



# GRUBER

F O U N D A T I O N



## FY 2021 Annual Report

July 1, 2020 – June 30, 2021

*A supporting organization of*

# Yale

A. Sarah Hreha, Executive Director  
The Gruber Foundation  
November 9, 2021  
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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 2020 Gruber Prizes were awarded virtually – a first for us and of course similar to what many organizations faced while continuing their programs during pandemic lockdowns. We found that it is harder to confer an honor upon an illustrious scientist via Zoom than on stage at a conference with their peers! Fortunately, we were able to learn from others. Yale Conferences and Events provided access to a Zoom Webinar license as well as emphasizing virtual event best practices and as a result we avoided the less savory virtual experiences such as Zoom bombing. Our Selection Advisors had useful ideas that made the events more interactive, and they generously participated despite full schedules. It was heartening to feel that our global community could still gather and celebrate the best science.

The Gruber Program for Global Justice and Women's Rights similarly converted its Distinguished Lecture Series and the Global Constitutional Seminar to a virtual format and drew almost as many attendees as when in person. All but one of their fellows were able to work on their projects despite the pandemic, albeit in modified form. The Gruber Science Fellowship was able to retain some of its networking and mentoring events virtually but cancelled or postponed other gatherings. Nothing was quite the same, of course, but the resiliency and creativity of everyone involved was inspiring!

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

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

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## Fiscal Year 2021 Financial Overview

### Statement of Financial Position as of June 30, 2021

#### Assets

Cash and cash equivalents	\$ 31,894
Accounts Receivable	1,210
Due from Yale University	188,472
Investments	149,117,138
Beneficial interest in charitable gift annuity	<u>73,204,122</u>
<b>Total assets</b>	<b><u>222,542,836</u></b>

#### Liabilities

Accounts payable	--
<b>Total liabilities</b>	<b>=</b>

**Net assets** \$222,542,836

## 2021 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, 2021 were as follows:

2020 Cosmology Prize	\$500,000
2020 Neuroscience Prize	<u>\$500,000</u>
	\$1,000,000

## Gruber International Prize Program

Fiscal year 2021 saw the 2020 Gruber Prizes awarded and the 2021 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 2020 Prizes

#### COSMOLOGY



January 11, 2021

237th Meeting of the American Astronomical Society  
Zoom

Gruber Lecture: *The Dark and Luminous Sides of Cosmic Structure Formation*

Prize Recipients Lars Hernquist, Volker Springel. Prize Advisors Wendy Freedman, Martin Rees. Sarah Hreha, Carlos Frenk, Patricia Gruber, Advisory Board Chair Rob Kennicutt, IAU's Ewine van Dishoeck, and Tim de Zeeuw.

#### Prize Citation:

The Gruber Foundation is pleased to present the 2020 Cosmology Prize to Lars Hernquist and Volker Springel for their transformative work on structure formation in the universe, and development of numerical algorithms and community codes further used by many other researchers to significantly advance the field. The contributions of Hernquist and Springel have led to profound insights spanning billions of years of cosmic evolution, including simulations of the growth of early density fluctuations through to present-day galaxies, the influence of galaxy mergers on star formation, and the close coevolution of supermassive black holes with their host galaxies.

**Selection Advisory Board:** James Evans, Wendy Freedman (non-voting), Paul Ho, Robert Kennicutt (Chair), Frans Pretorius, Martin Rees (non-voting), Subir Sarkar, Rashid Sunyaev, Linda Tacconi

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#### GENETICS

April 24, 2020  
The Allied Genetics Conference  
Zoom

Gruber Lecture: *Quorum-sensing communication: from viruses to bacteria to eukaryotes*



Prize Recipient Bonnie Bassler displays her laureate pin

November 9, 2021

**Prize Citation:**

The Gruber Foundation proudly presents the **2020 Genetics Prize** to **Bonnie Bassler** for her pioneering and ground-breaking discoveries illuminating the molecular language of bacterial communication through quorum sensing. She vastly expanded our understanding of the molecular, chemical and mechanistic signals that bacteria use to communicate not only within their own species, but also between species. Her work has greatly expanded our understanding of the microbial world, and opened up the possibility of modulating bacterial communication to treat human disease, and to manipulate the microbiome.

**Selection Advisory Board:** Kathryn Anderson, Utpal Banerjee, Marlene Belfort, Kay Davies, Helen Hobbs (Chair), James Lupski, Allan Spradling.

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**NEUROSCIENCE****November 18, 2020****Zoom**

**Prize recipients Friedrich Bonhoeffer, Corey Goodman, and Marc Tessier-Lavigne, Advisory Board Chair Susan Amara, Sarah Hreha**

**Prize Citation:**

The Gruber Foundation proudly presents the **2020 Neuroscience Prize** to **Friedrich Bonhoeffer, Corey Goodman** and **Marc Tessier-Lavigne** for elucidating developmental mechanisms that guide axons to their targets, a key step in formation of neural circuits.

Bonhoeffer devised assays enabling isolation of guidance molecules. Using these assays, he discovered that guidance results from a balance between attractive and repellent signals; he then identified key repellent molecules.

Goodman pioneered the use of genetic screens in fruit flies to discover gene families controlling axon guidance. Many molecules that he discovered are evolutionarily conserved, all the way to humans.

