Anne Nathalie Reid, PhD

Associate Professor, Biology and Biomedical Sciences

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Education

1999-2005 PhD, Microbiology, University of Guelph, Guelph, ON, Canada
The role of the tyrosine autokinase, Wzc, in group 1 capsule expression in *Escherichia coli* O9a:K30 (advisor: Dr. Chris Whitfield)

1995-1999 BSc, Hons, Biology, Laurentian University, Sudbury, ON, Canada

Employment and Training

2022-current **Associate Professor, Biology and Biomedical Sciences, Salve Regina University, Newport, RI**
Activities described under Teaching, Scholarship and Service

2022-2024 **Chairperson, Biology and Biomedical Sciences, Salve Regina University, Newport, RI**
Activities described under Teaching, Scholarship and Service

2015-2022 **Assistant Professor, Biology and Biomedical Sciences, Salve Regina University, Newport, RI**
Activities described under Teaching, Scholarship and Service

2018-2019 **Acting Chair, Biology and Biomedical Sciences, Salve Regina University, Newport, RI**
Activities described under Service

2012-2015 **Adjunct Faculty, Biology Department, Community College of Rhode Island, Warwick and Lincoln, RI**
Teaching: course development and delivery for Introductory Microbiology and Human Physiology

2012-2015 **Adjunct Faculty, Department of Science and Technology, Bryant University, Smithfield, RI**
Teaching: course development and delivery for Genetics, Anatomy and Physiology I and II, and Global Health
Advising: Pre-health advising

2008-2010 **Research Scientist, Health Canada's Bureau for Microbial Hazards, Food Directorate, Ottawa, ON, Canada**
Research: Surveillance, method development and validation, primary research

2007-2008 **Visiting Scientist, National Research Council of Canada, Ottawa, ON / Postdoctoral Fellow, University of Guelph, ON, Canada**
Research: Using bacterial enzymes to modify therapeutic protein drugs

2005-2007 **Natural Sciences and Engineering Research Council of Canada Postdoctoral Fellowship, University of Ottawa, Ottawa, ON, Canada**
Research: Mapping the response of *Campylobacter jejuni* to acid stress

Teaching

Courses developed and taught at Salve Regina University

BIO207 Microbiology of Health and Disease and associated lab
BIO210 Microbiology and associated lab
BIO210 Microbiology Course-based Undergraduate Research Experience lab
BIO235 Biotechniques (research-intensive course)
BIO253 Genetics and associated lab
BIO330 Pathogenic Microorganisms and associated lab
BIO340L Mycology and Parasitology lab
BIO460 Virology
BIO471 Biology Capstone
BIO497 Undergraduate Research I
BIO498 Undergraduate Research II
UNV101 University Seminar: Going Viral (Pell section)

Courses developed and taught at other institutes of higher education

Genetics
Global Health
Anatomy and Physiology I
Anatomy and Physiology II
Human Physiology and lab
Introductory Microbiology and lab

Academic Advising

2024-2025: 26 students
2023-2024: 27 students
2022-2023: 47 students
2021-2022: 33 students
2020-2021: 46 students
2019-2020: 70 students
2018-2019: 59 students
2017-2018: 58 students
2016-2017: 43 students
2015-2016: 4 students

Scholarship

1. Publications

*SRU students underlined

A) Manuscripts in preparation

1. Conklin, C., Emmons, M., Finney, C., Inciarte, A., Szemreylo, E., Szemreylo, K., Solomon, S. and **Reid, A.N.** Flagellin methylation is a conserved feature among non-typhoidal *S. enterica* serovars.

2. Douglas-Jenkins, J., Lint, M. and **Reid, A.N.** Recovery and characterization of bacteria from Narragansett Bay with potential for biofilm formation and biofouling of submerged materials.

3. **Reid, A.N.** Microbiology at the arboretum: an introductory microbiology CURE.

