DIANA WHITE

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(315)-268-3728 ⋄ dtwhite@clarkson.edu

EDUCATION

PhD University of Alberta, Alberta, Canada *2008 - 2013*
Department of Mathematical and Statistical Sciences

MSc University of Alberta, Alberta, Canada *2006 - 2008*
Department of Mathematical and Statistical Sciences

BSc (joint honors) Memorial University of Newfoundland (NL), NL, Canada *2000 - 2006*
Department of Mathematics and Department of Physics and Physical Oceanography

ACADEMIC APPOINTMENTS

Associate Professor, Mathematics Department *2022-present*
Clarkson University, Potsdam, New York.

Assistant Professor, Mathematics Department *2016-2022*
Clarkson University, Potsdam, New York.

Postdoctoral Fellow, Institut de Mathématiques de Marseille *2015-2016*
Université d'Aix-Marseille, Marseille, France.
Supervisor: Florence Hubert and Stéphane Honoré.

Postdoctoral Fellow, Li Ka Shing Institute of Virology *2014-2015*
University of Alberta, Edmonton, AB, Canada.
Supervisor: Jack Tuszynski

RESEARCH INTERESTS/FOCUS AREAS

- Mathematical Modeling of Biological Systems

- Analysis and Numerical Simulation of Partial and Ordinary Differential Equations

- Agent Based Modeling

[Personal Research Website](#)

RESEARCH GRANTS

SUCCESSFUL GRANTS

2023: Center for Pacific Innovations, Knowledge, and Opportunities (PIKO)
Project title: Understanding the dynamics of spread of COVID-19 among Native Hawaiians, Pacific
Islanders, and Filipino populations
PI: Yena Kim* (Mathematics, Hawaii Pacific University)
Mentor: Diana White (Mathematics, Clarkson)
Amount awarded: $ 1000.

2022: Sustainability Day 2022 Curriculum Development Grant
Project: Mathematical modeling to study sustainable management practices for invasive species
Instructor: Diana White (Mathematics, Clarkson)
Amount awarded: up to $ 250.

2021: New York Sea Grant: New York's Great Lakes Basin - Small Grants Program
Project title: Building Capacity for Protectors of The Water and Habitat on the Indian River Lake (Project WHIRL)
PI: Diana White (Clarkson Mathematics)
CO-PI: Michael Twiss (Clarkson Biology)
CO-PI: Katie Kavanagh (Clarkson STEM Ed Institute)
CO-PI: Lisa Legault (Clarkson STEM Ed Institute)
Project time: 1 year
Amount awarded: $ 24, 899

2019: NSF Cellular Dynamics and Function
Project title: Collaborative Research: Uncovering Principles Underlying Rod Photoreceptor Outer Segment Renewal and Size.
PI: Diana White (Clarkson Mathematics)
Project time: 3 years
Amount awarded: $ 123, 176

2019: Mini-workshop grant for ABM of Biological Systems (through A & S David A. Walsh seminar series)
Workshop title: Applications of Agent-Based Modeling to Biological Systems.
PI: Diana White (Clarkson Mathematics)
CO-PI: Susan Bailey (Clarkson Biology)
Project time: 2 days in fall 21**
Amount awarded: $ 2150

2017: NYSDEC Invasive Species Eradication grant
Project title: Norwood Lake Invasive Watermilfoil Eradication Project.
PI: Diana White (Clarkson Mathematics)
CO-PI: Jonathan Martin (Clarkson Mathematics)
CO-PI: Michael Twiss (Clarkson Biology) Project time: 3 years**
Amount awarded: $ 58, 554

*only partial funding ($1000) awarded to mentors; none for PI
**no cost project extension due to COVID-19

PUBLICATIONS (GRADUATE AND UNDERGRADUATE STUDENTS IN BOLD; CORRESPONDING AUTHOR*)

Peer-reviewed publications

1. **Gilliam, L.**, Willoughby, J.J, **Annan, W.**, *White, D.*, Jensen, A. M.*, *Overexpression of Rheb, a positive Tor regulator, reveals principles of rod outer segment size control*; Submitted to PLOS Biology (2023).

