

## EDUCATION

- 2018-present **Ph.D.** Biochemistry and Molecular Biology (Bioinformatics/Genomics),  
Dalhousie University  
Supervisors: Dr. John Archibald and Dr. Andrew Roger
- 2015-2017 **M.Sc.**, Biochemistry and Molecular Biology (Bioinformatics/Genomics),  
Dalhousie University  
Thesis: Symbiosis and its Impact on Eukaryote Evolution  
Supervisor: Dr. John Archibald
- 2013-2015 **B.Sc. with First Class Honours and Certificate in Genetics**, Biochemistry and  
Molecular Biology, Dalhousie University  
Thesis: Diversity and Evolution of *Neoparamoeba* spp.  
Supervisor: Dr. John Archibald
- 2010-2012 **B.A/B.A.Sc.**, Orchestral Music Performance/Chemical Engineering, UBC

## HONOURS AND AWARDS

- 2021 Best Presentation at PREP Research Day (Faculty of Medicine, Dalhousie)
- 2021 Silver Merit Award, Girl Guides of Canada  
*Awarded for exceptional dedication to volunteering for 5 or more years*
- 2019 Best Presentation at Departmental Research Day (Dept. Biochem. Mol. Biol.,  
Dalhousie)
- 2019 Doug Hogue Award (Dept. Biochem. Mol. Biol., Dalhousie, \$1000)  
*Awarded for exceptional dedication to the department and research excellence*
- 2018-2022 Eliza Ritchie Scholarship (\$90,000, honorary)
- 2018-2021 Dalhousie President's Award (\$15,000)
- 2018 Holtz Connor Travel Award (International Society of Protistologists) (\$1,500)
- 2018-2022 Izaak Walton Killam Predoctoral Scholarship (\$90,000, honorary)
- 2018-2021 NSERC CGS-D (\$105,000)
- 2015-2017 NS Research Graduate Scholarship (\$10,000)
- 2015-2016 NSERC CGS-M (\$17,500)
- 2015 Holtz Connor Travel Award (International Society of Protistologists) (\$2,000)
- 2013 Member of the Golden Key International Honor Society
- 2010-2011 UBC Entrance Scholarship (\$2,500)
- 2010 Gordon Shrum Scholarship (SFU) (\$32,500, declined)

## PUBLICATIONS

### a. Articles published or accepted in peer-reviewed journals

1. **Sibbald, S.J.**, Lawton, M. & Archibald, J.M. 2021. Mitochondrial genome evolution in pelagophyte algae. *Genome Biol Evol.* 13:evab018.
2. **Sibbald, S. J.**, & Archibald, J.M. 2020. Genomic insight into plastid evolution. *Genome Biol Evol.* 12:978–990. (invited review, highlighted by the journal & featured on journal cover).
3. **Sibbald, S. J.**, Eme, L., Archibald, J.M., & Roger, A.J. 2020. Lateral gene transfer mechanisms and pan-genomes in eukaryotic evolution. *Trends Parasit.* 36:927-941 (invited review).

## Shannon Sibbald

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4. **Sibbald, S. J.**, Hopkins, J. F., Filloramo, G., and Archibald, J. M. 2019. Ubiquitin fusion proteins in algae: implications for cell biology and the spread of photosynthesis. *BMC Genomics*. 20(1):38-51.
5. **Sibbald, S. J.**, Cenci, U., Curtis, B. A., Kamikawa, R., Eme, L., Moog, D., ... & Archibald, J. M. 2018. Nuclear genome sequence of the plastid-lacking cryptomonad *Goniomonas avonlea* provides insights into the evolution of secondary plastids. *BMC Biol.* 16(1):137-160. (highlighted by the journal).
6. Tanifuji, G., Cenci, U., Moog, D., Dean, S., Nakayama, T., David, V., Fiala, I., Curtis, B. A., **Sibbald, S. J.**, ... & Archibald, J. M. 2017. Genome sequencing reveals metabolic and cellular interdependence in an amoeba-kinetoplastid symbiosis. *Scientific Rep.* 7:1-13.
7. **Sibbald, S. J.**, Cenci, U., Colp, M., Eglit, Y., O'Kelly, C.J., & Archibald, J. M. 2017. Diversity and evolution of *Paramoeba* sp. and their kinetoplastid endosymbionts. *J. Euk. Microbiol.* 4: 598-607. (article featured on journal cover)

### b. Non-peer-reviewed contributions

1. **Sibbald, S. J.**, Lawton, M., Roger, A.J., & Archibald, J.M. 2021 Insight into pelagophytes: novel algal genomes and strain level genome variation in the harmful algal bloom causing species *Aureococcus anophagefferens*. Society for Molecular Biology and Evolution. (poster presentation).
2. **Sibbald, S. J.**, Lawton, M., Roger, A.J., & Archibald, J.M. 2021 Insight into pelagophytes: novel algal genomes and strain level genome variation in the harmful algal bloom causing species *Aureococcus anophagefferens*. International Phycological Society Congress, Chile. (oral presentation).
3. **Sibbald, S. J.**, Adams, M., Roger, A.J., & Archibald, J.M. 2019. Oxford Nanopore sequencing and eukaryotic pangenomes – strain level genome variation in the harmful algal bloom causing species *Aureococcus anophagefferens*. Society for Molecular Biology and Evolution., Manchester, UK. (oral presentation)
4. **Sibbald, S. J.**, Cenci, U., Eme, L., Kim, E., & Archibald, J.M. 2018. A genomic investigation of the plastid-lacking cryptomonad *Goniomonas avonlea*: insights into the evolution of complex plastids and Cryptista. International Society of Protistologists/International Phycological Society of America, Vancouver, BC. (oral presentation)
5. **Sibbald, S. J.** 2017. Symbiosis and its impact on eukaryote evolution. Dalhousie Graduate Theses Database. (MSc thesis)
6. **Sibbald, S. J.** & Archibald J. M. 2017. More protist genomes needed. *Nature Ecol. Evol.* 1:145-148.
7. **Sibbald, S. J.**, Cenci, U., Eme, L., Kim, E., & Archibald, J.M. 2017. Pinpointing the acquisition of complex red algal plastids in cryptophyta. International Phycological Society Congress, Szczecin, Poland. (invited symposium speaker)
8. **Sibbald, S. J.**, Cenci, U., O'Kelly, C., & Archibald, J.M. 2016. Diversity and evolution of *Neoparamoeba* species and their kinetoplastid endosymbionts. Canadian Institute for Advanced Research (CIFAR) Integrated Microbial Biodiversity Conference, Toronto, Canada. (poster)
9. **Sibbald, S. J.**, Cenci, U., O'Kelly, C., & Archibald, J.M. 2015. Diversity and evolution of *Neoparamoeba* species and their kinetoplastid endosymbionts. International Society of Protistologists/VII European Congress of Protistology, Seville, Spain. (poster)

