

# Brian C. Seymour

## Curriculum Vitae

☎ (+1) 540-717-2545

✉ [bcs8dn@virginia.edu](mailto:bcs8dn@virginia.edu)



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### Education

- 2016 – Present **University of Virginia**, *Charlottesville, Virginia*, B.S. Physics and Mathematics, 3.97/4.0 GPA.
- 2015 – 2016 **James Madison University**, *Harrisonburg, Virginia*, Physics: transferred, 3.89/4.0 GPA.

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### Research

- Fall 2017 – Present **Undergraduate Research Fellow**, *Charlottesville, Virginia*, Astrophysical tests of general relativity with Kent Yagi.
- Summer 2017 **Summer Undergraduate Research Fellow**, *Livingston, Louisiana*, Analyzed angular controls systems noise at LIGO through the Caltech National Science Foundation REU with Marie Kasprzack, Adam Mullavey, and Arnaud Pele.
- May 2015 – Aug 2016 **Undergraduate Researcher**, *Harrisonburg, Virginia*, Analysis of floating soap bubble rheology under normal stress with Klebert Feitosa.

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### Awards and Fellowships

- 2018 **Astronaut Scholarship**, National tuition scholarship founded by the Mercury 7 astronauts for scientific research.
- 2018 **College Council Fall Semester Scholars Grant**, Fall 2018 research expense grant from UVA College Council.
- 2018 **Mitchell Summer Research Scholarship**, Summer research stipend from UVA Physics Dept.
- 2018 **College Science Scholar Summer Research Stipend**, Summer research stipend from College Science Scholar Program.
- 2017 **Shire Award for Collegiate Education Scholarship**, National tuition scholarship for academic performance.
- 2016 **College Science Scholar**, Selected UVA program based on scientific research achievement.
- 2014 **Eagle Scout**, Highest award offered in Boy Scouts of America for leadership and community service.

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## Publications

- 2018 **Testing General Relativity with Black Hole-Pulsar Binaries**, Submitted to Phys. Rev. D. with coauthor Kent Yagi.
- 2017 **Characterization of Nonlinear Angular Noise Coupling into Differential Arm Length of the LIGO Livingston Detector**, LIGO Technical Document with coauthors Adam Mullavey, Arnaud Pele, Marie Kasprazack.
- In preparation **Attractive and Repulsive Interactions in a Joined Pair of Floating Bubbles**, Soft Matter with Klebert Feitosa.

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## Selected Oral and Poster Presentations

- August 2018 B. Seymour, and K. Yagi. "Testing General Relativity with Black Hole-Pulsar Binaries," Astronaut Scholarship Foundation Technical Conference. Washington DC. (Oral)
- August 2017 B. Seymour, M. Kasprzack, A. Pele, and A. Mullavey. "Characterization of Nonlinear Angular Noise Coupling into Differential Arm Length of the LIGO Livingston Detector," LIGO SURF Session. Pasadena, CA. (Oral)
- November 2016 B. Seymour, O. Cypull, C. O'Dea, S. Cheng, and K. Feitosa. "Stress Induced Rearrangements in a Bubble Raft," SESAPS Conference. Charlottesville, VA. (Oral)
- March 2016 B. Seymour, O. Cypull, S. Cheng, and K. Feitosa. "Interfacial Bubble Deformations," American Physical Society March Meeting. Baltimore, MD. (Poster)
- September 2015 B. Seymour, O. Cypull, S. Cheng, and K. Feitosa. "Bubble Deformations at Air-Water Interface," University of Virginia Soft Matter Workshop. Charlottesville, VA. (Oral)

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## Computer Skills and Selected Classes

- Programming Python, Java, Matlab, Mathematica, and Interactive Data Language (IDL)
- Physics Software LaTeX, ImageJ, XMGrace, and Igor Pro
- Selected Classes General Relativity, String Theory, Differential Geometry, Electrodynamics 2, Quantum Mechanics 2, and Statistical Mechanics

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## Additional Work

- 2016 – Present **Community Physics Outreach**, Shows and after school activities for elementary and middle school students.
- 2016 **Android Physics App**, Published app 'LaTeX Math FlashCards' that has nearly 10,000 downloads.
- 2013 **Project on Engineering Team**, We won \$10,000 grant from the Lemelson-MIT Program to build a green energy vertical axis wind turbine and present it at a MIT conference.

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## References

**Prof. Kent Yagi**, *Research Advisor*, [ky5t@virginia.edu](mailto:ky5t@virginia.edu).

**Dr. Marie Kasprzack**, *Research Advisor*, [mkasprzack@lsu.edu](mailto:mkasprzack@lsu.edu).

**Prof. Klebert Feitosa**, *Research Advisor*, [feitoskb@jmu.edu](mailto:feitoskb@jmu.edu).