of Health and Eric Horvitz, managing director of research for Microsoft, where we welcomed scholars from both neuroscience and computing to discuss issues central to understanding how both the brain and machines process patterns, aimed at understanding consciousness, intelligence, and madness. We provided a variety of awards and scholarships, including 5 Undergraduate Student Research Support awards of \$10,000 each, a Norm Perrill Origins Project Scholarship, and the largest postdoc award of its kind in the world associated with the Origins Postdoctoral Lectureship Award. Notably, many of our scholarship winners have earned prestigious awards and fellowships, and will engage in world-class, extraordinary research. Four of the Origins Project scholarship winners have gone on to become NSF Fellows.

In 2016-17 we plan to continue to provide and add to our programs within the scope of this year's theme of Human Challenges in the Anthropocene, carrying forward what we've learned and pushing the boundaries of what lay ahead. As we kick off the new academic year, we are excited about the numerous events we have planned, expanding and enhancing our uniquely curated content via the Origins Education Portal, and growing our awards and scholarship opportunities. This fall we will hold up to three large events, starting with an Origins Great Debate on Political Bodies: Sex, Gender and Reproductive Rights in correlation with a daytime Origins Panel in partnership with ASU's Law School at their impressive new building in downtown Phoenix where we'll focus on the legal aspects of these areas, creating safe environments where scholars and important public figures discuss and debate the complexities of these areas. We will host Pulitzer Prize winner Elizabeth Kolbert, author of *The Sixth Extinction* for an Origins Dialogue and more, as we move into 2017. In the spring we aim to host a variety of events covering a wide array of topics, including physics, water, and artificial intelligence, each of which will explore different aspects of the global human impact on planet Earth. Announcements will be made as new opportunities arise, so I invite you to stay connected and keep an eye out for new opportunities to get engaged.

I remain very excited and enthusiastic about the potential for Origins to increase its global impact. As we enter our 8th year of activity, and prepare for a 10th anniversary celebration in 2018-2019, I feel the best is yet to come. We greatly appreciate your support and thank you for all that you do to support our mission to help increase the public's understanding of science.

A handwritten signature in black ink, appearing to read 'Lawrence M. Krauss'.

**Lawrence M. Krauss**  
Director, The Origins Project at ASU

# ORIGINS EDUCATION PORTAL

In 2015 we launched the Origins Education Portal, an innovative, open-access resource archive that will bring users exclusive intellectual content from our private academic workshops and more. Taking full advantage of the remarkable Origins Project workshops and to ensure their value lasts well into the future, we will continue to curate this dynamic and interactive global resource center.

Our first offering from the Origins Portal is the *Origins of Violence: An Overview*. The curated materials found in the *Origins of Violence* are informed and inspired by one of our high-level academic workshops held in April 2014. Led by Harvard Professor of Psychology Steven Pinker, this workshop featured the world's top scholars in deep discussion about the socio-cultural and neuro-biological forms of violence. Topics ranged from its evolutionary utility in primates and early humans to the success of nonviolent protests propelling wide scale social change.

**The *Origins of Violence* has received endorsement and support from centers both within ASU and other universities including the University of Cambridge and University of North Florida, among others.**

The second dynamic and interactive, curated offering is the *Origins of Extinctions*, which gives a global audience direct access to videos from the provocative Origins Project workshop, *Extinctions as Creative Destruction*, held in February 2015. This workshop broadly explored extinctions, ranging from planetary extinction events, to biological and species extinction, followed by cultural extinction events, and finally extinctions in the technological world. Within this Education Portal offering, the Origins Project explores the nature of extinction and the future of both our species and the Earth's biosphere, and asks whether, and to what extent, extinction is required for progress, and what we can do to preserve existing biodiversity on our planet. We pose the following questions for our visitors to explore:



## WHAT'S NEXT?

The Origins Project will curate and make available material from the March 2016 workshop, *The Origins and Future of Pattern Processing and Intelligence: From Brains to Machines*, hosted in part with the National Institutes of Health, and in collaboration with Eric Horvitz, managing director of research for Microsoft. Discover it all at [origins.asu.edu/origins-education](http://origins.asu.edu/origins-education).