B) Peer-reviewed primary publications

1. **Reid, A.N.**, Conklin, C., Beaton, K., Donahue, N., Jackson, E., LoCascio, B., Marsocci, C., Szemreylo, E. and K. Szemreylo. 2021. Inoculum preparation conditions influence adherence of *Salmonella enterica* serovars to red leaf lettuce (*Lactuca sativa*). Journal of Food Protection. 84:857-868. doi: 10.4315/JFP-20-301

2. Lindhout, T., Iqbal, U., Willis, L.M., **Reid, A.N.**, Li, J., Liu, X., Moreno, M. and W.W. Wakarchuk. 2011. Site-specific enzymatic polysialylation of therapeutic proteins using bacterial enzymes. Proceedings of the National Academy of Sciences of the United States of America. 108:7397-7402. doi: 10.1073/pnas.1019266108.

3. Willis, L.M., Zhang, R., **Reid, A.**, Withers, S.G. and W.W. Wakarchuk. 2009. Mechanistic investigation of the endo-alpha-*N*-acetylgalactosaminidase from *Streptococcus pneumoniae* R6. Biochemistry. 48:10334-10341. doi: 10.1021/bi9013825.

4. **Reid, A.N.**, Pandey, R., Palyada, K., Nakaire, H., and A. Stintzi. 2008. Identification of *Campylobacter jejuni* genes involved in the response to acidic pH and stomach transit. Applied and Environmental Microbiology. 74:1583-1597. doi:10.1128/AEM.01507-07.

5. **Reid, A.N.**, Pandey, R., Palyada, K., Whitworth, L., Doukhanine, E., and A. Stintzi. 2008. Identification of *Campylobacter jejuni* genes contributing to acid adaptation by transcriptional profiling and genome-wide mutagenesis. Applied and Environmental Microbiology. 74:1598-1612. doi:10.1128/AEM.01508-07.

6. **Reid, A.,** and C. Whitfield. 2005. Functional analysis of conserved gene products involved in assembly of *Escherichia coli* capsules and exopolysaccharides: evidence for molecular recognition between Wza and Wzc for colanic acid biosynthesis. Journal of Bacteriology. 187:5470-5481. doi: 10.1128/JB.187.15.5470-5481.2005.

7. Nesper, J., Hill, C., **Paiment, A.**, Harauz, G., Beis, K., Naismith, J.H., and C. Whitfield. 2003. Translocation of group 1 capsular polysaccharides in *Escherichia coli* serotype K30. Structural and functional analysis of the outer membrane lipoprotein Wza. Journal of Biological Chemistry. 278:49763-49772. doi: 10.1074/jbc.M308775200.

8. **Paiment, A.**, Hocking, J., and C. Whitfield. 2002. Impact of phosphorylation of specific residues in the tyrosine autokinase, Wzc, on its activity in assembly of group 1 capsules in *Escherichia coli*. Journal of Bacteriology. 184:6437-6447. doi: 10.1128/JB.184.23.6437-6447.2002.

9. Wugeditsch, T., **Paiment, A.**, Hocking, J., Drummelsmith, J., Forrester, C., and C. Whitfield. 2001. Phosphorylation of Wzc, a tyrosine autokinase, is essential for assembly of group 1 capsular polysaccharides in *Escherichia coli*. Journal of Biological Chemistry. 276:2361-2371. doi: 10.1074/jbc.M009092200.

10. **Paiment, A.**, Leduc, L.G., and G.D. Ferroni. 2001. The effect of the facultative chemolithotrophic bacterium *Thiobacillus acidophilus* on the leaching of low-grade Cu-Ni sulfide ore by *Thiobacillus ferrooxidans*. Geomicrobiology Journal. 18:157-165. doi:10.1080/01490450118265.

C) Review articles and book chapters

1. **Reid, A.N.** and L. Cuthbertson. 2012. Biosynthesis of capsular polysaccharides and exopolysaccharides. *in* C.W. Reid, S.M. Twine and **A.N. Reid** (eds.), Bacterial Glycomics: Current Research, Technology and

Applications. Caister Academic Press, Norfolk, UK. 270 pp.

