

# Sonhita Chakraborty

info@artbysonhita.com

## Employment History

### Experience in Science Editing & Publishing

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#### Elsevier/Cell Press, academic publishing company

- ✘ **Associate Scientific Editor, *Molecular Cell*** 2022-2023  
Commissioned front matter 'In Brief' style articles, evaluated molecular biology research papers pre- and post-review, brainstormed topic ideas for Special Issues, introduced molecular biologists to sustainability programs and initiated dialog on sustainability for *Molecular Cell's* issue on Sustainability (September 2023)
- ✘ **Scientific Managing Editor, various journals** 2021-2022  
Improved the editorial process and author experience by evaluating rejected papers, helping authors improve their manuscripts, and finding a suitable home for these papers within Elsevier

#### The Expert Editor, professional editing service

- ✘ **Freelance Copy Editor** 2021-2022  
Copy edited scientific papers and academic dissertations

### Experience in Scientific Research

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#### Swedish University of Agricultural Sciences, Umeå, Sweden

- ✘ **Postdoctoral Research Fellow** 2023-2024  
Investigated the effect of climate change-related temperature stress on plant cell-to-cell communication, in collaboration with the Laboratoire de Biogenèse Membranaire (Bordeaux, France)

#### University of Toronto, Department of Cell and Systems Biology

- ✘ **Graduate Research Assistant** 2016-2021  
Conducted research funded by various graduate level scholarships

#### University of Guelph, Department of Plant Agriculture

- ✘ **Research Assistant** 2015-2017  
Analyzed data and wrote manuscripts for publication for Dr. Van Acker
- ✘ **Highly Qualified Personnel (HQP) Scholarship student** 2013-2015  
Job shadowed Ontario Ministry of Agriculture, Food & Rural Affairs (OMARFA) scientist Dr. Todd

## Science Communication

### Science Communication through Words

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#### *The Plant Cell*, peer-reviewed scientific journal

2024-Present

- ✘ **Associate Features Editor**  
Writing and editing *In Brief* articles, attending editorial board meetings and participating in discussions about papers and the future of the journal
  - Chakraborty, S. (2024). [Retain in the membrane: Tinkering with the BRX-PAX-PIP5K auxin efflux machinery affects vascular tissue differentiation.](#) *The Plant Cell*. 36(5):1582–1583.
  - Chakraborty, S. (2024). [Don't fear the reaper: Tracing the organized breakdown of dying cells in the lateral root cap.](#) *The Plant Cell*. 36(4):799–800.
  - Chakraborty, S. (2024). [When the weather outside is frightful, let it condensate: How the phase separation of an RNA binding protein CP29A helps plants acclimatize to cold.](#) *The Plant Cell*. koae157

#### Science Writing, Communication Courses and Experiences

- ✘ [Remembering Dr. Barbara McClintock on the 120th anniversary of her birth](#) (Summer 2022) – *Cell Mentor*
- ✘ [Dear Auxin: An ode to the master hormone](#) (Fall 2021) - *Canadian Society of Plant Biologists*

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- ✘ Science Writing Internship (Summer 2021), funded by the Natural Sciences and Engineering Research Council of Canada / Laurier Centre of Women in Science
- ✘ Editor-in-Chief (2020-2021) of the departmental graduate student newsletter "[Forefront](#)"
- ✘ 'Introduction to Science Journalism' (2020) taught by science reporter [Ivan Semeniuk](#)

## Grant Writing courses at the University of Toronto

- ✘ Writing Natural Sciences and Engineering Research Council (NSERC) Postdoc Proposals 2021
- ✘ Writing Natural Sciences and Engineering Research Council (NSERC) Grad Proposals 2016

## Science Communication through Community Engagement

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### Umeå Plant Science Centre and Umeå Postdoc Society

- ✘ Seminar on scientific publishing and editorial work 2024
- ✘ Exposed early career scientists to career options in editing and discussed academic publishing
- ✘ Organiser of 'Umeå Plant Science Centre PhD Students and Post-doc Journal Club' 2024
- ✘ Converted the journal club into a pre-print review club after presenting a strong case for it at the department

### [TerraPlant](#), Synthetic Biology Startup

2021-2023

- ✘ Served as a scientific advisor and provided scientific discussion to the founder and Chief Scientist of the startup

### Department of Cell and Systems Biology (CSB), University of Toronto

- ✘ [Science Rendezvous](#) - CSB Graduate student volunteer 2018
- ✘ CSB Research Day - Graduate student volunteer 2018
- ✘ Selected presentation abstracts and invited researchers from outside the department to give seminars
- ✘ CSB Graduate Union, Graduate Student And Post Doc Seminar Series organizer 2016-2018
- ✘ 22<sup>nd</sup> International Conference on Plant Growth Substances (IPGSA) June 2016
- ✘ Graduate student volunteer at the hosting institution (University of Toronto)