2. Luo, R., Herrera-Reyes, A.D., Kim, Y., **Rogowski, S.**, *White, D.*, Smirnova, A.* *Estimation of Time-Dependent Transmission Rate for COVID-19 SVIRD Model Using Predictor-Corrector*

Algorithm; Chapter in "Understanding Complex Biological Systems with Mathematics", Springer, Verlag (2023).

3. *White, D.**, **Antoniou, T.**, Martin, J., **Kmetz, W.**, Twiss, M. R. *A Machine-Learning Approach to Predict Biocontrol Success of Invasive Eurasian Watermilfoil Reduction*; Ecological Applications, DOI: 10.1002/eap.2625 (2022).

4. **Amoah-Darko, F.L** and *White, D.* A model for microtubule dynamical instability: growth, shortening, and pause.*; Journal of Theoretical Biology, doi:https://doi.org/10.1016/j.jtbi.2022.111257 (2022).

5. **Dalton M.**, **Dougall P.**, **Amoah-Darko F.L.**, **Annan W.**, Asante-Asamani E., Bailey S., Greene J., *White D.* Modeling Optimal Closing and Reopening Strategies for COVID-19 and its Variants by Keeping Infections Low and Varying Testing Strategies.*; PLOS One (2022).

6. Honoré, S., Hubert, F., Tournus, M., *White, D.* A growth-fragmentation approach for modeling microtubule dynamic instability*; Bulletin of Mathematical Biology, doi:https://doi.org/10.1007/s11538-018-0531-2 (2019).

7. Gallaher, J., Larripa, K., **Renardy, M.**, Shtylla, B., Tania, N., *White, D.*, **Wood, K.** Zhu, K., Passey, K., Robbins, M., Bezman, N., Shelat, S., Cho, J., Moore, H.* *Methods for determining key components in a mathematical model for tumor-immune dynamics in multiple myeloma*; The Journal of Theoretical Biology, 458, 31-46 (2018).

8. Gallaher, J., Larripa, K., Ledzewicz, U., **Renardy, M.**, Shtylla, B., Tania, N., *White, D.*, **Wood, K.** Zhu, K., Passey, K., Robbins, M., Bezman, N., Shelat, S., Hearn, J.C., Moore, H.* *A mathematical model for tumor-immune dynamics in multiple myeloma*; Chapter in "Understanding Complex Biological Systems with Mathematics", Springer, Verlag (2018).

9. **Barlukova, A.**, *White, D.*, Henry, G., Honoré, S., Hubert, F.* *Mathematical modeling of microtubule dynamic instability: new insight into the link between GTP-hydrolysis and microtubule aging*; Mathematical Modelling and Numerical Analysis, doi:https://doi.org/10.1051/m2an/2017025 (2018).

10. *White, D.**, Honoré, S., Hubert, F. *A new mathematical model for microtubule dynamic instability: exploring the effect of end-binding proteins and microtubule targeting chemotherapy drugs*; The Journal of Theoretical Biology, 429, 18-34 (2017).

11. Hillen, T., *White, D.*, de Vries, G., Dawes, A. *Existence and Uniqueness for a Coupled PDE Model for Motor-Induced Microtubule Organization*; Journal of Biological Dynamics, doi:org/10.1080/17513758.2017.1310939 (2017).

12. *White, D.**, Coombe, D., Rezania, V., Tuszynski, J. *Building a 3D virtual liver: An approach for generating vasculature, as well as simulation of blood flow and hepatic clearance on 3D structures*; PLOS ONE,11(9), doi:10.1371/journal.pone.0162215 (2016).

13. *White, D.**, de Vries, G., Martin J., Dawes, A. *Microtubule Patterning in the Presence of Moving Motor Distributions*; The Journal of Theoretical Biology, 382, 81-90 (2015).