2. Pagotto, F. and **A.N. Reid.** 2011. Emerging methods for foodborne bacterial subtyping. *in* S. Brul, P.M. Fratamico, and T.A. McMeekin (eds.), Tracing Pathogens in the Food Chain. Woodhead Publishing Ltd., Cambridge, UK. 610 pp.

3. **Reid, A.N.** and C.M. Szymanski. 2009. Biosynthesis and assembly of capsular polysaccharides. *in* A. Moran, P. Brennan, O. Holst, and M. von Itzstein (eds.), Microbial Glycobiology: Structures, Relevance and Applications. Elsevier Inc., San Diego, CA. 1020 pp.

4. Whitfield, C., Frirdich, E. and **A.N. Reid**. 2006. Periplasmic events in the assembly of bacterial lipopolysaccharides. *in* M. Ehrmann (ed.), The Periplasm. ASM Press, Washington, DC.

5. Whitfield, C. and **A. Paiment**. 2003. Biosynthesis and assembly of Group 1 capsular polysaccharides and related extracellular polysaccharides in other bacteria. Carbohydrate Research. 338:2491-2502. doi: 10.1016/j.carres.2003.08.010

E) Books edited

1. Bacterial Glycomics: Current Research, Technology and Applications. 2012. C.W. Reid, S.M. Twine and **A.N. Reid** (eds.). Caister Academic Press, Norfolk, UK. 270 pp.

F) Methods

1. **Reid, A.** 2009. Isolation and identification of *Salmonella* from food and environmental samples. HPB Method, Compendium of Methods for the Microbiological analysis of foods, MFHPB-20. Published online at http://www.hc-sc.gc.ca/fn-an/res-rech/analy-meth/microbio/index-eng.php

2. Grants

A) Awarded

2022. Reid, A.N. (PI). Impact of flagellin methylation on plant immune responses against bacterial pathogens. Summer Undergraduate Research Fellowship (SURF) Program, RI-INBRE. Awarded May 1, 2022. ($30,000)

2021. Reid, A.N. (PI). Selective recovery and characterization of acid-tolerant prokaryotes: towards a better understanding of the impact of ocean acidification on the Narragansett Bay ecosystem. Summer Undergraduate Research Fellowship (SURF) Program, RI C-AIM. Awarded May 1, 2021 ($5300 stipend for one undergraduate trainee, $550 for supplies).

2020. Reid, A.N. (PI). Characterization of biofilm formation by marine bacteria from Narragansett Bay and development of in vitro conditions for screening anti-biofouling materials. Summer Undergraduate Research Fellowship (SURF) Program, RI C-AIM. Awarded May 1, 2020 ($10,000 stipend for two undergraduate trainees, $1100 for supplies).

2019. Reid, A.N. (PI). Role of flagellin methylation in *Salmonella*-plant and host interactions. Rhode Island IDeA Network for Excellence in Biomedical Research, Early Career Development Award. Submitted Jan 14, 2019, Awarded May 1, 2019. ($300,000 over 3 years)

2019. Reid, A.N. (PI). Recovery and identification of marine microbes from Narragansett Bay and assessment of their potential for biofilm formation in single and mixed culture models. Summer Undergraduate Research Fellowship (SURF) Program, RI C-AIM. Awarded May 1, 2019. ($9,000 stipend for two undergraduate trainees, $1000 for supplies)

2018. Reid, A.N, (PI). Towards a mechanistic understanding of *Salmonella*'s persistence on leafy greens. Summer Undergraduate Research Fellowship (SURF) Program, RI-INBRE. Awarded May 1, 2018. ($25,000)

