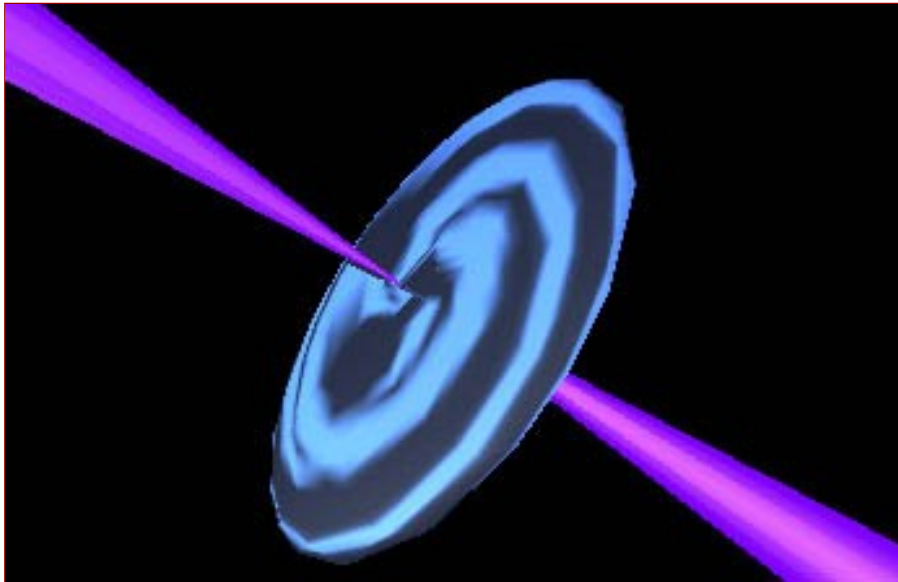




E/PO Program

Education and Public Outreach Goal



We will utilize the observations and scientific discoveries of the GLAST mission to improve the understanding and utilization of science and mathematics concepts for grades 9-12.



E/PO Program Evolution

- LAT E/PO program proposed and accepted as part of Instrument Selection process (2/28/00, \$1.27M 99\$ = 1.8% thru phase D)
- GLAST AO :*“The LAT IPI will take steps after selection to establish an overall program that integrates any other IPI E/PO programs and the IDS efforts...”*
- LAT E/PO lead (Cominsky) given responsibility for developing project-wide program (6/1/00)
- Plan for project E/PO distributed 8/18/00 & presented to SWG 9/22/00 (\$3.6M 99\$ = 1.9%)



LAT E/PO Program

- Web-based materials
 - Space Mysteries (2004-2005)
 - GLAST Outreach Web Site (ongoing)
- Printed materials
 - TOPS Learning Systems (2002-2004)
 - Teacher's activity booklets and posters (bi-yearly)
- Educator training
 - New teacher's workshops yearly at NSTA, NCTM
 - GLAST Ambassadors (2002-2005)



LAT E/PO Program

- Informal Education
 - NASA Quest Space Scientists Online Web Chats
 - SLAC Virtual Visitor's Center γ -ray Exhibit (2004)
- Evaluation and Assessment
 - Space Mysteries has team of high school teachers for front-end assessment
 - Formative and summative evaluation of entire program will be performed by WestEd
 - Swift evaluation also being done by WestEd → cost-sharing for development of survey instruments



Space Mysteries



- Alien Bandstand
- Escape from the Doomed Planet
- Star Market Scandal

- Funded by NASA LEARNERS grant to SSU for 3 modules (to be released during 2001-2)
- Swift module planned for 2003 release
- Two modules planned for GLAST (2004-5)
- Developed with Videodiscovery, Inc.



Ambassadors Program

- 10 educators
 - Selected in national competition in 2002
 - Work with GLAST Science Team
 - Develop workshops and curriculum materials
 - Must have own dissemination plan
 - Attend GLAST launch in 2005
 - Help staff exhibition booth at educator conferences
 - Paid modest annual stipend, plus travel
 - Application, AO now available at:
<http://www-glast.sonoma.edu/ambassadors>