14. Tuszynski, J., Winter, P., *White, D.*, Tseng, C-Y., Sahu, K., **Gentile, F.**, Spasevska, I., **Omar, S., Nayebi, N.**,**Churchill, C.**, Klobukowski, M., Abou El-Magd, R. *Mathematical and computational modeling in biology at multiple scales*; Theoretical Biology and Medical Modelling, 11(52), doi:10.1186/1742-4682-11-52 (2014).

15. *White, D.**, Dawes, A., de Vries, G.*Microtubule Patterning in the Presence of Stationary Motor Distributions*; Bulletin of Mathematical Biology, 76, 1917-1940 (2014).

16. Saberi, M., *White, D.*, Tuszynski, J. *Geometrical Comparison of Two Protein Structures Using Wigner-D Functions*; Proteins: Structure, Function, and Bioinformatics, 82(10), 2756–2769

(2014).

Educational Resources

1. Bailey, S. F.*, *White, D.*, **Ayeva, F.**, **Formoza, B.** *An introduction to agent-based modeling in biological systems using NetLogo: Workshop manual*; QUBES Educational Resources, http://dx.doi.org/10.25334/ZJ36-XJ95

Publications in preparation/near submission

1. *D. White*, **N. Bohl**, **I., Dengos**, **K. Monette**, **J. Neeves**, Twiss, M. *Modeling growth, spread, and sustainable control of invasive watermilfoil.* To be submitted to the Journal of Mathematical Biosciences (2022).

INTERNATIONAL AND NATIONAL CONFERENCES

1. Speaker at the Society for Mathematical Biology (SMB) 50th Anniversary Meeting at Ohio State University (Summer 2023).

2. **Invited Speaker*** at the bi-annual SIAM Education conference (Summer 2022).

3. Speaker at the bi-annual SIAM Life Sciences conference in Seattle (Summer 2021).

4. Speaker* at the Biology and Medicine Through Mathematics Conference (BAMM) at Virginia Commonwealth University, Richmond, Virginia (Summer 2020).

5. **Invited Speaker*** at the bi-annual SIAM Education conference (Summer 2020).
   *talks cancelled due to COVID-19.

6. **Invited Speaker** for the SMB Annual Meeting in Montreal, Canada (July 2019).

7. **Invited Speaker** for the SMB Annual Meeting in Salt Lake City, Utah (July 2017).

8. **Invited speaker** at the Annual Meeting of the Canadian Applied and Industrial Mathematics Society, AB, Canada (June 2016).

9. Present challenges of mathematics in oncology and biology of cancer, Aix-Marseille University, Marseille, France (Dec 2015)

10. Micro and Macro Systems in Life Sciences, Bedlewo, Poland, (June 2015).

11. 2nd French Microtubule Network Meeting in Grenoble, France, (July 2015).

12. Meeting of Mathematics of the Cell: Integrating Genes, Biochemistry and Mechanics at BIRS, AB, Canada (Sept 2014).

13. IGTC Annual Summit at the Banff International Research Station (BIRS), AB, Canada (Nov 2013).

14. **Invited speaker** at the Society for Mathematical Biology Annual Meeting and Conference in Knoxville, TN (July 2012).

15. 8th Annual Canadian Young Researchers Conference (CYRC) at the University of Calgary, AB, Canada (June 2012).

16. 5th Annual Butler Conference at the U of A, AB, Canada (July 2011).

17. 7th Annual CYRC at the University of British Columbia (BC), Canada (May 2011).

18. IGTC Annual Summit at the University of Victoria, BC, Canada (July 2011).

19. IGTC Annual Summit at the University of British Columbia, BC, Canada (July 2010).

20. IGTC Annual Summit at the University of British Columbia, BC, Canada (Sept 2009).

21. IGTC Annual Summit at BIRS, AB, Canada (Sept 2008).

22. MITACS-Canadian Mathematics Society Joint Conference at the Université de Québec à Montréal, Quebec, Canada (June 2008).

23. 4th Annual CYRC at the U of A, Edmonton, AB, Canada (May 2008).