2018. Reid, A.N. (PI). Isolation and identification of aquatic bacteria in Narragansett Bay. Summer Undergraduate Research Fellowship (SURF) Program, RI C-AIM. Awarded May 1, 2018. ($4500 stipend for one undergraduate trainee, $500 for supplies)

2017. Participating Researcher in EPSCoR grant:
Botham, G. (PI) Munge, B. (Campus Liaison) EPSCoR RII Track 1: Rhode Island-Enhancing the coastal environment, July 2017-June 2022. (Salve receives $400,000 from $20M total award)

2016-2017. Reid, A. Principal Investigator. Molecular mechanisms underlying the interaction of *S. enterica* with fresh foods. Summer Undergraduate Research Fellows (SURF) Training Project, RI-INBRE. Awarded May 1, 2016, renewed May 1, 2017 for second year of 2-year award. ($50,000)

2016-2017. Reid, A. Principal Investigator. Healthy microbes, healthy trees: Analysis of the root microbiome of European Beech trees as a marker of tree health. The Student Collaborative and Integrated Grant for Research, Artistic, or Creative Projects at Salve Regina University. Awarded June 24, 2016. ($2000)

2010-2012. Reid, A., Carillo, C., Dixon, B., Gill, A., Mattison, K. and Pagotto, F. Ontario Ministry of Agriculture, Food and Rural Affairs Food Safety Research Program, research grant (project: Enteric pathogens in compost: analysis of survival, regrowth and the risk for transmission of a variety of organisms). ($73,800 CDN)

B) Submitted

2016. Swanson, J.D. (PI), **Reid, A.N. (Co-PI)**, Axen, H. (Co-PI), Arruda, T. (Co-PI) and J. Marcoux (Co-PI). MRI: Acquisition of an environmental scanning electron microscope to aid in research and undergraduate education at Salve Regina University and in the state of Rhode Island. Major Research Instrumentation Program (MRI), National Science Foundation (NSF). Submitted Jan 14, 2016.

3. Scientific Conferences and Presentations

*SRU students are underlined, presenters are in bold

A) Invited presentations

2021: Reid, A.N. Title TBD. Northeast Regional IDeA conference (NERIC) to be held virtually in August, 2021 (was unable to present due to family emergency).

2021: Reid, A.N. Bioinformatics as a high-impact remote lab activity: applying lessons learned from a remote T3 course. RI-INBRE and Rhode Island College Winter Symposium: Innovative Online Teaching and Research During a Pandemic, Jan 15, 2021, virtual.

2019: Reid, A.N. When Good Foods Make You Feel Bad: Fruits and Vegetables as Vehicles for Foodborne Disease. McKillop Library 2019 Faculty Lecture Series presentation, Sept 19, 2019, Salve Regina University.

2018: Reid, A.N. Impacts of CRISPR technologies. Presentation to the Salve Regina 2018-2020 PhD Humanities Cohort, Nov 1, 2018, Salve Regina University.

2018: Reid, A.N. From human pathogen to anticancer agent: the two faces of *Salmonella*. 70th Annual Clinical Laboratory Science – Central New England Convention, Apr 24-26, 2018, Rhode Island Convention Center.

2017: Reid, A.N. You are what you eat: fresh fruits and vegetables as vehicles for foodborne gastroenteritis. 69th Annual Clinical Laboratory Science – Central New England Convention, May 9-11, 2017, Rhode Island Convention Center.

2008: Reid, A.N. Engineering of the *Neisseria meningitidis* polysialyltransferase for modification of therapeutic proteins. Alberta Ingenuity Center for Carbohydrate Science's annual meeting, Banff, Alberta. May 2008.

2004: Reid, A.N. and C. Whitfield. Conservation of protein function in exopolysaccharide and capsular polysaccharide systems in *E. coli*: interchangeability of Wza, Wzb and Wzc proteins. FASEB Summer Research Conference, Tucson, Arizona. Jun 5-10, 2004.