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10. **Sibbald, S. J.**, Cenci, U., Eglit, Y., O’Kelly, C.J. & Archibald, J. M. 2014. Diversity and evolution of *Paramoeba* species and their kinetoplastid endosymbionts. International Society for Evolutionary Protistology, Banff, Canada. (poster)

### c. Works submitted/in progress

1. Moog, D., David, V., Kelly, S., **Sibbald, S. J.** & Archibald, J. M. Comparative genomics of *Perkinsela* sp. endosymbionts of parasitic amoebae. In prep.

### CONFERENCES

- 2021 Society for Molecular Biology and Evolution, virtual (**Poster presentation**)
- 2021 International Phycological Society Congress, virtual (**Oral presentation**)
- 2019 Society for Molecular Biology and Evolution, Manchester, UK (**Oral presentation**)
- 2018 International Society of Protistologists/Phycological Society of America, Vancouver, BC (**Oral presentation**)
- 2017 International Phycological Society Congress, Poland (**Invited symposium speaker**)
- 2016 Canadian Institute for Advanced Research (CIFAR) Integrated Microbial Biodiversity Conference, Toronto, Canada (**Poster presentation**)
- 2015 International Society of Protistologists/VII European Congress of Protistology, Seville, Spain (**Poster presentation**)
- 2014 International Society for Evolutionary Protistology, Banff, Canada (**Poster presentation**)

### MANUSCRIPT REVIEWER

- 2021 Genome Biology and Evolution
- 2021 European Journal of Phycology
- 2021 Molecular Biology and Evolution
- 2020 Trends in Genetics
- 2019 BMC Genomics

### EXPERIENCE (RESEARCH, TEACHING, COMMUNITY INVOLVEMENT)

#### Research:

- 2018-present **Graduate Student (Ph.D.)**, Dalhousie University
  - I am investigating fine-scale genomic variation within the harmful-bloom causing algae (*Aureococcus*) by producing high-quality genomes and transcriptomes in order to investigate genomic data using various bioinformatic tools for comparative genomics and phylogenetics.
- 2017 **Research Assistant**, Dalhousie University
  - Performed bioinformatic analyses surveying the forms of ubiquitin in various protists and their evolutionary relationships/significance.
- 2015-2017 **Graduate Student (M.Sc.)**, Dalhousie University
  - Used comparative genomics and phylogenetics to search the genome of a heterotrophic protist for past photosynthetic ancestry.
  - Used phylogenomics to investigate the evolutionary relationships of single-celled eukaryotes as a whole
  - Used comparative genomics to investigate variation in strains of *Paramoeba* and co-evolution relationships between hosts and endosymbionts
- 2013-2015 **Undergraduate Researcher**, Dalhousie University

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- Performed phylogenetic analyses to investigate evolutionary relationships between *Paramoeba* species
- Used genomic techniques to characterize novel isolates of *Paramoeba* spp.

### Co-supervision:

2019-2020 **Maggie Lawton** (Coop student, Honours Biochemistry and Molecular Biology)  
2019-2020 **Gregory Seaton** (Masters Student)  
2018-2019 **Meagan Adams** (Honours Biology)  
**Thesis title:** Investigation of lateral gene transfer and genome organization of the eukaryotic alga *Aureococcus anophagefferens*  
2015 **Morgan Colp** (Coop student)

### Teaching:

2015-2021 **Teaching Assistant**, Dalhousie University (13 courses)  
Courses: Bioinformatics (BIOC4010 x 2), Intermediary Metabolism (BIOC3300 x 5), Nucleic Acids (BIOC3400 x 5), Lab Techniques in Biomedical Sciences (BIOC 3610 x 1)  
2014-2015 **Teaching Assistant/Lab Demonstrator**, Dalhousie University  
Course: Introductory Genetics (BIOL2030)

### DEPARTMENTAL/COMMUNITY INVOLVMENT & AFFILIATIONS

2021-present **District Commissioner** (Girl Guides of Canada)  
2013-present **Contact Guider/Leader** (Girl Guides of Canada)  
2019-present **Member of the Society of Molecular Biology and Evolution (SMBE)**  
2019-2020 **Faculty of Medicine Graduate Student Society – Department Representative** (Dalhousie University)  
2018-present **Department of Biochemistry Student Representative** (Dalhousie University)  
2015-present **Member of the International Society of Protistologists (ISOP)**  
2018/2019 **Dalhousie Biochemistry Research Day Organizer** (Dalhousie University)  
2015-2016 **Dalhousie Wind Ensemble** (Member)  
2014-2015 **Member at Large** (Dalhousie Biochemistry Student Society)