Outreach Web Site

Gamma-ray Large Area Space Telescope



Gamma-ray Universe

Mission Details

Instrumentation

Ask - A - Scientist

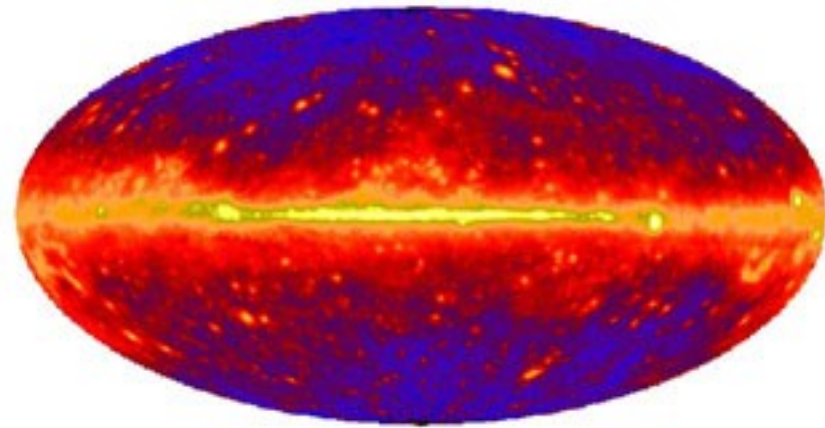
*Education and Public
Outreach Program*

Quest Chats

Talk to a Gamma-ray Scientist!

Interdisciplinary Scientists

Links

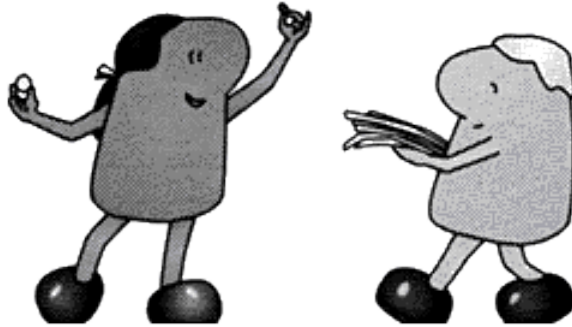


New!

<http://www-glast.sonoma.edu>



TOPS Learning Systems



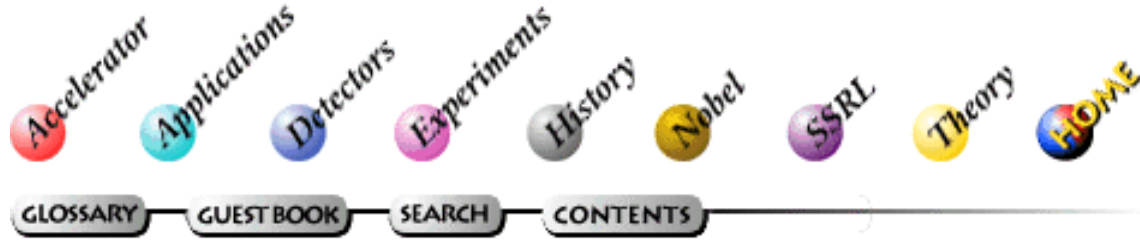
These are fun-loving folk of no particular age, race, political affiliation, or size. Because they are clever and brave, can change sizes and defy gravity, we let them demonstrate the "how to's" in all the books we publish. Their purpose in life is to help young people achieve success one step at a time.



<http://www.topscience.org/>



SLAC Virtual Visitor's Center



EXPLORE THE VIRTUAL VISITOR CENTER



<http://www2.slac.stanford.edu/vvc/home.html>



NASA Quest Web Chats



<http://quest.arc.nasa.gov>

<http://perry.sonoma.edu/quest.htm>

A Quest Web Chat is an opportunity for students and the general public to meet and ask questions of scientific experts using the Internet. From their own desktop, people can type comments and questions into a "chat room" and receive live responses.