B) Published Abstracts (Poster and Oral Presentations)

National and International Meetings

1. 2022: Douglas-Jenkins, J. and A.N. Reid. Characterization of Community Composition and Biofilm Formation of Marine Bacteria from Narragansett Bay. National Conference on Undergraduate Research (NCUR), April 4-8, 2022, virtual.

2. 2021: Reid, A.N., Conklin, C., Finney, C and Inciarte, A. Characterization of flagellin methylation in *Salmonella enterica* serovars. World Microbe Forum, June 20-23, 2021 (virtual).

3. 2019: Jackson, E., LoCascio, B., Szemreylo, E., Szemreylo, K. and **A.N. Reid.** Inoculum preparation conditions influence attachment, colonization and persistence of *Salmonella enterica* serovars on red leaf lettuce. Gordon Research Conference on Applied and Environmental Microbiology, South Hadley, MA, USA. July 14-19, 2019.

4. 2018: Beaton, K., Donahue, N., Kennedy, H., LoCascio, B., Marsocci, C. and **A.N. Reid.** Serovars of *Salmonella enterica* vary with respect to expression of cell-surface components and interactions with red leaf lettuce. American Society for Microbiology Microbe 2018, Atlanta, USA. June 7-11.

5. 2010: Lamhoujeb, S., Banerjee, S., Bin Kingombe, C., Blais, B., Dixon, B., Gill, A., Carrillo, C., Pagotto, F., Maal-Bared, R., **Reid, A.**, Simard, M. & Mattison, K**.** Testing for foodborne pathogens in Eastern Canadian Arctic food animals. Federal Food Safety and Nutrition Research Meeting, Ottawa, Ontario, Canada, November 2010.

6. 2008: Willis, L., **Reid, A.**, Karwaski, M.-F., Gilbert, M. and W. Wakarchuk. Engineering of the *Neisseria meningitidis* polysialyltransferase for polysialylation of therapeutic proteins *in vitro*. Alberta Ingenuity Center for Carbohydrate Science's annual meeting, Banff, Alberta. May 2008.

7. 2008: Willis, L., **Reid, A.**, Karwaski, M.-F., Gilbert, M. and W. Wakarchuk. Engineering of the *Neisseria meningitidis* polysialyltransferase for modification of therapeutic proteins. Federation of American Societies for Experimental Biology (FASEB) Summer Research Conference, Tucson, AZ, June 2008.

8. 2006: Reid, A.N., Pandey, R., Palyada, K. and A. Stintzi. Genome-wide analysis of the acid stress response of *Campylobacter jejuni* NCTC11168. Canadian *Campylobacter* Conference, Vancouver, British Columbia. Nov 2-3, 2006.

9. 2004: Reid, A.N. and C. Whitfield. Conservation of protein function in exopolysaccharide and capsular polysaccharide systems in *E. coli*: interchangeability of Wza, Wzb and Wzc proteins. FASEB Summer Research Conference, Tucson, Arizona. June 5-10, 2004.

10. 2003: Paiment, A.N., Boyle, E. and C. Whitfield. Functional analysis of conserved gene products involved in the assembly of *Escherichia coli* capsules and *Erwinia amylovora* and *E. coli* K-12 exopolysaccharides. American Society for Microbiology 103rd General Meeting, Washington, D.C. May 18-22, 2003.

11. 2001. Paiment, A.N., Hocking, J. and C. Whitfield. Tyrosine phosphorylation of Wzc affects the expression of *Escherichia coli* group 1 capsular polysaccharides. 51st Annual Meeting of the Canadian Society of Microbiologists, Waterloo, Ontario. June 10-13, 2001.

12. 2001. Paiment, A.N., Hocking, J., Wugeditsch, T. and C. Whitfield. The influence of tyrosine phosphorylation of the Wzc protein on the expression of group 1 capsular polysaccharides in *Escherichia coli*. American Society for Microbiology 101st General Meeting. Orlando, Florida. May 20-24, 2001.

