



# GRUBER

F O U N D A T I O N



## FY 2017 Annual Report

July 1, 2016 – June 30, 2017

*A supporting organization of* **Yale**

A. Sarah Hreha, Executive Director  
The Gruber Foundation  
November 20, 2017  
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## Executive Summary

*The Gruber Foundation honors individuals in the fields of Cosmology, Genetics, Neuroscience, Justice, and Women's Rights, whose groundbreaking work provides new models that inspire and enable fundamental shifts in knowledge and culture.*

The Gruber Foundation is a 509(a)(3) Type 1 supporting organization operated, supervised, or controlled by Yale University and incorporated in 2011 under the 501(c)(3) section of U.S. Corporate Law. It was funded by The Peter and Patricia Gruber Foundation, and Peter and Patricia Gruber were its Co-founders. As President Emeritus, Patricia Gruber has a lifetime seat on the Board.



**A. Sarah Hreha, Executive Director**

The Foundation ended its sixth year at Yale with the second Gruber Symposium organized by and for Gruber Science Fellows, in May 2016. Participants ranged from the life sciences to Astronomy, and within fields the topics varied. The third annual Gruber Cosmology Conference at Yale was held in October, and included Kip Thorne and Rainer Weiss, two of the 2016 Cosmology Prize co-recipients, and was attended by over 100 students, faculty and staff.

The 2016 Gruber International Prizes were awarded in New York City, Vancouver, Canada, and San Diego, CA. The Prize events are staffed by Gruber Science Fellows in the respective disciplines who generously volunteer to help us honor our recipients. In addition to more mundane logistical tasks, they each have a minute or two to describe their research to a group comprising mostly eminent scientists – their future colleagues.

The Gruber Program for Global Justice and Women's Rights held a lecture by, and satellite discussions with, Asma Jahangir, as well as other events such as the Global Constitutionalism Seminar. Along with their second symposium, the Gruber Science Fellowship Program held a lecture and provided support to another cohort of exceptional students. The programs are described in more detail in their respective sections.

The Board of Directors of The Gruber Foundation comprises: Peter Salovey, Chairman; Ben Polak, President; Patricia Gruber, President Emeritus; Joan O'Neill; Waring Partridge. The Treasurer is Robert Herr, and the Executive Director is A. Sarah Hreha.

Further information on the Foundation is available online at [gruber.yale.edu](http://gruber.yale.edu)

Contents

Executive Summary .....1

Contents .....2

Financial Overview .....3

International Prize Program .....4

Program for Global Justice and Women’s Rights .....6

Science Fellowship Program.....8



## Fiscal Year 2017 Financial Overview

### Statement of Financial Position as of June 30, 2017

#### Assets

Cash and cash equivalents	\$ 35,932
Investments	101,323,880
Beneficial interest in charitable gift annuity	<u>36,522,746</u>
<b>Total assets</b>	<u>137,882,558</u>

#### Liabilities

Accounts payable	<u>209</u>
<b>Total liabilities</b>	<u>209</u>

**Net assets** \$137,882,349

### PROGRAM SPENDING

#### Grants to Yale University

The Gruber Foundation provides grants to Yale University for the Gruber Science Fellowship Program and the Gruber Program for Global Justice and Women's Rights. The agreement provides that The Gruber Foundation will distribute for the benefit of the Gruber Science Fellowship Program the greater of \$2.5 million or 1.6% of the net value of The Gruber Foundation's assets as of the beginning of each fiscal year. In addition, the agreement provides for disbursements of \$1.2 million for the benefit of the Global justice and Women's Rights Program.

