



# GRUBER

F O U N D A T I O N



## FY 2022 Annual Report

July 1, 2021 – June 30, 2022

*A supporting organization of* **Yale**

A. Sarah Hreha, Executive Director  
The Gruber Foundation  
November 7, 2022  
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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**

In 2021, the Gruber International Prizes were again awarded virtually despite hopes that we would convene in person. I like to think that we were able to personalize the experience for our prize recipients and that the warmth we strive for in person came through in the digital format. By incorporating aspects of the celebratory dinners into the online ceremonies, we highlighted the voices of their peers – voices that could speak to both the top-notch science being recognized and to the wonderful people who are doing that science.

The Gruber Program for Global Justice and Women's Rights returned to in-person programming in March 2022 with a Distinguished Lecture in Women's Rights by Jocelyn Samuels. The audience was limited to the Yale community and invited guests, and masks were required, but it was exciting to be in the same room again. The lecture was livestreamed for those who could not attend. In May, the Gruber Science Fellowship held its student-run symposium in person for the first time in two years.

We are cautiously optimistic that the return to live gatherings will continue and expect that we will award the 2022 Gruber Prizes in person!

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](https://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 2022 Financial Overview

### Statement of Financial Position as of June 30, 2022

#### Assets

Cash and cash equivalents	\$ 48,142
Accounts Receivable	--
Due from Yale University	--
Investments	144,526,099
Beneficial interest in charitable gift annuity	<u>81,859,640</u>
<b>Total assets</b>	<b><u>226,433,881</u></b>

#### Liabilities

Accounts payable	2984
Due to Yale University	<u>907,942</u>
<b>Total liabilities</b>	<b><u>910,926</u></b>

**Net assets** \$225,522,955

**Total liabilities and net assets** \$226,433,881

## 2022 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, subject to certain adjustments. 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	\$2,726,985
Gruber Justice and Women's Rights	<u>\$1,200,000</u>
	\$3,926,985

### Gruber Prizes

Gruber Prizes disbursed through June 30, 2022 were as follows:

2021 Cosmology Prize	\$500,000
2021 Genetics Prize	\$500,000
2021 Neuroscience Prize	<u>\$500,000</u>
	\$1,500,000

## Gruber International Prize Program

Fiscal year 2022 saw the 2021 Gruber Prizes awarded and the 2022 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 2021 Prizes



#### COSMOLOGY

August 3, 2021

24th International Conference on Particle Physics and Cosmology – COSMO '21

Zoom

Prize Recipients Uroš Seljak, Matias Zaldarriaga, and Marc Kamionkowski. Advisory Board Chair Rob Kennicutt, and Sarah Hreha.

**Gruber Lecture:** *Cosmology with B/Curl modes: from 1996 and into the future*

#### Prize Citation:

The Gruber Foundation is pleased to present the **2021 Cosmology Prize** to **Marc Kamionkowski**, **Uroš Seljak**, and **Matias Zaldarriaga** for their work on the Cosmic Microwave Background, the most direct tracer of the primordial universe and of its physics. Their theoretical predictions and analysis tools for the cosmic background, its intensity, and even more its polarization, have been essential to the development of this field of research over the last twenty-five years, already testing predictions of the inflation model for the early expansion of our universe. Furthermore, their work has been key to initiating new observation projects extending over the next fifteen years, in the quest for detecting the imprint of primordial gravitational waves on the microwave background.

**Selection Advisory Board:** James Evans, Wendy Freedman (non-voting), Paul Ho, Robert Kennicutt (Chair), Angela Olinto, Jean-Loup Puget, Hans Ringström, Martin Rees (non-voting), Linda Tacconi

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#### GENETICS

October 7, 2021

The American Society of Human Genetics  
Annual Meeting

Zoom

**Gruber Lecture:** *Turning on Fetal Hemoglobin for Therapy of Hemoglobin Disorders: A Journey Through Contemporary Genetics*



Sarah Hreha, Prize Recipient Stuart Orkin, and Selection Advisory Board Chair Allan Spradling

November 7, 2022

**Prize Citation:**

The Gruber Foundation proudly presents the **2021 Genetics Prize to Stuart Orkin** for his pioneering discoveries of the genetic and molecular basis of common blood diseases and the gene regulatory mechanisms that govern blood cell development. He elucidated the mechanism of regulation of the switch from fetal to adult hemoglobin, and reduced to practice the reactivation of fetal hemoglobin as a therapeutic strategy for sickle cell disease and the thalassemias. Stuart Orkin's science has beautifully illustrated the successful progression from fundamental genetics to mechanistic biology to therapeutic development and intervention, which can transform the lives of millions of patients in need.

**Selection Advisory Board:** Marlene Belfort, Aravinda Chakravarti, Philip Hieter, Jeannie T. Lee, James Lupski, Eric N. Olson, Allan Spradling (Chair).

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**NEUROSCIENCE****November 10, 2021****50th Annual Meeting of the Society for Neuroscience  
Zoom**

**Sarah Hreha, Advisory Board Chair Frances Jensen, Prize Recipients  
Christine Petit and Christopher Walsh**

**Prize Citation:**

The Gruber Foundation proudly presents the **2021 Neuroscience Prize to Christine Petit and Christopher A. Walsh** for their use of genetic and molecular methods to elucidate fundamental mechanisms underlying hereditary diseases of the human nervous system. Their innovative and pioneering use of consanguineous families led to the identification of numerous genes mutated in disorders of hearing loss and cerebral cortical development. These discoveries were then dissected at the mechanistic level in model organisms, leading to new understanding of how the cochlea functions and how the cerebral cortex forms.