24. IGTC Annual Summit at the University of British Columbia, BC, Canada (Sept 2007).

LOCAL CONFERENCES, SEMINARS, AND WORKSHOPS

1. Algonquin to Adirondacks (A2A) Collaborative 2023 Science Symposium, Kingston, ON, Canada (April 2023)

2. **Invited Speaker** at Save the River's 33rd Winter Environmental Conference (Winter 2022 - Virtual).

3. **Invited Speaker** at the Indian River Lakes Annual Water Quality Conference at the IRL conservancy (Fall 2021).

4. **Invited Speaker** at the Indian River Lakes Conservancy, virtual talk (Spring 2021).

5. **Invited Speaker** for the Weekly Adirondack Seminar at Clarkson University, Potsdam, New York (December 2019).

6. **Invited speaker** at SUNY Potsdam's Biology Seminar, Potsdam, New York (Feb 2018).

7. Weekly seminar in the Math-Cancer Group at Aix-Marseille University, Marseille, France (Jan 2015).

8. Weekly Pacific Institute for the Mathematical Sciences (PIMS)-MITACS Mathematical Biology Seminar Series at the U of A, AB, Canada (Dec 2013).

9. **Invited speaker** at the Saint Lawrence County Environmental Management Council's Fall 2017 meeting, Canton, New York (Nov 2017).

10. **Invited speaker** at Saint Lawrence University Biology Seminar, Canton, New York (Oct 2017).

11. Bi-weekly seminar in Mathematical Biology at Clarkson University, Potsdam, New York (Oct 2016).

12. Weekly seminar in the Math-Cancer Group at Aix-Marseille University, Marseille, France (May 2016).

13. 2nd Molecular Simulation Summer School at the University of Calgary, AB, Canada (June 2014).

14. Weekly graduate colloquia at the U of A, Edmonton, AB, Canada (Dec 2008).

15. Weekly Pacific Institute for the Mathematical Sciences (PIMS)-MITACS Mathematical Biology Seminar Series at the U of A, AB, Canada (Sept 2008).

16. Atlantic Undergraduate Physics and Astronomy Conference at Memorial University of Newfoundland, Newfoundland, Canada (Feb 2006).

INTERNATIONAL & NATIONAL CONFERENCES WITH STUDENTS (GRADUATE AND UNDERGRADUATE STUDENTS IN BOLD; *ADVISOR**)

1. **William Annan**, *Diana White**, Emmanuel Asante-Asamani* and Abigail Jensen; *Modeling Rod Outer Segment Renewal During Retinal Detachment* , SMB 50th Anniversary Meeting at Ohio State University (Summer 2023).

2. **William Annan**, *Diana White**, and Abigail Jensen; *Modeling the Homeostatic Length of Rod Outer Segment in Zebrafish*, SMB Annual Meeting at University of California Riverside (Summer 2021).

3. **Frederick L. Amoah-Darko** and *Diana White**; *Continuous Model for the Dynamic Instability of Microtubules with Pausing*, SMB Annual Meeting at University of California Riverside (Summer 2021).

4. **Mackenzie Dalton**, **Paul Dougall**, **Frederick L. Amoah-Darko**, **William Annan**, *Emmanual Asante-Asamani*, Susan Bailey*, James Greene**, and *Diana White**; *Modeling the Spread of COVID-19 in Response to Various Surveillance Testing Strategies*, SMB Annual Meeting at University of California Riverside (Summer 2021).

5. **Frederick L. Amoah-Darko** and *Diana White**; *New Model of Dynamic Instability of Microtubules Which Considers Random Pausing*, SMB Annual Meeting in Montreal, Canada (Summer 2019).

6. **Isabel Dengos**, *Diana White**, Jonathan Martin, and Michael Twiss ; *Modeling the Growth and Sustainable Control of Invasive Watermilfoil*, SMB Annual Meeting in Montreal, Canada (Summer 2019).

LOCAL CONFERENCES WITH STUDENTS (GRADUATE AND UNDERGRADUATE STUDENTS IN BOLD; *ADVISOR**)

1. **William Annan**, *Diana White**, Emmanuel Asante-Asamani* and Abigail Jensen; *Modeling Rod Outer Segment Renewal During Retinal Detachment* , RAPs Summer conference (Summer 2023).

