

# Marc Favata

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## EDUCATION

Ph.D., Astronomy, (expected May 2006)  
M.S., Astronomy, May 2004  
Cornell University, Ithaca, NY  
Thesis Adviser: Éanna E. Flanagan

B.S., Physics, with honors, June 2000  
California Institute of Technology, Pasadena, CA

## RESEARCH INTERESTS

General relativity, gravitational wave astrophysics, the physics of compact objects, & cosmology.

## PUBLICATIONS (REFEREED)

M. Favata, S. A. Hughes, & D. E. Holz, *How black holes get their kicks: gravitational radiation recoil revisited*, *Astrophys. J. Letters*, 607, L5, (2004); astro-ph/0402056

D. Merritt, M. Milosavljević, M. Favata, S. A. Hughes, & D. E. Holz, *Consequences of radiation recoil*, *Astrophys. J. Letters*, 607, L9, (2004); astro-ph/0402057

M. Favata, *Energy localization invariance of tidal work in general relativity*, *Phys. Rev. D.*, 63, 064013, (2001); gr-qc/0008061

## PUBLICATIONS (UNPUBLISHED)

M. Favata & S. A. Hughes, *Gravitational radiation recoil: Linear momentum from circular, inclined inspiral into a spinning black hole*, (in preparation; to be submitted early 2006)

M. Favata, *Are neutron stars crushed? Gravitomagnetic tidal forces as a mechanism for binary-induced collapse*, (submitted to *Phys. Rev. D*; 2005), astro-ph/0510668

## PUBLICATIONS (CONFERENCE PROCEEDINGS)

S. A. Hughes, M. Favata, & D. E. Holz, *How black holes get their kicks: radiation recoil in binary black hole mergers*, Contribution to proceedings of the conference on “Growing Black Holes,” held in Garching, Germany on June 21-25, 2004, edited by A. Merloni, S. Nayakshin, and R. Sunyaev, Springer-Verlag series of “ESO Astrophysics Symposia;” astro-ph/0408492

## AWARDS, MEMEBERSHIPS, & SERVICE

- NASA Space Grant Fellow, 2002, 2004-2005
- Kavli Institute for Theoretical Physics (KITP) Graduate Fellow, Fall 2002
- Cornell Sage Fellow, 2000-2001
- American Physical Society, student member
- Referee for *The Astrophysical Journal Letters*, 2004
- Sons of Italy *National Education & Leadership Award*, 2000
- Summer Undergraduate Research Fellowship (SURF) Perpall Speaking Award finalist, 1999

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## CONFERENCE TALKS

- Meeting of the American Physical Society, Tampa, FL, (April 2005)
- 17<sup>th</sup> International Conference on General Relativity & Gravitation (GR17), Dublin, Ireland, (July 2004).
- Meeting of the American Physical Society, Denver, CO, (May 2004)
- 20<sup>th</sup> Pacific Coast Gravity Meeting, Caltech, CA, (March 2004)
- Gravitation: A Decennial Perspective, Penn State, PA, (June 2003)
- The Astrophysics of Gravitational Wave Sources, U. of Maryland, (April 2003)
- Meeting of the American Physical Society, Philadelphia, PA, (April 2003)
- Theoretical Astrophysics in Southern California, UCSB, CA, (October 2002)
- Meeting of the American Physical Society, Albuquerque, NM, (April 2002)
- 3<sup>rd</sup> Capra Ranch Meeting on Radiation Reaction, Caltech, CA, (June 2000)
- Undergraduate Research Conference, U. of Montana, Missoula, (April 2000)
- 16<sup>th</sup> Pacific Coast Gravity Meeting, Caltech, CA, (March 2000)

## TEACHING EXPERIENCE

- Astro 102: Our Solar System; head teaching assistant, Cornell, Spring 2003 & 2004
- Astro 101: The Nature of the Universe; head teaching assistant, Cornell, Fall 2003 & 2005
- Astronomy 1: The Evolving Universe; teaching assistant, Caltech, Spring 2000

## UNDERGRADUATE RESEARCH

- Summer 1999, Caltech, adviser: Kip S. Thorne. Studied tidal work done in a binary system and showed that the expression for the work is invariant when changing how gravitational energy density is localized.
- Summer 1998, Caltech, adviser: S. George Djorgovski. Processed plates from Digitized Palomar Observatory Sky Survey. Helped to find several high-redshift quasars with follow-up observations at 200-inch Hale telescope.
- Summer 1997, Caltech, adviser: Thomas Prince. Studied correlations between accretion torque and flux changes in low-mass x-ray binary systems.

## REFERENCES

- Èanna E. Flanagan, Cornell University  
Daniel E. Holz, Los Alamos National Laboratory  
Scott A. Hughes, Massachusetts Institute of Technology