## Science Communication through Art

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### Cell Press

2023-Present

- ✘ Designed the cover art for *Molecular Cell's* [Special Issue: Focus on mitochondria](#) (also used for the [2024 Cell Symposia](#)), *Molecular Cell's* Sustainability issue (Sept 2023), [Mini-Special Issue on DNA damage](#) (Oct 2023), and [Special Issue on Stress](#) (Jan 2024)
- ✘ Created the cover art for the 2023 [June](#) and [August](#) issues of *Med*
- ✘ Illustrated for front-matter style pieces that were featured in *Chem's* 2023 issue

### International Genetically Engineered Machine (iGEM)

2022-2023

- ✘ Curated [science and biology art](#) for the 2022 Grand Jamboree
- ✘ Created science illustrations depicting the neuroethical challenges of treating Alzheimer's disease for North Carolina State University's iGEM team

### University of Toronto

- ✘ Created an artistic image of an Arabidopsis root for the Cell & Systems Biology department 2024
- ✘ Exhibited my science art to participants attending the Canada-wide [Science Rendezvous](#) 2023
- ✘ Designed the cover for the laboratory manual of the undergraduate class BIO130 2021

### Toronto Public Library

2023

- ✘ Had my first art exhibition at the Toronto Public Library. The public library space displayed my scientific illustrations along with write ups explaining the corresponding scientific concepts in simple terms
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## Academic History

### Education

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**University of Toronto - Doctor of Philosophy, Cell & Systems Biology** 2016-2021

Dissertation: "Investigation of the biological function of plant Cyclic Nucleotide Gated Ion Channel 2 in auxin signaling"

**University of Guelph - Master of Science, Department of Plant Agriculture** 2013-2015

Thesis: "Assessing the cropping and weediness potential in Southern Ontario of two potentially new oilseed species: *Euphorbia lagascae* and *Centrapalus pauciflorus*"

**McMaster University - Bachelor of Science, major in Biology** 2008-2013

Independent research project: "Improving Methods used in Kin Recognition Studies on *Cakile edentula*"

### Peer-Reviewed Scientific Publications

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- 2021 **Chakraborty, S.**, Toyota, M., Moeder, W., Chin, K., Fortuna, A., Champigny, M., Vanneste, S., Gilroy, S., Beeckman, T., Yoshioka, K. [CYCLIC NUCLEOTIDE-GATED ION CHANNEL 2 modulates auxin homeostasis and signaling](#). *Plant Physiology*. 187(3): 1690-1703.
- 2018 **Chakraborty, S.**, Moeder, W., & Yoshioka, K. [Plant Immunity. Reference Module in Life Sciences](#).
- Chakraborty, S.**, Todd, J., Isbell, T., & Van Acker, R. C. [Agronomic performance of the novel oilseed crop \*Euphorbia lagascae\* Spreng., \(Euphorbiaceae\) in southwestern Ontario](#). *Industrial Crops and Products*. 111:865-870.
- Todd, J., **Chakraborty, S.**, Isbell, T., & Van Acker, R. C. [Agronomic performance of the novel oilseed crop \*Centrapalus pauciflorus\* in southwestern Ontario](#). *Industrial Crops and Products*. 111:364-370.
- 2016 **Chakraborty, S.**, Cici, S. Z. H., Todd, J., Loucks, C., & Van Acker, R. C. [Exploring the weed biology of two potentially novel oilseed crops: \*Euphorbia lagascae\* and \*Centrapalus pauciflorus\*](#). *Canadian Journal of Plant Science*. 96:677-688.

### Presentations and Workshops at Conferences and Symposiums

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- 2020 **Chakraborty, S.**, Toyota, M., Moeder, W., Chin, K., Fortuna, A., Champigny, M., Vanneste, S., W., Gilroy, S., Beeckman, T., Nambara, E., & Yoshioka, K. Cyclic Nucleotide-Gated Ion Channel 2 regulates auxin signaling and homeostasis. *Canadian Society of Plant Biologists (2020) - Virtual Presentation* (Ph.D. work).
- Chakraborty, S.**, Toyota, M., Moeder, W., Chin, K., Fortuna, A., Champigny, M., Vanneste, S., W., Gilroy, S., Beeckman, T., Nambara, E., & Yoshioka, K. Cyclic Nucleotide-Gated Ion Channel 2 regulates auxin signaling and homeostasis. *American Society of Plant Biologists (2020) Virtual Poster* (Ph.D. work).
- 2019 **Chakraborty, S.**, Toyota, M., Moeder, W., Gilroy, S., & Yoshioka, K. Uncovering the role of CYCLIC NUCLEOTIDE GATED ION CHANNEL 2 in responses beyond plant defense signaling. *Japanese Society of Plant Physiologists (2019) in Nagoya, Japan. Oral Presentation* (Ph.D. work).
- 2018 **Chakraborty, S.**, Toyota, M., Moeder, W., Gilroy, S., & Yoshioka, K. Uncovering the role of CYCLIC NUCLEOTIDE GATED ION CHANNEL 2 in responses beyond plant defense signaling. *International Conference on Arabidopsis Research (2018) in Turku, Finland. Presentation at workshop* (Ph.D. work).