2. **Jillian Neaves, Noah Bohl, Natalie Barrios, Nicolas Bos-Lad**, Michael Twiss, and *Diana White**; *Say OUI to weevils*, RAPs Summer conference (Summer 2021).

3. **Faichal Ayeva**, *Diana White**, and *Jonathan Martin**; *Agent-based modeling to understand the dynamics in a protozoa-bacteria system*, RAPs Spring conference (Spring 2019).

4. **Thibaud Antoniou**, *Diana White**, *Jonathan Martin**, and Michael Twiss; *Metadata Analysis on Weevils as a control for Eurasian Watermilfoil*, RAPs Spring conference (Spring 2019).

5. **Sashika Sureni Wickramsooriya**, Aladeen Basheer, *Rana Parshad** , Diana White, and **Jingjing Lyu** ; *Pest Control via Alternative Food Source for Predator* , RAPs Spring conference (Spring 2017).

6. **Eric Takyi**, *Rana Parshad**, Jonathan Martin, and *Diana White**; *Modeling the dynamics of Invasive Eurasian Watermilfoil and its biological control, the Milfoil Weevil*, RAPs Spring conference (Spring 2017).

7. **Aishah Albarakati, Warren Robinson,** and *Diana White**; *Modeling the effect of road mortality on turtle populations*, Mathematics Conference & Competition of Northern New York (MC-CNNY) (Spring 2017).

TEACHING

Classes taught at Clarkson (2016-present)

Course	Semester	student #	My mean / 5	University mean
MA 451 (Intro to Math Research)	Spring 2023	4	5	4.3
MA 453 (Intro to Math Instruction	Spring 2023	10	4.5	4.3
MA 132 (calc 2)	Spring 2023	74	4.2	4.3
MA 725 (Graduate Applied Math Seminar)	Fall 2022	85	4.8*	4.2
MA 232 (intro ODE)	Fall 2022	85	4.4	4.2
MA 232	Fall 2022	83	4.3	4.2
MA 211 (Discrete Mathematics & Proof)	Spring 2022	28	4.3	4.3
MA 211	Spring 2022	26	4.8	4.3
MA 211	Fall 2021	31	4.3	4.3
MA 211	Fall 2021	30	4.7	4.3
MA 739 (Graduate bio-math seminar)	Spring 2021	3	5	4.2
MA 211	Spring 2021	26	4.7	4.2
MA 211	Spring 2021	28	4.3	4.2
MA 739	Fall 2020	4	5	4.2
MA 531 Graduate PDEs	Fall 2020	7	5	4.2
MA 739	Spring 2020	6	5	4.2
MA 332 (senior ODEs)	Spring 2020	15	5*	4.2
MA 132	Spring 2020	38	4.8*	4.2
MA 739	Fall 2019	3	5	4.2
MA 132	Fall 2019	66	4.4	4.2
MA 131 (calc 1)	Fall 2019	100	4.2	4.2
MA 739	Spring 2019	4	5	4.2
MA 363 (senior modeling)	Spring 2019	33	4.8*	4.2
MA 132	Spring 2019	52	4.7*	4.2
Maternity Leave Fall 2018				
MA 363	Spring 2018	28	4.7	4.3
MA 132	Spring 2018	33	4.5	4.3
BY/MA 368 (Undergrad bio-math seminar)	Fall 2017	2	5	4.3
MA 232	Fall 2017	90	4.4	4.3
MA 232	Fall 2017	59	4.3	4.3
MA 363	Spring 2017	29	4.9*	4.3
MA 232	Fall 2016	108	4.1	4.3
MA 232	Fall 2016	102	4.1	4.3

*Corresponds to classes where I received a letter for outstanding teaching performance from the Dean of Arts and Sciences

PROFESSIONAL SERVICE

Conference and Workshop Organization

- **Organizer** of 2023 Society for Mathematical Biology's 50th Annual Conference Minisymposium "Connecting mathematical models of pattern formation and organization at cell and/or tissue level with experimental results".