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

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More information on the 2021 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 8-11, 2021, with the theme "Urgency and Legitimacy." 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 "The Authority of the Courts and the Perils of Politics," a conversation with Justice Stephen Breyer (US) and Justice Rosalie Silberman Abella (CA) moderated by Judith Resnick.

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

**Vivek Maru** delivered the Fall 2021 Gruber Distinguished Lecture in Global Justice, via Zoom, on October 25: "Stop a Land Grab, Change the System: a Pathway to Climate and Environmental Justice." On March 7, 2022, **Jocelyn Samuels** delivered the 2022 Gruber Distinguished Lecturer in Women's Rights: "Fighting Workplace Discrimination: Lessons Learned, Challenges Ahead."

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

#### Post-Graduate Fellowships

The ninth class (2019-2020) of Gruber Fellows in Global Justice and Women's Rights will have completed their fellowship projects as of fall 2022.

1. **Rachel Brase (YSPH '20)**, rights-based health work for migrant women on the Thai-Laos border
2. **Hannah Hussey (YLS '20)** combat economic insecurity for LGBTQ youth, with LGBTQ Law Project
3. **Carolyn Lipp (YLS '18)** developing and expanding Family Drug and Alcohol Court in UK
4. **Cecil James Tengatenga (YDS '20)** pilot health worker training curriculum in HIV prevention

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 Yale Divinity School.

#### Faculty Fellowships

Claudia Flores was a Gruber Global Constitutionalism Seminar Fellow in Spring 2022

## Gruber Project

The Gruber Project provides support for clinical and experiential learning initiatives and supports five initiatives in 2021-2022: (i) Gender Violence Clinic; (ii) the Global Health Justice Partnership; (iii) the International Refugee Assistance Project; (iv) the Reproductive Rights and Justice Project and (v) the Yale Immigrant Justice Project.

## 2021-2022 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 2021-2022 Gruber Committee includes: **Vicki Schultz** (Ford Foundation Professor of Law and Social Sciences) **Chair**, **Sam Moyn** (Henry R. Luce Professor of Jurisprudence and Professor of History), **Dan Esty** (Hillhouse Professor of Environmental Law and Policy, School of the Environment and Yale Law Clinical Professor of Environmental Law & Policy), **James Silk** (Binger Clinical Professor of Human Right and Director, Allard K. Lowenstein International Human Rights Clinic), **Joseph Mensah** (YLS, Director of Dean's Initiatives) (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. The spring 2022 Lecture was cancelled due to the COVID-19 pandemic.

### 2021 Gruber science fellows:

**Christopher (Chris) Camp**, Interdepartmental Neuroscience Program

**Nardos Cheru**, Immunobiology

**Jhah Cook**, Interdepartmental Neuroscience Program

**Maya Foster**, Biomedical Engineering

**Maria Luisa Gomez Calvo**, Immunobiology

**Daniel Grinshpun**, Molecular Medicine, Pharmacology and Physiology

**Kebron Gurara**, Molecular Medicine, Pharmacology and Physiology

**Yuchen Huo**, Molecular Medicine, Pharmacology and Physiology

**Atagun (Ata) Isiktas**, Interdepartmental Neuroscience Program

**Huan Li**, Computational Biology and Bioinformatics

**Jose Sebastian (Sebastian) Monzon**, Astronomy

**Matias Murillo**, Interdepartmental Neuroscience Program

**KaiQuan (Kenneth) Ng**, Molecular Cellular Biology, Genetics and Development

**Ashley Owens**, Neuroscience

**Alexandra (Alex) Rich**, Neuroscience

**Will Rogers**, Ecology and Evolutionary Biology

**Garrett Sager**, Molecular, Cellular, Developmental Biology

**Rosa Serrano**, Neuroscience

**Morgan Shine**, Biochemistry, Quantitative Biology, Biophysics, and Structural Biology

**JoAnne Villagrana**, Molecular Cellular Biology, Genetics, & Development

**Xuan (Novak) Yang**, Immunobiology

**Sijing (Jean) Ye**, Neuroscience

**Liqun Zhou**, Immunobiology

## Fellowship Events and Activities

### Alumni Spotlight Events

- **Elizabeth Salm**, Ph.D. in Neuroscience (2019); Associate Director for Postdoctoral Development & Training Grant Support, Georgetown University
- **Richard Sarro**, Ph.D. in Genetics (2017); Corporate Development, Jazz Pharmaceuticals
- **Ethan Sarnoski**, Ph.D. in Molecular, Cellular, and Developmental Biology (2018); Venture Director, Cambrian Biopharma
- **Tyler Smith**, Ph.D. in Molecular Biophysics and Biochemistry (2019); Product Manager, Evozyne

### Professional Development

- Crafting your Elevator Pitch workshop
- Gruber Science Fellow Symposium
- *Picture a Scientist*- A movie screening and critical discussion

### Social Programming

- Spring picnic