Brady **Johnston**

PhD Student

School of Molecular Sciences, The University of Western Australia

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About Me

I am a PhD student working in biophysics, structural biology and molecular biology. I am working in the Bond Lab at the University of Western Australia on re-engineering RNA binding proteins as novel biotechnological tools.

I am passionate about clear and concise visualisation of complex data and intricate biological concepts. I am self-taught in data science and high-performance computing, putting these concepts into practice with my research, in my hobbies and sharing the knowledge readily through teaching workshops and create guides for other scientists looking to improve their abilities.

Education

Doctor of Philosophy — *Perth, Australia*

The Universtiy of Western Australia — *2017 - 2021*

- Thesis: Investigating the Use of Desginer PPR Proteins as Molecular Tools.

Bachelor of Science (Hons) — *Perth, Australia*

The Universtiy of Western Australia — *2016*

- First Class Honours in Biochemistry and Molecular Biology.

Bachelor of Science — *Perth, Australia*

The Universtiy of Western Australia — *2013 - 2015*

- Major in Biochemistry and Molecular Biology.

Research Skills

Molecular dynamics simulations using the Magnus, Topaz and Zeus computing clusters at the Pawsey Supercomputing centre.	*High Performance Computing*
Proficient in R, bash and Python for reproducible computation and analysis. Creation of custom software pipelines for complex data analysis and visualisation.	*Programming Languages*
Recombinant protein expression and purifcation. Cloning, sequencing and genomic analysis. Biophsyical characterisation through size exclusion chromatography, microscale thermophoresis, FRET, single-molecule FRET, SPR, crystrallography, SAXS and robotic lab automation.	*Wet Lab Skills*

Teaching Experience

School of Molecular Sciences — *The University of Westsern Australia*

Lab Deminstrating & Tutorials — *2017 - 2020*

- Teaching and demonstrating 1st and 3rd year biochemistry classes. Responsible for classes of 30 students. Preparation of materials, running of wet labs and marking of exams and tests.

BioDiscovery Centre — *Harry Perkins Institue for Medical Research, Perth*

Teaching Biotechnology to High School Students — *2014 - 2018*

- Teaching and demonstrating biotech skills and techniques to visiting classes of high school students. Leading classes of 20 - 30 students.

World Biotech Tour — *SciTech, Perth*

Mentoring — *2016*

- Mentoring of high-school student for participation in the World Biotech Tour, presented by SciTech.

Presentations

Lorne Proteins — *Lorne, Austrlia*

Poster — *2020*

- The design of a FRET-based RNA biosensor.

International RNA Society — *Online*

Poster — *2020*

- Single-molecule FRET of a designer RNA biosensor.

Lorne Proteins — *Lorne, Austrlia*

Poster — *2019*

- The design of a FRET-based RNA biosensor.

International RNA Society — *Krakow, Poland*

Poster — *2019*

- The design and use of a FRET-based RNA biosensor.

RNA Salon Perth — *Perth, Australia*

Talk — *2018*

- Potential for PPR proteins as designer molecular tools.

SMS Postgraduate Symposium — *Perth, Australia*

Talk — *2017*

- PhD proposal: Investigating the use of designer PPR proteins as molecular tools.

SCANZ - Crystal31 — *Bunbury, Australia*

Poster — *2017*

- Conformational changes of an RNA bound PPR protein.

Public Talks & Outreach

Blender for Biochemists — *YouTube*

Protein Visualisation Tutorials — *2021*

- Tutorial series targeted at protein biochemists to introduce them to the 3D visualisation software Blender.

Interview with Particle — *Particle Podcast*

Interviewed by the Particle Podcast — *2020*

- Is a Virus Pretty? Interview with the Particle Podcast team from SciTech in Perth. Interview about structural biology, what a virus looks like and principles in molecular visualisation.

UWA Science Exchange — *Online through UWA*

Public talk on behalf of UWA — *2020*

- Dicussion of sctructural biology, visualisations processes and emerging technologies for science communication and teaching.

Online R Course for Biologists — *Online*

Teaching Short Course — *2020*

- Teaching a two-week short course targetted at wet-lab biologists. Introduction to the R programming language for complex analysis and data visualisation.

Awards and Scholarships

Poster Prize — *Lorne, Australia*

Lorne Proteins — *2020*

Poster Prize — *Online*

RNA 2020, International RNA Society. — *2020*

Poster Prize — *Perth, Australia*

ASBMB 2019 Bi-Annual Meeting. — *2019*

Scholarship — *Wollongong, Australia*

Maslen Scholarship to Attend SCANZ Annual Meeting. — *2019*

Scholarship *Perth, Australia*

UWA Convocation Award to conduct research at a collaborating lab. *2019*

Scholarship *Brisbane, Australia*

Scholarship to attend SCANZ crystallography school. *2019*

Poster Prize *Bunbury, Australia*

Sstudent poster prize at SCANZ Annual Meeting. *2017*

Presentation Award *Perth, Australia*

Prize for best student presentation at the SMS postgraduate symposium. *2017*