The following grants have been distributed through June 30:

Gruber Science Fellowship Program	\$2,500,000
Gruber Justice and Women's Rights	<u>\$1,200,000</u>
	\$3,700,000

#### Gruber Prizes

Gruber Prizes disbursed through June 30, 2017 were as follows:

2016 Cosmology Prize	\$500,000
2016 Genetics Prize	\$500,000
2016 Neuroscience Prize	\$500,000
	\$1,500,000

## Gruber International Prize Program

Fiscal year 2017 saw the 2016 Gruber Prizes awarded and the 2017 recipients selected. The program mission statement is: *The International Prize Program honors individuals in the fields of Cosmology, Genetics, and Neuroscience, whose groundbreaking work provides new models that inspire and enable fundamental shifts in knowledge and culture.*

### The 2016 Prizes

#### COSMOLOGY



July 12, 2016

21st International Conference on General Relativity and Gravitation

Columbia University, New York

Gruber Lecture: *The LIGO Project: Beginning to Future*  
(Thorne & Weiss)

Patricia Gruber, 2016 Prize co-recipients Rainer Weiss, Kip Thorne, and, for Ronald Drever, his brother Ian Drever

#### Prize Citation:

The Gruber Foundation proudly presents the **2016 Cosmology Prize** to **Rainer Weiss, Kip Thorne, Ronald Drever, and the entire LIGO team** for pursuing a vision to observe the universe in gravitational waves, leading to a first detection that emanated from the collision of two black holes.

This remarkable event provided the first glimpse into the strong-gravity regime of Einstein's theory of general relativity that governs the dynamics of black holes, giving direct evidence for their existence, and demonstrating that their nature is consistent with the predictions of general relativity.

**Selection Advisory Board:** Andrew Fabian, Owen Gingerich (non-voting), Robert Kennicutt (Chair), Sadanori Okamura, Frans Pretorius, Martin Rees (non-voting), Subir Sarkar, Rashid Sunyaev

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#### GENETICS



October 21, 2016

66<sup>th</sup> Annual Meeting of the American Society of Human Genetics,  
Vancouver, Canada

Gruber Lecture: *Histones and histone modifications regulate transcription*

2016 Prize co-recipients David Allis and Michael Grunstein

November 20, 2017

**Prize Citation:**

The Gruber Foundation proudly presents the **2016 Genetics Prize** to **Michael Grunstein** and **David Allis** for the discovery of the role of histone proteins and their covalent modification in the regulation of eukaryotic gene expression.

**Selection Advisory Board:** Victor Ambros, Utpal Banerjee, Marlene Belfort, Kay Davies, Helen Hobbs, Richard Lifton, Huda Zoghbi (Chair)

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**NEUROSCIENCE**

November 13, 2016

46<sup>th</sup> Annual Meeting of the Society for Neuroscience  
San Diego, CA

Gruber Lecture: *Random Walk in Neurobiology*

Sarah Hreha, Hollis Cline, 2016 Prize recipient Mu-Ming Poo,  
Patricia Gruber, Robert Wurtz

**Prize Citation:**

The Gruber Foundation proudly presents the **2016 Neuroscience Prize** to **Mu-Ming Poo** for his pioneering and inspiring work on synaptic plasticity.

Mu-Ming Poo has used both in vitro and in vivo neuronal systems to discover the fundamental and quantitative determinants that influence neuronal growth and synaptic strength. He defined the temporal parameters, for example, that strengthen and weaken synapses during spike timing-dependent plasticity. He also demonstrated how the concentration of intracellular signals determines the growth choices that neurons make.

Through his many ingenious experiments he has addressed and elucidated the fundamental logic and rules governing synaptic plasticity and has consistently evoked the admiration of his colleagues with his creative approach to Neuroscience.

**Selection Advisory Board:** Susan Amara, Tobias Bonhoeffer, Martin Chalfie, Frances Jensen, Tirin Moore, Erin Schuman, Robert Wurtz (Chair)

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More information on the 2016 Gruber Prizes is available at: <http://gruber.yale.edu/gruber-prizes>

## Gruber Program for Global Justice and Women's Rights

The Gruber Program for Global Justice and Women's Rights has four core components: 1) the Global Constitutionalism Seminar; 2) the Gruber Distinguished Global Justice and Women's Rights Lectures; 3) the Gruber Global Justice and Women's Rights Fellowships; and 4) the Gruber Project.