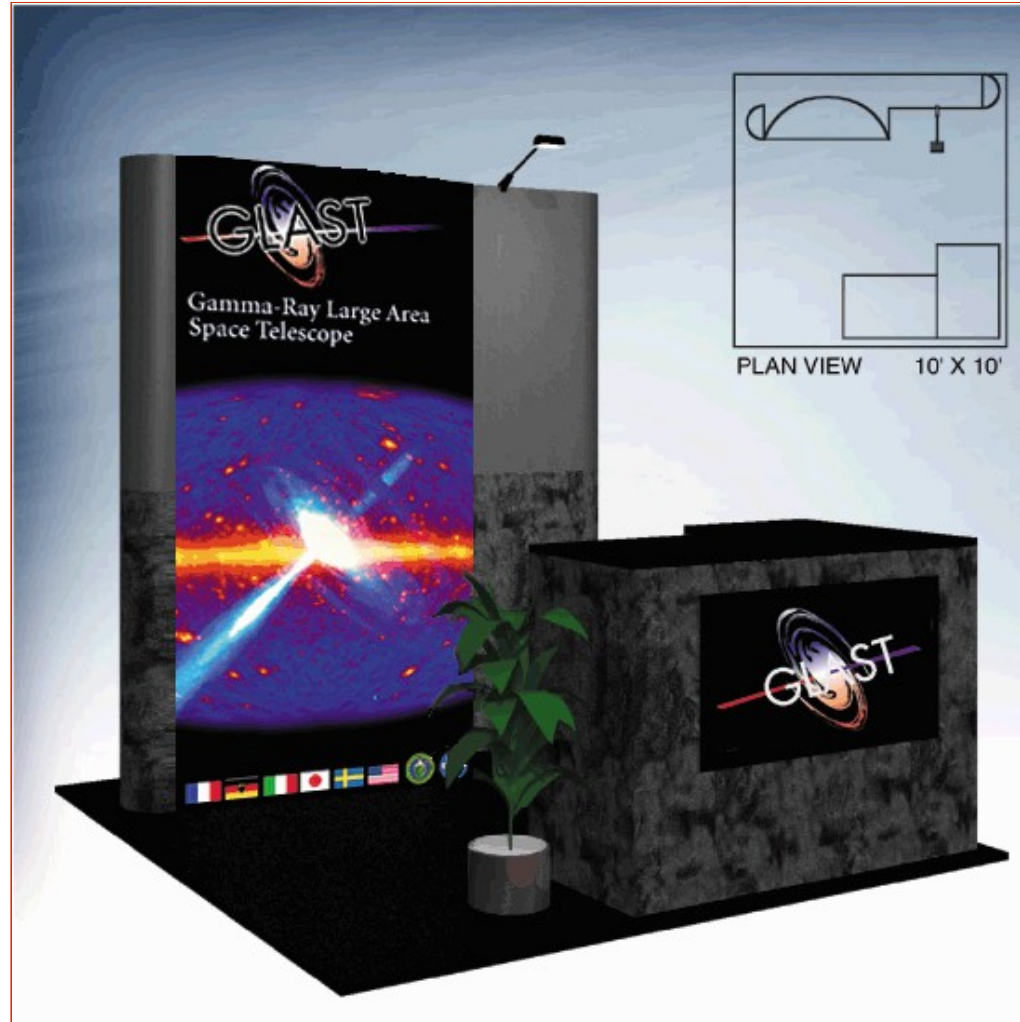
Four chats have been held to date, on the 4th Wednesday of each month (at 10 AM Pacific Time) and will continue throughout the academic year.

Monthly chats shared between GLAST and Swift



Exhibit Booth

- Created by Joan Carol Design Group
- First used at HEAD in 11/00 then AAS in San Diego
- Mirror image of Swift booth
- When in adjacent locations, booth personnel can be shared
- Shared with PR





Project E/PO plan

- Includes all original LAT program elements
- PLUS: 5 new proposed elements:
 - 1-2 hour PBS Special with Tom Lucas
 - Maryland Science Center exhibit
 - Planetarium show
 - GLAST video
 - Telescope Network
- Adds 8 educator workshops at GSFC, SLAC, Texas A&M, and MSFC
- Expands role of GSFC, MSFC/GBM in EPO



PBS TV Special

- 1-2 hour PBS Special with Tom Lucas Productions to air in 2004 or 2005
- Lucas committed to raising \$500K through PBS or Nova
- GLAST adds \$250K
- PBS dissemination = high leverage
- SWG Top priority

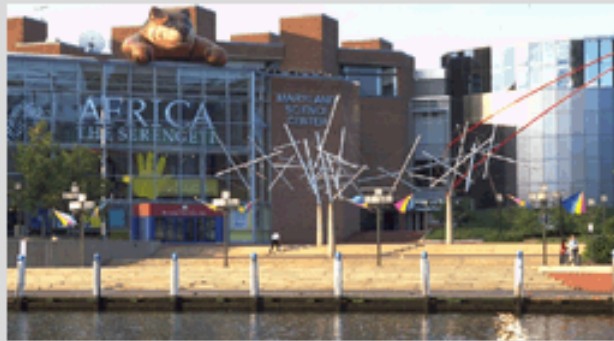




Maryland Science Center

- 250 square foot exhibit in 2003/4, upgraded in 2005/6 to 500 square feet
- @\$300/square foot =\$150K to MSC
- Planetarium show in 2004/5, done with MSC for \$75K, distributed through International Planetarium Society along with colorful brochure

