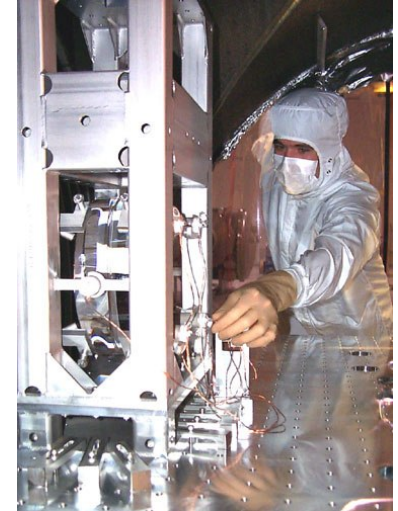


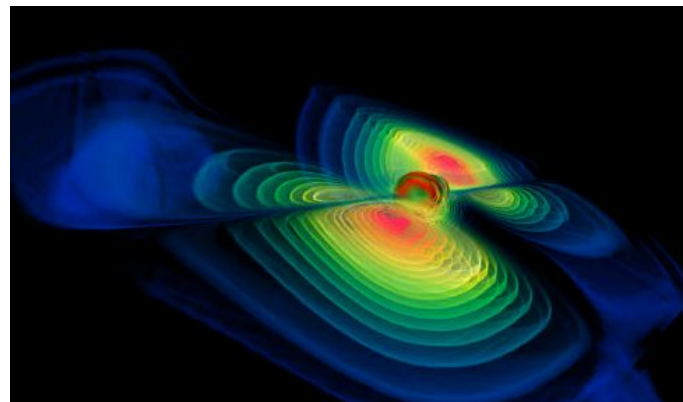
LIGO: Your One-stop STEM Shop

- LIGO: Laser Interferometer Gravitational-wave Observatory
- Opening a unique window on the universe through gravitational wave astronomy
- Offering students and teachers a unique window into the world of science and engineering research
- In science, LIGO manufactures ideas. In K-12 outreach, LIGO works with our partners to manufacture STEM interest, excitement and literacy.
- Dale Ingram
 - Education and Outreach Coordinator, LIGO Hanford Observatory
 - ingram_d@ligo-wa.caltech.edu
 - 509-372-8248



LIGO Science: Frontier research in astrophysics

- Large detectors in WA and LA set global standards for measurement precision
- LIGO's target: The detection of gravitational waves produced by the deaths of stars, the births of black holes, the birth of the universe and other exotic events.
- Scientists and engineers in the international LIGO Scientific Collaboration develop and deploy ground-breaking technology in optical measurement systems



•"Colliding Black Holes" courtesy of Werner Benger, Zuse Institute Berlin, Max-Planck Institutue fuer Gravitational Physics (Albert Einstein Institute) and the Center for Computation & Technology at Louisiana State University



LIGO Outreach: Leverage LIGO's resources to improve the STEM capabilities of students and teachers across the region

- For students, LIGO offers a close-up view of the working world of scientists and engineers.
- For teachers, LIGO offers full-immersion professional development experiences that focus on the nature of scientific inquiry, and content-based experiences that address specific groups of standards.
- For all, LIGO seeks to communicate the notions that 1) science is enjoyable and often exciting, 2) science is driven by questions, not by answers, and 3) STEM might just be for you.



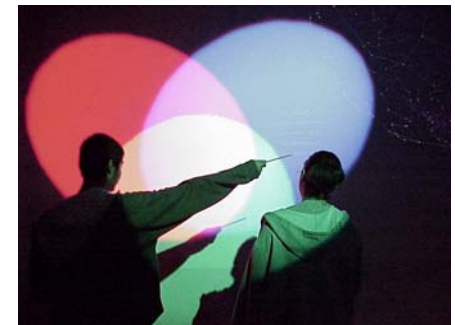
LIGO GEAR UP Remains an Outreach Partner of Great Importance for LIGO

- Overlapping interests in preparing students for their futures.
- Overlapping interests in broadening the vision and empowerment of first-generation and/or underrepresented students.
- Overlapping interests in increasing the interest and relevance of STEM-related coursework.
- GEAR UP touches large numbers of students and manages the resources that can deliver impacts to students and families.



Previous GEAR UP – LIGO Joint Activities

- Field trips to the Observatory: Face-to-face interactions with STEM professionals and personal experiences with standards-based hands-on exhibits and activities.



Previous GEAR UP – LIGO Joint Activities, continued

- Bilingual Family-oriented Open Houses



Summer Collaborations

- Dual-site two-week academies
- One-week science day camps



Visits to Schools

- Hands-on science sessions for classes
- Special presentations
- Evening events – science nights, family nights



5/4/2012



LIGO-G1200488-v1



Are there opportunities for new joint activities?

- Professional development with teachers at GU sites
- Customized small-group interactions with high school students
- College and career awareness activities
- Summer teacher internships
- *LIGO strongly believes in the value of connecting students to STEM professionals in the context of work that the students are accomplishing.*



April 13, 2012 at Pasco High





LIGO and GEAR UP share a vision for impacting the lives and experiences of students

