

Paul Gosling

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EDUCATION

Johns Hopkins University Class of 2003 • Cumulative GPA: 3.72 out of 4.0

Major: Physics with concentration in Mechanical Engineering

Minor: Mathematics

EXPERIENCE

May – Aug '02 • 2002 NASA Academy at Goddard Space Flight Center

Leadership training program with emphasis on Administration's vision and operations logistics. Activities included approximately 100 briefings, facility tours, talks with center directors, astronauts and project scientists, and a research project. Modified a Fortran program to model the Cosmic Microwave Background Radiation power spectrum with varying cosmological parameters. Prepared for resulting models to be fitted to upcoming data from the Microwave Anisotropy Probe, in order to refine approximate values for baryonic, dark matter, and vacuum energy density in the universe. Selected as one of two student staff members for the 2003 NASA Academy.

Aug '01 – May '02 • Tutor, Johns Hopkins University Physics Helproom

Aug '00 – May '02 • Civil Servant Co-op student, NASA Ames Research Center, Earth Sciences Directorate

Looked at peroxy content in granite, and the effects of O⁻ radicals on prokaryotic organisms. Designed, integrated, wired, soldered and modified experiment apparatus and controllers. Used mass-spectrometer, 10⁻⁵ torr vacuum system, gas chromatograph, fluorometer, spectrophotometer, hemacytometer, and most common life sciences and chemistry lab equipment. Cultured cells, prepared agar plates, and ran assays.

Aug '99 – Aug '00 • Civil Servant Co-op student, NASA Ames Research Center, Vertical Motion Simulator

Supported project to upgrade the world's largest full motion flight simulator, used for astronaut training and aircraft performance analysis. Drafted technical and architecture diagrams and modeled various control system configurations with integrated systems software. Produced 3-D AutoCAD images for visualization. Led tours.

June – Aug '99 • Student Assistant, Lawrence Berkeley National Laboratory, Life Sciences Division

Served as lab support and assisted with DNA/RNA extraction, storage, and identification by electrophoresis.

May – Aug '99 • Admin. Assistant, Foothill Internship Program Office at NASA Ames Research Center

Aug '97 – Jul '98 • Shift Manager, Kinko's Copies in Berkeley, California

ACTIVITIES and VOLUNTEER WORK

Sept '02 – Present • Principal Investigator, JHU Undergraduate Microgravity Research Team

Our experiment, STILLMix, has been accepted to fly on NASA's KC-135 'weightless wonder' microgravity simulation aircraft. We will build flight hardware in the spring and report to Johnson Space Center in Houston from April 10th to 19th. The experiment involves liquid spreading and mixing for applications on the International Space Station. Video of our flight will be used for educational outreach. Please see our website at <http://www.wse.jhu.edu/~stillmix>

May '02 – Present • President, Society of Physics Students, JHU Chapter (Vice President previous year)

Planning director and master of ceremonies, SPS Spring 2002 Zone 4 Meeting with 60 participants over two days. Organized, found funding for, and carried out trip for 10 members of the JHU SPS chapter to see the launch of Space Shuttle mission STS-109 on March 1st 2002. These activities resulted in our induction by national headquarters as an 'Outstanding Chapter'. Currently founding, with JHU Professor of Physics Dr. Robert Leheny, a JHU / middle school science outreach program starting February 2003.

Jan – May '02 • President, Phi Kappa Psi Fraternity 2002 Pledge Class

Currently philanthropy committee chair – planning annual 'Phi Psi 500' campus-wide fundraiser for Baltimore Community Foundation charity.

Jan – May '01 • Volunteer, JHU Habitat for Humanity

Helped refurbish a house in inner city Baltimore for transfer of ownership to an underprivileged applicant.

Aug – Dec '00 • **Volunteer, JHU Partnership for Student Achievement (PSA) “Lit. 101” Program**
Tutored inner city Baltimore Robert Poole Middle School kids in reading, comprehension, and math.

Jun – Sept '00 • **Summer Volunteer, Emergency Room, San Francisco General Hospital**

Aug '99 – Present • **San Jose State University ‘Spartnik’ microsatellite design and fabrication project**
Designed switch mechanism to power satellite up once on orbit. Presented Spartnik on behalf of the team to Dr. Edward Stone, then director of JPL, at 1999 American Astronautical Society meeting in Pasadena, CA. Satellite currently waiting for launch.

AWARDS, GRANTS and SCHOLARSHIPS

- 2003 Johns Hopkins University Undergraduate Research Grant
- 2003 NASA / Maryland Space Grant Consortium Undergraduate Research Grant
- 2002-03 Sigma Pi Sigma Physics Honor Society Undergraduate Research Award
- 2002-03 Society of Physics Students Herbert Levy Memorial Scholarship
- 2001-02 Leopold Schepp Foundation Scholarship
- 2001-02 Society of Physics Students Outstanding Chapter Award
- 2001-02 USA Funds Scholarship
- 2000 NASA Ames Research Center Spotlight Award
for productivity “under minimal instruction and supervision”

MEMBERSHIPS

- 2003 Board Member, NASA Goddard Space Flight Center Academy Selection Board
- 2002-present Sigma Pi Sigma Physics Honor Society
- 2002-present Omicron Delta Kappa National Leadership Honor Society
- 2001-present Golden Key International Honor Society
- 2001-present American Scholars National Honor Society
- 1999-present American Institute of Aeronautics and Astronautics
- 1999-present Society of Physics Students

POSTERS, PRESENTATIONS and PUBLICATIONS

- Rothschild, L. J., Freund, F.T., Gosling, P. (2002) “The Peroxy Challenge to Early Life”. American Geophysical Union Fall Meeting, San Francisco, CA. B-04
- Kashlinsky, A., Gosling, P. (2002) “Analysis of the Cosmic Microwave Background Radiation”. NASA Academy Midpoint Poster Session. Greenbelt, MD. Presented by Gosling, P.
- Kashlinsky, A., Gosling, P. (2002) “Analysis of the Cosmic Microwave Background Radiation”. NASA Academy Final Oral Presentation Meeting. Greenbelt, MD. Presented by Gosling, P.
- Gosling, P. (2001) “Educating Oneself”. Viha Newsletter, Mill Valley, CA
- Rothschild, L. J., Freund, F. T., Gosling, P. (2000/2001) “Training for Oxygen: Peroxy in Rocks and Early Life”. NASA Ames Research Center Director’s Discretionary Fund (DDF) project poster presentation.
- Freund, F., Staple, A., Gosling, P., Belisle, W. (2000) “Weathering of rocks and the inextricable path toward a Blue Dot”. American Geophysical Union Spring Meeting, Washington, DC. p.1762
- Freund, F., Staple, A., Gosling, P., Belisle, W. (2000) “Mars Oxidant: Proof of Concept and Quantitative Analysis”. Workshop on Concepts and Approaches for Mars Exploration, Lunar Planetary Institute, Houston, TX

SKILLS and HOBBIES

Information Technology: Platform experience includes Windows 9X/2000, Mac OS, and Red Hat Linux 7.1. Working knowledge of Fortran 77 and Interactive Data Language (IDL). Strong knowledge of AutoCAD. Familiar with Minuit, LabView, MathX and Visio.

Language: Basic German.

Music: Professional party DJ for campus-wide social and cultural events, dances and fundraisers. Played gigs at two downtown Baltimore clubs.