- **Organizer** of 2021 SIAM Life Sciences Minisymposium "Modelling species distributions in ecosystems altered by climate change"

- **Co-organizer** (with Susan Bailey, Clarkson Biology) of workshop on "Applications of Agent-Based Modeling to Biological Systems" in fall 2021 (funded by David A. Walsh's 67 Arts & Sciences).

- **Organizer** of the 2017 Society for Mathematical Biology Minisymposium "Mathematical Modeling of the Cytoskeleton of the Cell".

Conference Chairing and judging

- **Chair** for "Connecting mathematical models of pattern formation and organization at cell and/or tissue level with experimental results" for the Annual Society for Mathematics Biology conference summer 2023.
- **Poster judge** for the Annual Society for Mathematics Biology conference summer 2023.
- **Judge** for sessions in Computer Science (graduate oral) at spring RAPS 2023.
- **Chair** for "Modelling Species Distributions in Ecosystems Altered by Climate Change" minisymposium at the SIAM Annual meeting summer 2021.
- **Poster judge** for the Annual Society for Mathematics Biology conference summer 2021.
- **Chair** for Mathematics, Modeling, Data Analysis Design (Undergraduate Oral) summer RAPS 2021.
- **Chair** for sessions on Computational Biology (graduate oral) at summer RAPS 2019.
- **Chair** for Society for Mathematical Biology minisymposium "Mathematical Modeling of the Cytoskeleton of the Cell" in Utah 2017.
- **Poster judge** for the Annual Mathematics Conference & Competition of Northern New York (MCCNNY) 2017.
- **Chair** of Non-local models in Mathematical Biology session at the Annual Meeting of the Canadian Applied and Industrial Mathematics Society (CAIMS) in Edmonton, Alberta 2016.

Professional Memberships

- Member of CAIMS, Canadian Applied and Industrial Mathematics Society (2020 - present)
- Member of Society for Mathematical Biology (2013 - present)
- Member for SIAM Life Sciences (2017 - present)
- Member of AWM (2017-present)
- Member of WIMB - Women in Mathematical Biology (2017-present)
- Institute for Sustainable Environment Affiliate at Clarkson University (2017 - present)
- Institute for STEM Education Affiliate at Clarkson University (2019 - present)

Paper and Book chapter reviewer

- Reviewer for PLOS One
- Reviewer for Communications Review
- Reviewer for Communications in Nonlinear Science and Numerical Simulation
- Reviewer Journal of Mathematical Biology (multiple reviews)
- Reviewer for Cellular and Molecular Life Sciences (multiple reviews)
- Reviewer of a manuscript for the Springer volume "Cell Movement: Modeling and Applications

- Review Editor for Dynamical Systems (specialty section of Frontiers in Applied Mathematics and Statistics) - (multiple reviews)

CLARKSON SERVICE

Clarkson-Wide Service

- Member of Clarkson's Graduate Research Council (spring 2023 - present)
- COVID-19 & faculty support team (fall 2020 - present)
- David A. Walsh Seminar Committee (fall 2019 - present)
- Math Focus Group - Science Center Expansion and Renovation Project (fall 2021 - present)
- Society for Professional Woman faculty mentor (fall 2019 - present)
- Honors student faculty advisor (summer 2019)

Clarkson Mathematics Department Service

- Chair of Mathematics Department graduate committee (spring 2023 - present)
- Member of Mathematics Department graduate committee (fall 2019 - spring 2023)
- Co-chair of the Mathematics Department colloquium committee (2018 - present)
- Mathematics Department hiring committee (fall 2018, fall 2019, and fall 2020)
- Mathematics Department open house representative, and advising/orientation events (fall 2016 - present)
- Math Club faculty mentor (fall 2017 - present)
- COMAP competition faculty advisor (fall 2018 and fall 2021).