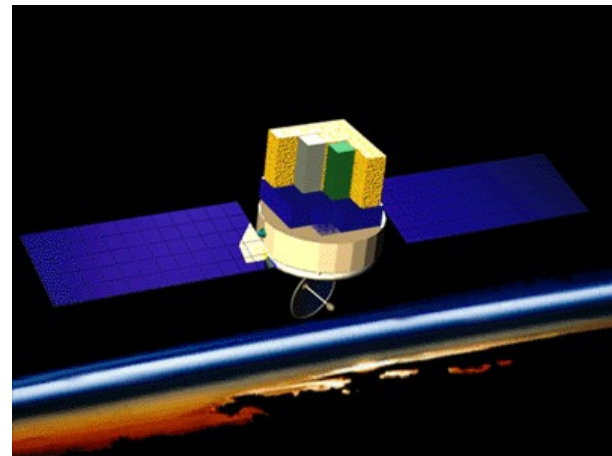
Discover the Wonder at the Maryland Science Center





Video

- Similar to Swift video
- ~ 5 minutes
- Distributable on CD-ROM
- Explains high energy gamma-ray sky
- Can be used by GLAST public speakers
- Can be part of museum exhibit
- Produced in 2002
- Shared with PR
- To be done by GSFC





Telescope Network

- Blazar and GRB observations
- High School students using robotic telescopes through NSF funded Hands-On Universe project
- Amateur astronomers involved through MSFC GBM and AAVSO
- GSFC GCN used to coordinate GRB positions and times with networked observers
- Minimal GSFC personnel costs (\$70K)
- Can start with HETE and Swift, be in place for GLAST



Educational Workshops



NBSP at SSU
July 2000

- GSFC workshops in 2001/03/05
- MSFC/AAVSO in 2002/04
- Texas A&M Kingsville (HSI) in 2004
- SLAC will help train Ambassadors in 2002/04
- @ \$20K per workshop*8 = \$160K (does not include personnel costs)



Dissemination Plan

- Educator workshops and exhibits at NSTA, NCTM, CSTA, NTTI, etc.
- GLAST E/PO Web site
- NASA OSS Forums and Broker/Facilitators
- NASA CORE, Science/Education Gateway
- NASA Quest Web site
- Videodiscovery Web site, marketing, and catalog
- TOPS Web site, marketing, and catalog
- PBS Web site, marketing
- Maryland Science Center marketing
- International Planetarium Society

Dissemination measured by WestEd



Budget Bottom Line_

- Approved GLAST LAT Program Budget: \$1.27M (includes \$565K in sub-contracts and 1 FTE at SSU)
- Requested GLAST Project Augmentation: \$2.33M (\$900K in subcontracts, workshops + 1 FTE each at SSU, GSFC)
- **Total Requested E/PO Program: \$3.6M** (99\$ or 1.9% of \$191M total project budget excluding launch)
- **Project can support a Total E/PO program of \$2.5M** (99\$ = \$3.1M real year dollars or 1.3% of total budget)

Suggestions?



\$2.5M Program _

- Retain all approved LAT program elements (\$1.27M total, \$85K in Phase B)
 - Quest chats
 - GLAST EPO web site
 - GLAST Ambassadors
 - *Space Mysteries – being planned*
 - *Poster/booklet sets and teacher's workshops – first poster (Unified AGN) being designed*
 - TOPS Learning Systems
 - SLAC Virtual Visitor's Center GR exhibit



\$2.5M Program

- Project funds used in Phase B: \$200K
 - Gamma2001 teacher's workshop
 - GLAST exhibit booth
 - Project related Web site additions
 - SSU & GSFC Planning for other elements
- Possible new elements (\$1.03M)
 - PBS Special (\$370K) (PBS)
 - Additional teacher's workshops (\$280K)
 - Additional Web site work (\$60K)
 - Additional SSU Scientific Review and Management (\$150K) + GSFC Management (\$50K)
 - Additional materials production (\$50K)
 - Additional assessment (\$70K)



\$2.5M Program _

- Eliminated (\$1.1M):
 - Telescope Network (\$70K)
 - Maryland Science Center Exhibit (\$260K)
 - Planetarium Show (\$175K)
 - GLAST Video (\$160K)
- Additional Web site (\$60K)
- Additional GSFC Scientific Review and Management (\$150K) + SSU Management (\$50K)
- Additional materials production (\$100K)
- Additional assessment (\$75K)