### Global Constitutionalism Seminar

The Global Constitutionalism Seminar took place September 21-24, 2016, in New Haven, with the theme "Acts of State, Acts of God." On its 20<sup>th</sup> anniversary, the seminar included 28 judges, including 4 new participants. The Faculty Director was Judith Resnik, Liman Professor of Law.

### Gruber Distinguished Lectures in Global Justice and Women's Rights

Asma Jahangir presented "Empowering the Disadvantaged: Bonded Labor, Women, and the Role of Human Rights" as the Gruber Distinguished Lecture in Women's Rights on September 12, 2016. Jahangir is Pakistan's leading human rights lawyer, and formerly served as the President and chairperson of Pakistan's Supreme Court Bar Association and the Human Rights Commission of Pakistan.

### Gruber Global Justice and Women's Rights Fellowships

#### Post-Graduate Fellowships

The fifth class of Gruber Fellows in Global Justice and Women's Rights will have completed their fellowship projects as of fall 2017.

**M. Mohsin Bhat** (Yale Law School '16, **J**) tackles religious and caste discrimination in urban housing in India; in collaboration with the Centre of Equity Studies he will consolidate empirical evidence of housing discrimination and its impact on disadvantaged groups.

**Conchita Cruz** (Yale Law School '16, **WR**) as co-founder and future Project Director of the Asylum Seeker Advocacy Project (ASAP) at the Urban Justice Center, a project to help Central American refugee families while in detention and upon release to win their asylum cases.

**Ruth Metzger** (Yale School of Forestry and Environmental Studies & School of Management '16, **J**) works with the Azuero Earth Project to connect smallholder farmers and landowners to the global climate finance landscape.

**Hassan Sipra** (Yale School of Forestry and Environmental Studies '16, **J**) works with the Lahore Waste Management Company in Pakistan to formalize the informal waste pickers sector and streamline waste management processes of the city by developing a cooperative model.

**Sarah Tolbert** (Yale Jackson Institute & School of Forestry and Environmental Studies '16, **J**) collaborates with Strong Roots, a local Congolese organization, on a pilot project to help indigenous groups in the Eastern DRC apply for land tenure under the 2014 Community Forest Law.

The Gruber Committee selected 5 post-graduate 2016-2017 Peter and Patricia Gruber Fellows in Global Justice and Women's Rights, from a pool of 22 applications received from Yale graduate students and alumni from the Law School, the School of Forestry and Environmental Studies, the School of Public Health, the Divinity School, the School of Nursing, the School of Management and the Jackson Institute for Global Affairs.

### **Faculty Fellowships**

The Gruber Constitutionalism Faculty Fellows for 2016-17 are Justices Aharon Barak (Israel) and Dieter Grimm (Germany).

### **Gruber Project**

The Gruber Project provides support for clinical and experiential learning initiatives, and supports four initiatives in 2016-2017: (i) the Asylum Seekers Assistance Project; (ii) the Global Health Justice Partnership; (iii) the International Refugee Assistance Project (IRAP) and (iv) the Family Violence Clinic.

### **2016-2017 Gruber Committee**

The Gruber Committee is appointed by the Yale Law School Dean and is responsible for selecting Fellows and the Gruber Distinguished Lecturers. The 2015-2016 Gruber Committee includes: **Reva Siegel**, Chair (Nicholas deB. Katzenbach Professor of Law); **Ann Kurth**, (Dean and Linda Koch Lorimer Professor, School of Nursing); **Anika Singh Lemar**, Fall term (Clinical Associate Professor of Law); **Robert C. Post** (Dean and Sol & Lillian Goldman Professor of Law); **Judith Resnik** (Arthur Liman Professor of Law); **Elisabeth Wood** (Professor of Political Science & and International and Area Studies); **Sara Lulo** (ex officio) and Mindy Jane Roseman (Director, Gruber Program for Global Justice and Women's Rights, ex officio).



## Gruber Science Fellowship Program

The purpose of the Gruber Science Fellowship is to recruit and support the very best graduate students to pursue doctoral studies in the life sciences, cosmology and astrophysics at Yale's Graduate School of Arts and Sciences.