AWARDS AND HONORS

My Awards and Honours

1. [Trailblazing Women in Math](): Listed as one of 5 **trailblazing women in mathematics** by WISEST for Science Literacy Week 2022.
2. Letter of recognition for **Outstanding teaching** in spring 2023 for MA 725 (Graduate Applied Math Seminar).
3. Letter of recognition for **Outstanding teaching** in spring 2020 for MA 132 (calculus 2).
4. Letter of recognition for **Outstanding teaching** in spring 2020 for MA 331 (Intermediate ordinary differential equations).
5. Letter of recognition for **Outstanding teaching** in spring 2019 for MA 132 (calculus 2).
6. Letter of recognition for **Outstanding teaching** in spring 2019 for MA 363 (senior modeling).
7. Letter of recognition for **Outstanding teaching** in spring 2017 for MA 363 (Senior modeling).
8. **Best poster** at the International Micro and Macro Systems in Life Sciences Conference in Bedlewo, Poland, 2015.

9. **Poster prize winner** for the 7th Annual International Graduate Training Center Summit at Banff International Research Station (BIRS), Banff, Alberta (AB), Canada, 2013.

10. **Best talk** at the 8th Annual Canadian Young Researchers Conference at the University of Calgary, Calgary, AB, Canada, 2012.

11. **Faculty of Graduate Sciences and Research Graduate Student Teaching Award**, University of Alberta (U of A), Edmonton, AB, Canada, 2011.

12. **Mary Louise Imrie Graduate Student Travel Award**, U of A, Edmonton, AB, Canada, 2008.

13. **Poster prize winner** for the 2nd Annual International Graduate Training Center (IGTC) Summit at BIRS, Banff, AB, Canada, 2008.

14. **Mathematics of Information Technology and Complex Systems Internship (MITACS) Scholarship** sponsored by the St. Paul's Healthy Heart Program Lipid Clinic, Vancouver, BC, Canada, 2007-2008.

Student Awards for K-12 Research

1. Project WHIRL students (high school students, Indian River High School): **Emerging Sustainability Scientists Award** at Clarkson's summer RAPs conference 2021.

Student Awards for Graduate and Undergraduate Research

1. William Annan (graduate student in Mathematics, Clarkson): Poster prize winner at Clarkson's summer RAPs conference 2023.

2. Jillian Neaves, Noah Bohl, Natalie Barrios, and Nicolas Bos-Lad (undergraduates in Molecular Biology, Environmental Engineering, Psychology, and Data Science, respectively): **Emerging Sustainability Scientists Award Mentors** at Clarkson's summer RAPs conference 2021.

3. Isabel Dengos (graduate in Mathematics, Clarkson): **Poster Prize winner** at Annual Society for Mathematical Biology meeting in Montreal summer 2019.

4. Faichal Ayeva (undergraduate in Mechanical Engineering, Clarkson): **Poster Prize winner** at Clarkson's summer RAPs conference 2019.

5. Brian Kuhns (undergraduate in Mathematics, Clarkson): **Poster Prize winner** at Clarkson's summer RAPs conference 2018.

6. Warren Robinson (undergraduate in Mathematics, Clarkson): **Best poster** at Mathematics Conference & Competition of Northern New York (MCCNNY) 2017.

DIRECTED RESEARCH WITH STUDENTS

Directed Research with Graduate Students at Clarkson

1. **William Annan**, Graduate Student, Mathematics: Uncovering Principles Underlying Rod Photoreceptor OuterSegment Renewal and Size. 2019 - present.

2. **Fredrick-Laud Amoah Darko**, Graduate Student, Mathematics: Mathematical Modeling of Microtubule Dynamic Instability: Growth, Spread, and Pause. 2017 - present.

3. **Isabel Dengos**, Graduate Student, Mathematics: Modeling the Growth, Spread and Control of Invasive Watermilfoil. Successfully graduated May 2019.

Directed Research with Undergraduate Students at Clarkson

1. **Noah Bohl**, Undergraduate Environmental Engineering: Collection of field data to understand growth and spread of Invasive Eurasian Watermilfoil, Summer 2021 and Spring 2023.

