

Title: Science Superheroes

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URL: <http://www.pirsa.org/08020056>

Abstract:



PERIMETER **PI** INSTITUTE FOR THEORETICAL PHYSICS

Overview

- What is PI? *Public perspective*
- Outreach *Why? How? What?*
- Perimeter Explorations *Damian*



What is PI?

- Twin Mandates
 - *Scientific Research*
 - *Educational Outreach*

Research

- Theoretical Physics involving:
 - Cosmology
 - Particle Physics
 - Quantum Foundations
 - Quantum Gravity
 - Quantum Information
 - Superstring Theory



Outreach



Outreach

- Why Outreach?
- How do we approach?
- What are we doing?
- Perimeter Explorations



Why Outreach?

Improve scientific literacy

Encourage the public and policymakers to understand and appreciate science

Provide researchers with opportunities to participate and give back



Why Outreach?

- **Researcher opportunities to participate:**
 - Providing keynote presentations
 - Conducting mentorship sessions
 - Offering public lectures
 - Presenting in-class lessons
 - Contributing to and vetting content
 - Sharing ideas, contacts
 - Offering feedback



Sir Anthony Leggett,
University of Illinois

Outreach

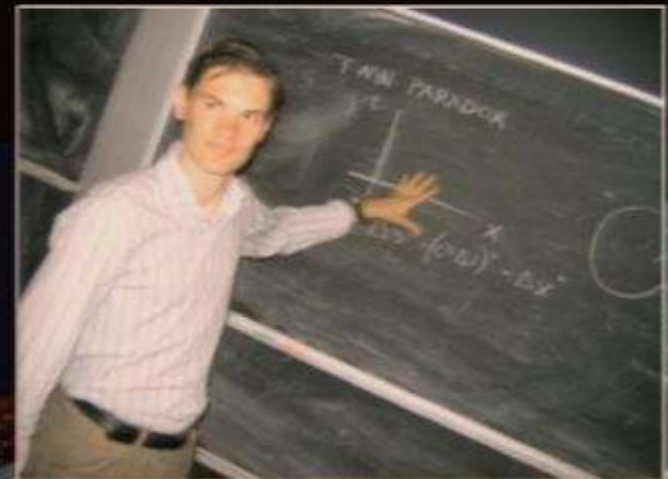
The Approach

Ensure the content is:

1. International
2. Appealing to wide cross-section of audiences
3. Promoted and distributed by strong and like-minded partners

The Programs - Students

- **Physica Phantastica**
 - Over 95 in-class lectures on modern physics held coast to coast
 - Includes remote and rural areas
 - Opportunities to partner with school boards and teacher groups



The Programs - Students

- International Summer School for Young Physicists
 - 8 sessions of ISSYP held at PI since inception
 - Up to 100 students each summer from across Canada and around the world
 - Partnership with DFAIT and UNESCO ensures participation by students from variety of nations



The Programs - Students

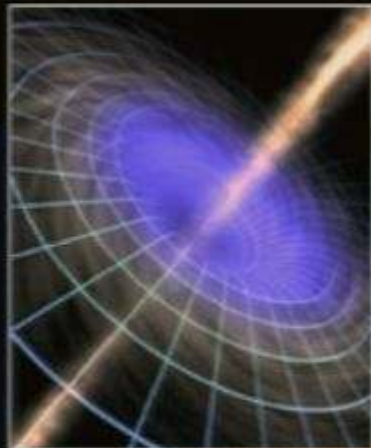
- ISSYP Snapshot
 - 18 countries and 5 continents, as well as all 10 Canadian provinces and 3 territories represented



The Programs - Teachers

- **Teachers Workshops**

- Over 30 on-location sessions
- Focus on how to make modern physics more engaging to students
- Opportunity to work with science teacher organizations and test new content



The Programs - Teachers

- Einstein Plus Teachers' Workshop on Modern Physics
 - 7 one-week sessions
 - Up to 100 teachers from across Canada & around the world
 - Opportunities to discuss pedagogical techniques in depth and share detailed content to take home
 - Launch pad for an international network of teachers who will train other educators in home countries



The Programs – General Public

- **PI Public Lecture Series**
 - Over 100 lectures via monthly series and special events
 - Attracting 600+ people per event
 - Viewable to wider audiences via TV and PI website
 - Future partnerships with NSDL, WGBH, I-Tunes, CLT, etc.