Patricia Gruber, Lynn Cooley, Sarah Hreha and Carl Hashimoto pose with the 2016 cohort of Gruber Science Fellows at Yale.

### 2016 Gruber science fellows:

**Yotam Cohen**, Astronomy

**Emma Corcoran**, Molecular Cell Biology, Genetics, and Development

**Hanna Ehrlich**, Public Health

**Andres Guillen**, Molecular Cell Biology, Genetics, and Development

**Ankita Gumaste**, Neuroscience

**Chun Hu**, Molecular Medicine, Pharmacology, and Physiology

**Olivia Justynski**, Molecular Cell Biology, Genetics, and Development

**Joon Ha Lee**, Neuroscience

**Jack Moen**, Molecular Medicine, Pharmacology, and Physiology

**Hussein Mohsen**, Computational Biology and Bioinformatics

**Shanna Murray**, Neuroscience

**Jun Hyun Park**, Neuroscience

**Kirsten Reimer**, Biochemistry, Biophysics, and Structural Biology

**Melanie Reschke**, Biochemistry, Biophysics, and Structural Biology

**Alva Sainz Castillo**, Molecular Medicine, Pharmacology, and Physiology

**Maxwell Shinn**, Neuroscience

**Leon Tejwani**, Neuroscience

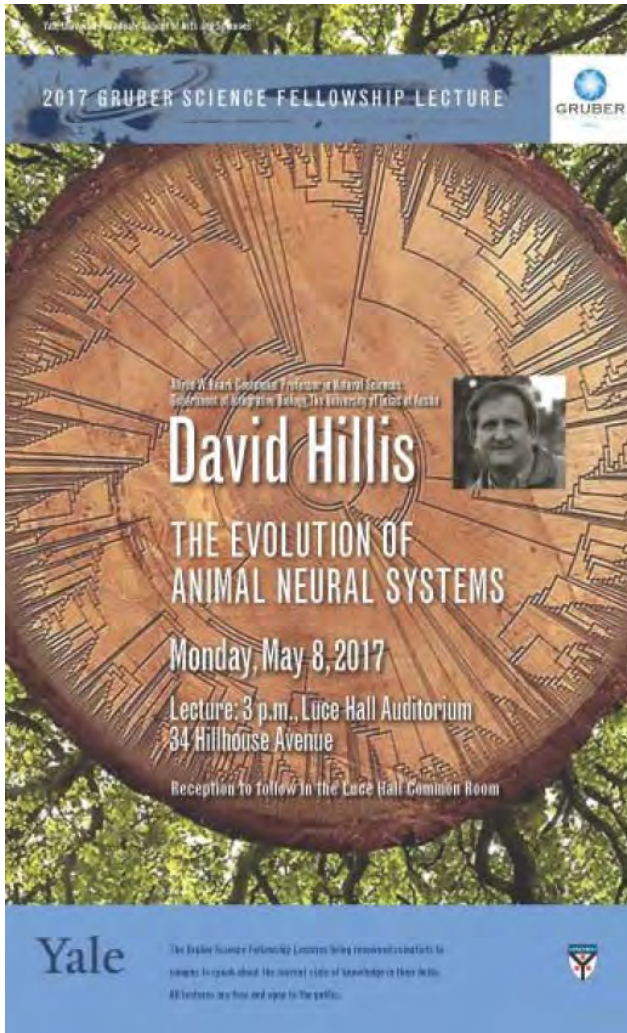
**Yashna Thappeta**, Microbiology

**Daniel Thoresen**, Molecular Cell Biology, Genetics, and Development

**Hao Xu**, Immunology

**Parastou Yaghoubi**, Immunology

## Gruber Science Fellowship Lecture



**David Hillis**, evolutionary biologist and the Alfred W. Roark Centennial Professor of Biology at the University of Texas at Austin, delivered the Gruber Science Fellowship Lecture on May 8, 2017.

His lecture was titled **“The Evolution of Animal Neural Systems”**