2. **Jillian Neaves**, Undergraduate Molecular Biology: Collection of field data to understand growth and spread of Invasive Eurasian Watermilfoil, Summer 2021.

3. **Nathalie Barrios**, Undergraduate Psychology: Mentor for Project WHIRL (STEM outreach program in watershed management), Summer 2021.

4. **Nicolas Bos-Ladd**, Undergraduate Data Science: Mentor for Project WHIRL (STEM outreach program in watershed managment), Summer 2021.

5. **William Kmetz**, Undergraduate in Biology: Completed metadata analysis to determine weevil (a biocontrol) success in controlling invasive watermilfoil, Summer 2020.

6. **Thibaud Antoniou**, Undergraduate Data Analytics: Helped develop predictive model (using machine learning and metadata analysis) to determine biocontrol success in controlling invasive watermilfoil, Summer 2019 - Summer 2020.

7. **Kyle Monette**, Undergraduate Mathematics: Using ODEs to model invasive watermilfoil growth, Fall 2019 - Fall 2020.

8. **Faichal Ayeva**, Undergraduate Mechanical Engineering: Agent Based Modeling of predator-pest systems, Summer 2019 - Fall 2020.

9. **Anthony DiGiovanni**, Undergraduate Biology, Counting cells in a bacteria protest system, Summer 2018.

10. **Brian Kuhns**, Undergraduate Mathematics: Modeling watermilfoil growth in Norwood Lake, Summer 2018.

11. **Warren Robinson**, Undergraduate Mathematics: Modeling the effect of road mortality on turtle populations, Summer 2017.

12. **Tyler Pawlaczyk**, Undergraduate Financial Information & Analysis and Computer Science: An agent-based approach to understanding language mixing, Summer 2017.

NEWS COVERAGE AND PRESS RELEASES (LINKS INCLUDED IN BLUE)

1. [Provost's January 2022 Newsletter](#) Featured work of aquatic stewardship - work completed with Project WHIRL.

2. [Clarkson University press release for Project WHIRL 2022](#). Featured work includes K-12 summer 2021 outreach program to train tomorrow's watershed stewards.

3. [Featured in SIAM's 2021 summer news](#). Featured work includes modeling and field work done to control the aquatic invasive species, Eurasian Watermilfoil.

4. [Featured Faculty for Clarkson Universities Advance Grant 2020](#): Coverage of the my 3-year NSF grant through Clarkson's ADVANCE grant (NSF grant to reduce bias in the fields of Science, Technology, Engineering and Math (STEM)).

5. [Clarkson University press release for NSF grant 2020](#): Press release regarding the 3-year NSF grant awarded for "Uncovering Principles Underlying Rod Photoreceptor Outer Segment Renewal and Size".

6. Clarkson University press release for NYS DEC grant 2017: Press release regarding the NYS DEC grant awarded for studying invasive watermilfoil in Norwood Lake (awarded along with CO-PIs Jon Martin (Clarkson Math) and Michael Twiss (Clarkson Biology)).

7. Spectrum TV news report on Norwood Lake project 2017: TV coverage of the work done to handpull watermilfoil in Norwood Lake in summer 2017.

8. North Country Now news report on Norwood Lake project 2017: News coverage about the hand-pulling work that Clarkson and the Norwood Lake Association completed in Norwood Lake in summer 2017.

OTHER RELEVANT STEM MENTORSHIP

- **SOAR instructor** spring 2021 and spring 2022. SOAR, Stimulating Opportunities After Retirement, is a course run through SUNY POTSDAM. It is designed with the intention of giving seniors the opportunity to get back in the classroom to learn.

- **Science Cafe presenter** spring 2017. Science Cafe is a community lecture series, run by faculty at Clarkson, which aims to teach the community about science happening in the St. Lawrence region.

- **Faculty mentor** for Clarkson's **IMPETUS program** (summer 2017)

- **Activity Leader/Role Model** at Women in Scholarship, Engineering, Science and Technology (WISEST) CHOICES and SET conferences, U of A (2007, 2008, and 2011).