# HUMAN CHALLENGES IN THE ANTHROPOCENE

During 2016-2017, the Origins Project will continue to ask questions that impact society, humankind, the world, and our universe. Human Challenges in the Anthropocene will provide a thematic framework for our programs into 2018. Topics will include explorations of the different aspects of the global human impact on planet Earth, such as implications of climate change and the coming water wars, possible dangers of artificial intelligence, and other topics to be determined.

## 2015-2016 YEAR IN REVIEW HIGHLIGHTS

- | 10.16.15 Singer & Krauss: An Origins Project Dialogue
- | 12.02.15 Science and Adventure on Antarctica Cruise
- | 01.22.16 Einstein's Legacy: An Origins Project Panel
- | 02.16.16 Downs & Krauss: An Origins Project Dialogue
- | 03.12.16 Depp & Krauss: An Origins Project Dialogue
- | 04.05.16 Postdoc Lecture: The Search for Habitable Planets
- | 04.22.16 DiChristina & Krauss: An Origins Project Dialogue

**HOSTED 10  
PUBLIC EVENTS**  
DOUBLE FROM PREVIOUS YEAR

**THESE EVENTS  
HAVE BEEN ATTENDED BY  
7,000  
PEOPLE LAST YEAR ALONE**



This event season kicks off with the Origins Great Debate, Political Bodies: Sex, Gender & Reproductive Rights. In correlation with this Great Debate, we will host a daytime panel with the Sandra Day O'Connor College of Law discussing Legal Bodies: Same-Sex Marriage, Transgender Bathrooms & Reproductive Rights. A series of events will ensue to extend our theme throughout the year with additional Great Debates, Dialogues, and other events, which will be announced during the season. In late 2017, we invite adventurers to the Amazon Origins Cruise aboard the world class Delfin II, the perfect setting to explore questions ranging from the origins of evolution and life in the Amazon, to issues of biodiversity and our changing planet as we discover one of the most exotic and endangered locations in the world.

PEOPLE HAVE FLOWN FROM  
**3 CONTINENTS &  
30 STATES**  
TO ATTEND ORIGINS EVENTS

**SECOND  
LARGEST**  
LIVE-STREAM AUDIENCE  
**AT ASU**



All of our public events are filmed and provided publicly on our Origins Project YouTube channel at [youtube.com/asuorigins](https://www.youtube.com/asuorigins).

For more information about the events from 2015-2016, and to learn more about upcoming events during the Year of Human Challenges in the Anthropocene, visit [origins.asu.edu/events](https://origins.asu.edu/events).

# VISITING DISTINGUISHED PROFESSORS

The Origins Project hosts distinguished professors at ASU where they spend periods ranging from a week to a term meeting with students, engaging in research, giving public lectures, and collaborating with faculty and students. Additionally, the Origins Project has hosted a number of writers in residence that have included Lucy Hawking and Ian McEwan. In 2016-2017, we plan to host Elizabeth Kolbert and others.

During fall 2015 Peter Singer, Ira W. DeCamp Professor of Bioethics at Princeton University, joined us as a visiting distinguished professor. Nobel laureate Sidney Altman also visited ASU from his home institution of Yale University during the fall 2015 semester. Altman shared the 1989 Nobel Prize in chemistry for discovering that RNA actively aids chemical reactions in cells. In spring 2015, we hosted Nobel laureate Frank Wilczek who was awarded the Nobel Prize in Physics in 2004 for his shared discovery of asymptotic freedom in the theory of the strong interaction.

Since 2013, Nobel laureates Sidney Altman and Frank Wilczek have been Origins Project Visiting Distinguished Professors, visiting ASU's Tempe campus on numerous occasions to engage in public events, to meet with students, and to foster relationships with ASU faculty. In May 2016, ASU officially welcomed both Nobel laureates as part of its faculty. Altman and Wilczek cite their friendship with Origins Project director Lawrence Krauss and their connection to the Origins Project as the impetus for accepting their new positions at ASU.

