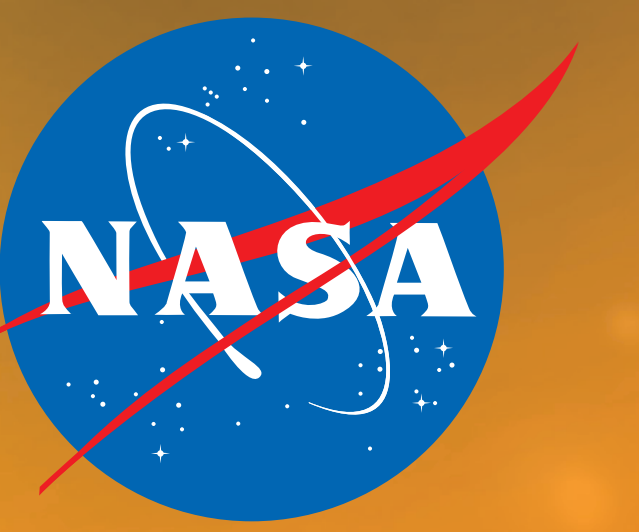


12 YEARS

EDUCATION & PUBLIC OUTREACH FOR FERMI



Lynn Cominsky, Kevin McLin, Aurore Simonnet and the Fermi E/PO team

Introduction

During the past twelve years, NASA's Fermi Gamma-ray Space Telescope has supported a wide range of Education and Public Outreach (E/PO) activities targeting K-14 students and the general public. The purpose of the Fermi E/PO program is to increase student and public understanding of the science of the high-energy Universe using inspiring and engaging educational activities linked to the mission's science objectives. The E/PO program has other more general goals, including increasing the diversity of students in the Science, Technology, Engineering and Mathematics (STEM) pipeline, and increasing public awareness and understanding of Fermi science and technology. Fermi's multi-faceted E/PO program includes elements in each major outcome category: higher education, elementary and secondary education, informal education and public outreach.

Educator Ambassador Program

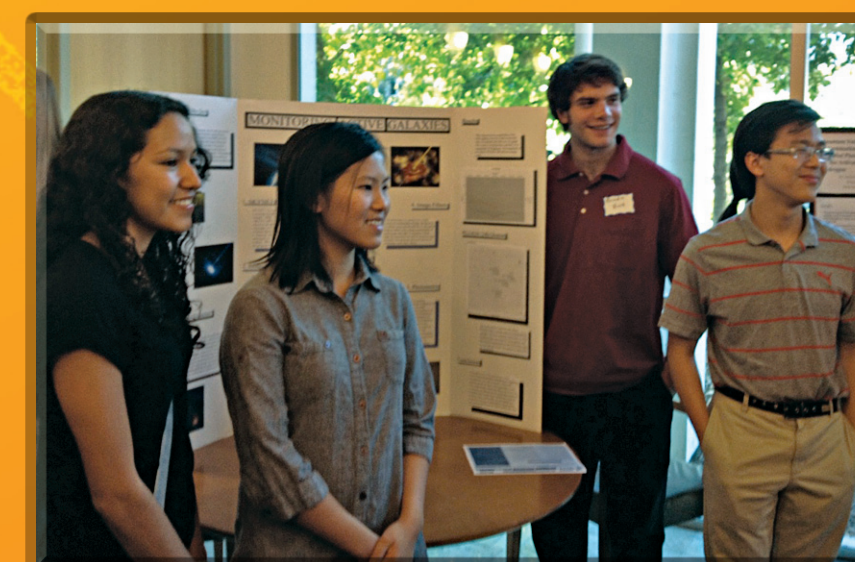
Master teachers who are trained by SSU E/PO staff and who in turn, train other teachers. Over 57,000 teachers have been trained since 2002 through this program.



Educator Ambassador 2012 Team

Global Telescope Network

The Global Telescope Network (GTN) provides students with the opportunity to engage in authentic research experiences.



2012 Summer high school internship students



Setting up GORT's new dome

Online Cosmology Curriculum

Fermi E/PO is supporting the development of an online curriculum for college students: *"The Big Ideas in Cosmology."*



Cosmology course screenshot

Amateur Astronomers and the Night Sky Network (NSN)

Together with the Suzaku, Swift and XMM-Newton E/PO programs, and the Astronomical Society of the Pacific, Fermi E/PO funded the development of the Supernova! toolkit for the NSN of (over 200) amateur astronomy clubs.



Educator's guides

Fermi E/PO has created many popular educator guides that teach science and math, primarily for middle and high-school students, including Active Galaxies, three TOPS Learning Systems guides, and the Supernova Educator Unit (joint with XMM-Newton).



Black hole resources

The full-dome digital planetarium show *Black Holes: The Other Side of Infinity* (Tom Lucas, Director), premiered at the Denver Museum of Nature & Science in January 2006, and has since been shown to millions world-wide. The accompanying PBS NOVA show *Monster of the Milky Way*, premiered on 10/31/2006 and continues to be very popular.

<http://www.pbs.org/wgbh/nova/blackhole>

Fermi E/PO provided seed funding and technical oversight for both shows and also developed an accompanying educator's guide and factsheet.



Websites

Fermi E/PO supports :

- Space Mysteries: <http://mystery.sonoma.edu>, interactive video games that teach math and science
- Gamma-ray Burst Skymap website: <http://grb.sonoma.edu>, which has public-friendly write-ups
- Epo's Chronicles: <http://eposchronicles.org>, a weekly webcomic which teaches science, engineering, technology and mathematics as Alkina and her sentient spaceship Epo explore the galaxy.

Printed Materials

Many colorful and fun outreach materials have been created by the Fermi E/PO team, including the Fermi Race card game, factsheets, stickers, the Fermi paper model, lithos, and the skymap poster.



Astro 4 Girls

Two Fermi Educator Ambassadors participated during 2011 in this new program, which is reaching girls through workshops held at public libraries.



Scale the Universe activity

Making edible AGN

Online teacher training

Professional development for educators, "NASA's Multiwavelength Universe" was co-sponsored by Fermi E/PO during the summer in 2011 and 2012

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<http://fermi.sonoma.edu>