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*Invited speaker for workshop 'Seeing the invisible – young researchers presenting fluorescent based sensors as potent analytical tools'*

**Chakraborty, S.**, Toyota, M., Moeder, W., Gilroy, S., & Yoshioka, K. Uncovering the role of CYCLIC NUCLEOTIDE GATED ION CHANNEL 2 in responses beyond plant defense signaling. *International Conference on Arabidopsis Research* (2018) in Turku, Finland. *Poster Presentation* (Ph.D. work).

2017 **Chakraborty, S.**, Toyota, M., Moeder, W., Gilroy, S., & Yoshioka, K. A novel finding links the Ca<sup>2+</sup> channel activity of CYCLIC NUCLEOTIDE GATED CHANNEL 2 to auxin signaling. *Canadian Society of Plant Biologists* (2017) in Vancouver, British Columbia. *Oral Presentation* (Ph.D. work).

2016 **Chakraborty, S.**, Moeder, W., Chin, K., Fortuna, A., Champigny, E., Nambara, E. & Yoshioka, K. The *dnd1*-suppressor, *repressor of defense, no death (rdd1)*, suggests a role for CNGC2 in defense and auxin signaling. *Canadian Society of Plant Biologists, Eastern Regional Meeting* (2016) in Hamilton, Ontario. *Oral Presentation* (Ph.D. work).

2015 **Chakraborty, S.**, Van Acker, R. C., Todd, J., & Grohs, R. Assessing the cropping and weediness potential in Southern Ontario of two potentially new oilseed species: *Euphorbia lagascae* and *Centrapalus pauciflorus*. *Botany* (2015) in Edmonton, Alberta. *Oral Presentation* (M.Sc. work).

2014 **Chakraborty, S.**, Van Acker, R. C., Todd, J., Grohs, R., Deen, B. & Robinson, D. Assessing the cultivation potential of oilseed crops *Euphorbia lagascae* and *Centrapalus pauciflorus* in Southern Ontario. *68<sup>th</sup> annual meeting for the Canadian Weed Science Society* (2014) in Montreal, Quebec. *Oral Presentation* (M.Sc. work).

## Scholarships and Awards

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2018	Cell & Systems Biology Mitacs Canada	<a href="#">Elizabeth Ann Wintercorbyn Award</a> <a href="#">Mitacs Globalink Research Award Abroad</a> held at Saitama University in 2019
2017-20	Natural Sciences and Engineering Research Council of Canada	<a href="#">NSERC Post Graduate Scholarships-Doctoral (PGS D)</a>
2017-18	Province of Ontario & The University of Toronto	<a href="#">Joan M. Coleman Ontario Graduate Scholarship in Science and Technology</a> declined in favour of NSERC PGS D
2017	Cell & Systems Biology	<a href="#">Dr. Clara Winifred Fritz Memorial Fellowship in Plant Pathology</a>
2016-17	Canadian Society of Plant Biologists Province of Ontario & The University of Toronto	<a href="#">George H Duff Travel Bursary</a> <a href="#">Joan M. Coleman Ontario Graduate Scholarship in Science and Technology</a>
2015		<a href="#">Dean's Scholarship</a>
2014	Ontario Agricultural College	<a href="#">Monsanto Plant Science Research Scholarship</a>
2014		<a href="#">Dean's Scholarship</a>
2013-15	University of Guelph/ Ontario Ministry of Agriculture, Food & Rural Affairs	<a href="#">Highly Qualified Personnel (HQP) Scholarship</a>
2013	McMaster University	<a href="#">Dean's Honour list</a>
2008		<a href="#">McMaster University Entrance Scholarship</a>

## Research Skills

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- ✕ **Data analysis:** Excel, R studio, SPSS, SAS
- ✕✕ **Experimental design:** Designing and conducting small-scale greenhouse and large-scale field experiments
- ✕✕ **Molecular biology:** Various electron, confocal and fluorescence microscopy techniques, DNA and RNA extraction, PCR, qPCR, SDS-PAGE/western blots, molecular cloning, transient expression-based assays