The Origins Project will continue to bring together a diverse collection of the world's leading scientists, scholars, and public intellectuals to discuss, and if possible create, new research opportunities associated with forefront issues of our origins in their many manifestations. By providing this platform, we can attract the most brilliant minds, like Sidney Altman and Frank Wilczek, to ASU on a more permanent basis and push the boundaries of discovery at Arizona State University and beyond.

[Learn More](#)



Director Lawrence Krauss with attendees from the 2016 Origins Project scholarship and award recognition luncheon.

# AWARDS & SCHOLARSHIPS

The Origins Project provides a variety of unique awards and scholarships to students, scholars, and researchers. There are a number of opportunities available, all of which are intended to help foster education, research, and collaboration related to our mission. The Origins Project provides **Undergraduate Student Research Support** by sponsoring undergraduate students and their chosen faculty research mentors to carry out Origins Project related research. We presented 5 awards of \$10,000 in 2015-2016. We also offer the **Norm Perrill Origins Project Scholarship**. This scholarship, made possible by the generosity of ASU Professor Emeritus Dr. Norm Perrill, is awarded annually to an ASU student who demonstrates financial need, academic excellence, and shows academic rigor in issues of interest to the Origins Project.

Additionally, the Origins Project annually offers the **Postdoctoral Lectureship Award**, honoring a recent postdoctoral researcher in any area of Origins Project activities, from any country in the world. This program brings the winning candidate to ASU for a week where they will lecture on his or her areas of expertise, addressing faculty, students, and also the general public. This award includes \$10,000, making it the largest award of its kind in the world.

[Learn More](#)



Undergraduate Research Award

## Aditya Dhumuntarao

*BS Physics & BS Mathematics*

Aditya's research interests primarily reside in theoretical physics with an emphasis in high energy physics and gravity.



Undergraduate Research Award

## Alexandra Norwood

*BA Anthropology & BS Geological Sciences*

Alexandra's research interests include how people define and adapt to their physical environments and the rise of social complexity.



Undergraduate Research Award

## Alexi Choueiri

*BS Economics & BS Biochemistry*

Alexi researches the molecular mechanisms of neural circuit formation and the genetics of stimulated neurons of the brain.



Undergraduate Research Award

## Michael Busch

*BS Earth and Space Exploration, Astrophysics*

Michael studies Experimental Cosmology and aids in the creation of the tools and methods to study Cosmic Dawn and the Epoch of Reionization.



Undergraduate Research Award

## Nitish Peela

*BSE Biomedical Engineering*

Nitish's research looks at multiple disciplines to create three-dimensional disease models that can better elucidate novel mechanisms of disease.



Norm Perrill Scholarship

## Shawn Rupp

*Master Student, School of Life Sciences*

Shawn's research interests include studying sex biased expression in reptiles, particularly those that are native to Arizona.



Postdoctoral Lectureship Award

## Aomawa Shields

*PhD in Astronomy and Astrobiology, University of Washington*

Aomawa's research focuses on exploring the climate and potential habitability of extrasolar planets orbiting low-mass stars. Currently an NSF Astronomy and Astrophysics Postdoctoral Fellow, Aomawa is also a UC President's Postdoctoral Fellow in the UCLA Department of Physics and Astronomy and the Harvard-Smithsonian Center for Astrophysics.

**Learn more about Aomawa's visit at [origins.asu.edu/postdocaward](http://origins.asu.edu/postdocaward).**

Four of the Origins Project award and scholarship winners have gone on to become National Science Foundation Fellows this year, a highly competitive and prestigious graduate fellowship awarded to a select few high-achieving individuals. Congratulations!

The Origins Project continues to strive for excellence and has an increasingly positive impact in the communities we serve by offering unique world class events and programs. As we enhance and evolve our offerings, we seek additional support to carry out the ambitious agenda we have established and to build on our past successes, from advancing frontier research on forefront issues to reaching out to the general public. Through the generation and broad dissemination of knowledge, we hope to excite and help scientists, the public, journalists, and policy makers to use this knowledge to help create a better future for everyone.

Your financial generosity will help us continue to further enhance our ability to meet these ambitious goals, associated with the effort of understanding the most important questions of our time.

[Give Now](#)

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