The Programs – General Public

- **General Public**
 - Accessible, wide-ranging content



The Quest for Supersymmetry
Edward Witten, Institute for Advanced Study



From Einstein to Quantum Information
Anton Zeilinger, University of Vienna



Warped Passages
Lisa Randall, Harvard



The Science of Music, The Music of Science
Stuart Isacoff, Composer and Author

The Programs – General Public

- **General Public**
 - Populists & Nobels



*The Florentine Heretic?
Galileo, the Church and
the Cosmos*
David C. Lindberg,
University of Wisconsin



The Big Bang
Simon Singh, Author
and Journalist



*The Origin of Mass and
the Feebleness of
Gravity*
Frank Wilczek, MIT

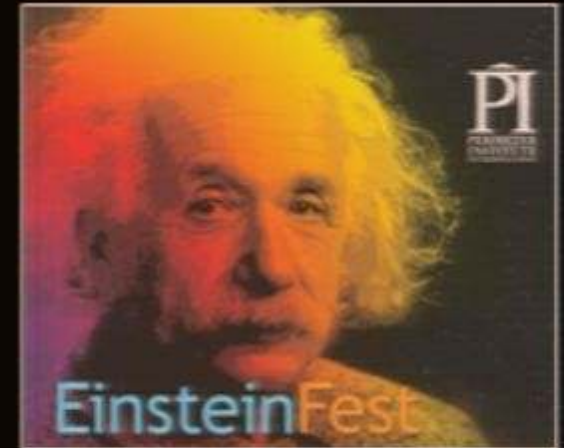


*The Search for Miss
Leavitt*
George Johnson,
Author and Journalist

The Programs – General Public

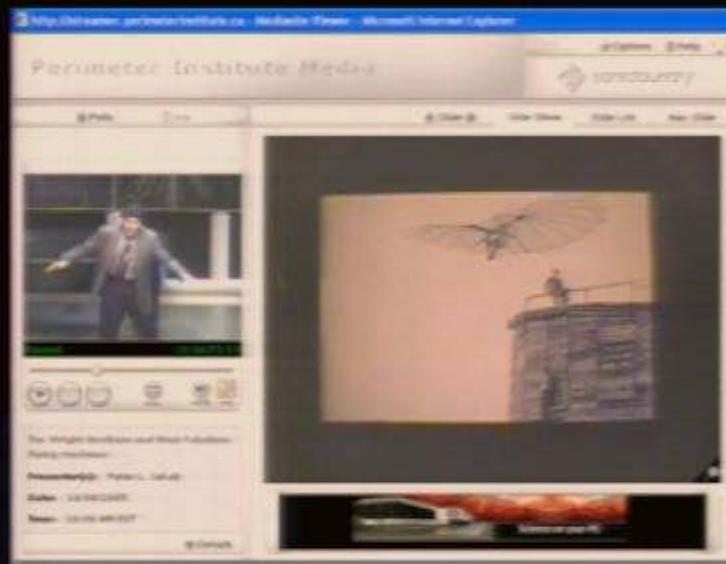
- **Special Events**

- World Year of Physics Event
- 24 days, 38 lectures, 21 performances
- Hands on experiments
- School trips
- Attendance in excess of 28,000



The Programs – General Public

- Website
 - Growing portfolio of online programming



Perimeter Explorations

- Number one request

Perimeter Explorations

- Series of in-class resources for teachers
- Enrichment content tied to curricula worldwide
- Tools they can customize to suit situation
- Use 24/7 around the world