



Proposal for joining the LSC: Experimental Gravity Group, Columbia University

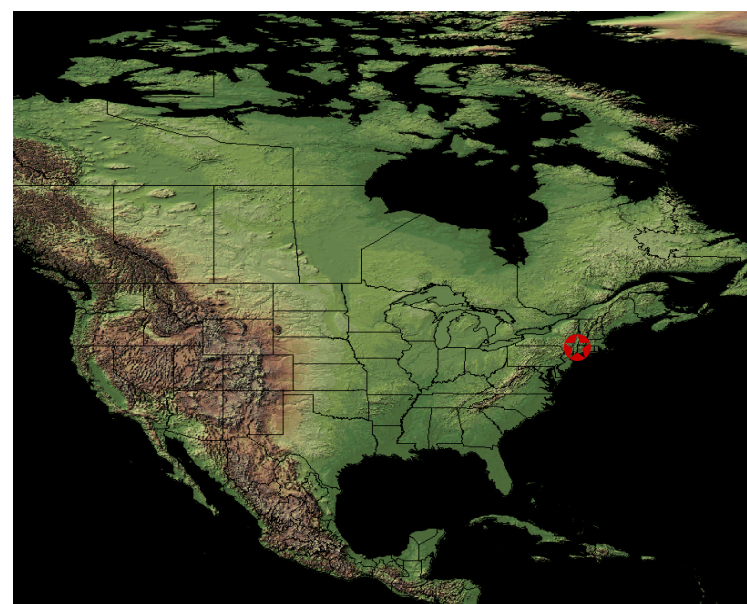


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Columbia University, New York, NY

LSC meeting, LIGO Hanford Observatory, August 2004

LIGO-G040384-00-Z





⇒ http://en.wikipedia.org/wiki/Columbia_University

Encyclopedia: Columbia University

Alternate uses: [Columbia](#) ([disambiguation](#))

Columbia University, officially known as *Columbia University in the City of New York*, is a private institution of higher education. It is one of the world's foremost research universities, and a member of the [Ivy League](#). Founded in [1754](#) under a royal charter granted by [England's King George II](#), Columbia has grown over time to comprise 20 schools and affiliated institutions.

Columbia's main campus occupies six blocks in the [Morningside Heights](#) neighborhood of [Manhattan](#), and its largest satellite campus, Health Sciences, is situated some fifty blocks uptown in the island's [Washington Heights](#). This makes Columbia not only [New York City's](#) only [Ivy League](#) school but also, by some accounts, the city's second largest landowner after the [Catholic Church](#).



1915

University data

In lumine tuo videbimus lumen
(In thy light we shall see light)

Established	1754
School type	Private
President	Lee C. Bollinger
Location	New York City , New York , United States
Enrollment	7,114 undergraduate, 16,536 graduate and professional
Faculty	3,224
Campus	Urban , 32.6 acres (Morningside)
Sports teams	29
Mascot	Royal Lion
Homepage	www.columbia.edu

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Credit: Columbia University

Pupin Laboratories, home of the Columbia Physics Department (dedicated in 1927). Named for Serbian-American inventor and scholar, Michael Idvorsky Pupin, and also houses the Astronomy Department and the Rutherford Observatory

- ❑ Graduate Students: ~160
- ❑ Faculty/research:
 - ❑ Astronomy: ~12
 - ❑ Astrophysics: ~5
 - ❑ Condensed Matter/Laser: ~7
 - ❑ Nuclear: ~2
 - ❑ Particle: ~11
 - ❑ Theory: ~15
- ❑ Experimental Gravity Group (GEC Co)
(medium term projection)
 - ❑ 1 faculty
 - ❑ 1-2 postdocs or research scientists
 - ❑ 2-4 students (undergraduate and graduate)



Astrophysical trigger based analysis:

- ❑ Triggered, prompt, automatic analysis
 - ❑ Starts $\sim < 45$ minutes after the trigger, takes less than 12 hours to get the preliminary results. Nominally 24-36 hours to have an executive summary (depending on human schedule).

- ❑ Search for short duration GW signatures of GRBs during S2-S4.

- ❑ Search for long duration GW signatures of GRBs based on models by Maurice van Putten *et al.* and Rafael Araya-Gochez.



- ❑ Timing studies
 - ❑ monitoring software/hardware improvement/maintenance
- ❑ Spectrum consistency/stationarity studies
 - ❑ ShapeMon software/hardware improvement maintenance
- ❑ DMT infrastructure development and maintenance:
 - ❑ SPI, Alarm, and WebView maintenance and improvement

- ❑ AdvLIGO timing system diagnostic design

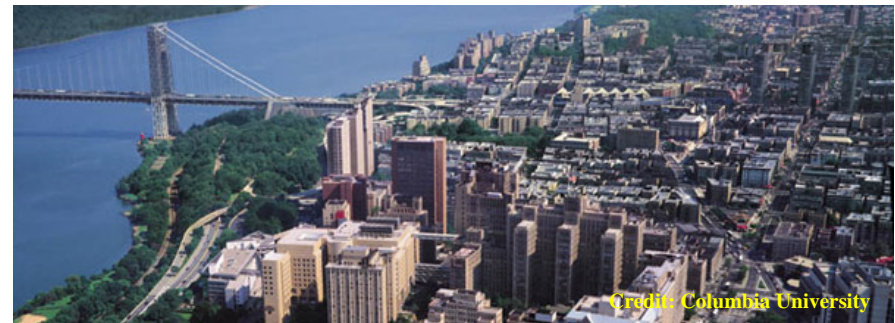
- ❑ Our share of standard LIGO duties
 - ❑ Shifts, etc.



- ❑ The GEC Co group of Columbia University propose to join the LSC
- ❑ GEC Co is a newly formed (albeit small) group with
 - ❑ Significant LIGO experience
 - ❑ Strong potential to grow
 - ❑ Expected good students
 - ❑ High interest/investment in LIGO results
 - ❑ Commitment for specific results



Credit: Columbia University



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