Tessier-Lavigne combined evolutionary insights with incisive assays to identify mammalian guidance molecules. His analyses of these molecules and downstream signaling provided insights into how growing axons are steered to their targets.

**Selection Advisory Board:** Susan Amara (Chair), Frances Jensen, Eric Nestler, Anthony Phillips, Angela Roberts, Joshua Sanes, Carla Shatz

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More information on the 2020 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 virtually September 9 -12, 2020, with the theme "Seeking Safety, Knowledge, and Security in a Troubling Environment." The seminar included 25 judges from national and regional courts, including a few new participants. The Faculty Director was Judith Resnik, Liman Professor of Law. Seminar proceedings began with the Anderson Lecture "Judges in the Public Eye," a conversation with Justice Sonia Sotomayor (US) and Right Honorable the Baroness Brenda Hale (UK) moderated by Judith Resnick.

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

**Mona Hanna-Attisha** presented "Water Crisis in Flint and COVID-19 Pandemic in U.S.: Lessons Learned and Preparing for The Next Public Health Crisis," via Zoom as the Gruber Distinguished Global Justice Lecture on October 26, 2020. Hanna-Attisha is a pediatrician, professor, and public health advocate whose research exposed the Flint water crisis. **Cecile Richards** presented the Gruber Distinguished Lecture in Women's Rights on March 8, 2021. Richards is co-founder of Supermajority – an organization serving as a one-stop-shop for advocacy, community building, and electoral participation aimed at building an intergenerational, multiracial movement for women's equity.

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

#### Post-Graduate Fellowships

The eighth class of Gruber Fellows in Global Justice and Women's Rights will have completed their fellowship projects as of fall 2021.

**Rachel Brase (YSPH '20)** is working on a rights-based intervention to improve the health of migrant women on the Thai-Laos border, with Mahidol University

**Hannah Hussey (YLS '20)** is addressing economic insecurity for LGBTQ youth, at the LGBTQ Law Project of the New York Legal Assistance Group

**\*Carolyn Lipp (YLS '18)** is developing and expanding the Family Drug and Alcohol Court model, with the Centre for Justice Innovation, in England. *\*deferred to 2021-22 due to COVID-19 travel restrictions*

**Cecil James Tengtenga (YDS '20)** is addressing the escalating HIV epidemic among African youth, with the Project ECHO hub at College of Transfiguration in Grahamstown, South Africa

The Gruber Committee selected 4 post-graduate 2020-2021 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, and the Divinity School.

### **Faculty Fellowships**

The Peter and Patricia Gruber Fellow in Global Justice is Belabbès Benkredda

### **Gruber Project**

The Gruber Project provides support for clinical and experiential learning initiatives and supports five initiatives in 2020-2021: (i) Gender Violence Clinic (GBV); (ii) the Global Health Justice Partnership; (iii) the International Refugee Assistance Project; (iv) the Reproductive Rights and Justice Project and Clinic and (v) the Yale Immigration Justice Project.

### **2020-2021 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 2020-2021 Gruber Committee includes: **Amy Kapczynski**, (Professor of Law) Chair, **Vicki Schultz** (Ford Foundation Professor of Law and Social Sciences), **James Silk**, (Binger Clinical Professor of Human Right and Director, Allard K. Lowenstein International Human Rights Clinic), **Kaveh Khoshnood** (Associate Professor, Yale School of Public Health), **Mushfiq Mobarak** (Professor of Economics, Yale School of Management) 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. The spring 2021 Lecture and Symposium were cancelled due to the COVID-19 pandemic.

### 2020 Gruber science fellows:

**Mary Alice Allnutt**, Interdepartmental Neuroscience  
**Anastasiya Andriyash**, Biological and Biomedical Sciences: Plant Molecular Biology  
**Melanie Chitwood**, Public Health-Epidemiology of Microbial Diseases  
**Therese Cordero**, Immunobiology  
**Ewyn Dickinson**, Biological and Biomedical Sciences: Neuroscience  
**Ahmed Ismaeil El-Badawy**, Molecular Cell Biology, Genetics & Development  
**Delaney Farris**, Molecular Cell Biology, Genetics & Development  
**Michael Grunst**, Microbiology  
**Anthony Isenhour**, Molecular Cell Biology, Genetics & Development  
**Chia-Yi Lee**, Molecular Cell Biology, Genetics & Development  
**Haejeong Lee**, Molecular Cell Biology, Genetics & Development  
**Haofan Li**, Molecular Cell Biology, Genetics & Development  
**Christopher Lindsay**, Astronomy  
**Ran Liu**, Molecular Cell Biology, Genetics & Development  
**Matheo Morales**, Molecular Cell Biology, Genetics & Development  
**Paola Negrón-Moreno**, Biological and Biomedical Sciences: Neuroscience  
**Isabella Perone**, Biological and Biomedical Sciences: Neuroscience  
**Renuka Ramanathan**, Molecular Cell Biology, Genetics & Development  
**Anabel Schweitzer**, Molecular Cell Biology, Genetics & Development  
**Raghav Sehgal**, Molecular Medicine, Pharmacology and Physiology  
**Emily Siff**, Biological and Biomedical Sciences: Neuroscience  
**Kaiyuan Tang**, Molecular Cell Biology, Genetics & Development  
**Kevin Tse**, Molecular Cell Biology, Genetics & Development  
**Shupeizhang**, Molecular Cell Biology, Genetics & Development