Regional Meetings

1. 2021: Douglas-Jenkins, J. and A.N. Reid. Characterization of biofilm formation by marine bacteria from Narragansett Bay and development of *in vitro* conditions for screening of anti-biofouling materials. Boston Bacterial Meeting, June 10-11, virtual.

2. 2021: Inciarte, A. and A.N. Reid. The comparison of surface hydrophobicity between *Salmonella enterica* serovars. Boston Bacterial Meeting, June 10-11, virtual.

3. 2019: Jackson, E. and A.N. Reid. The role of flagella in persistence of *Salmonella enterica* on red leaf lettuce. 20th annual Boston Bacteriology Meeting, Harvard University, Cambridge, MA, June 6-7.

4. 2017: Beaton, K. and A.N. Reid. The Influence of Flagellin Expression and Fitness on the Interaction of *Salmonella enterica* with Leafy Greens. Northeast Regional IDeA Conference, Burlington, VT, Aug. 16-18.

5. 2017: Beaton, K., Donahue, N., Kennedy, H., LoCascio, B. and **A.N. Reid.** Molecular mechanisms underlying the interaction of *Salmonella enterica* with leafy greens. RI NIH IDeA Symposium, Alpert Medical School, Brown University, Providence, RI. June 2.

Local Meetings

1. 2022: Gallagher, M. and A.N. Reid. Methylation Patterns of Phase Locked Flagellar Mutants of *Salmonella enterica* and Their Impact on the Plant Immune Response. Rhode Island Summer Undergraduate Research Symposium, University of Rhode Island, Kingstown, RI, July 29, 2022. (poster presentation)

2. 2022: Jameson, F. and A.N. Reid. The Impact of Flagellin Methylation on Plant Immune Responses against Human Pathogens. Rhode Island Summer Undergraduate Research Symposium, University of Rhode Island, Kingstown, RI, July 29, 2022. (poster presentation)

3. 2022: Solomon, A. and A.N. Reid. The Influence of the O-antigen Capsule of *Salmonella enterica* serovar Typhimurium on Flagellin Methylation and Cell-to-Cell Interactions. Rhode Island Summer Undergraduate Research Symposium, University of Rhode Island, Kingstown, RI, July 29, 2022. (poster presentation)

4. 2021: Douglas-Jenkins, J. and A.N. Reid. Characterization of bacterial community composition and biofilm formation of marine bacteria from Narragansett Bay. 2021 Rhode Island Summer Undergraduate Research Conference, University of Rhode Island, Kingstown, RI, July 30, 2021.

5. 2021: Gallagher, M. and A.N. Reid. Methylation patterns of phase-locked flagellar mutants of *Salmonella enterica* and their effect on plant-human pathogen interactions. 2021 Rhode Island Summer Undergraduate Research Conference, University of Rhode Island, Kingstown, RI, July 30, 2021.

6. 2021: Jameson, F. and A.N. Reid. The role of flagellin methylation in plant-human pathogen interactions. 2021 Rhode Island Summer Undergraduate Research Conference, University of Rhode Island, Kingstown, RI, July 30, 2021.

7. 2021: Solomon, A. and A.N. Reid. The role of the O-antigen capsule of *Salmonella enterica* serovar Typhimurium in flagellin methylation and cell-to-cell interactions. 2021 Rhode Island Summer Undergraduate Research Conference, University of Rhode Island, Kingstown, RI, July 30, 2021.

8. 2020: Douglas-Jenkins, J., Lint, M. and A.N.Reid. Recovery and Identification of Marine Microbes from Narragansett Bay. RI Microbiome symposium, University of Rhode Island, Kingstown, RI, January 16-17, 2020.

9. 2019: Jackson, E. and A.N. Reid. The role of flagella in mediating interactions between *Salmonella enterica* and red leaf lettuce. 2nd Annual UConn/URI American Association of Pharmaceutical Science Research Symposium. University of Rhode Island College of Pharmacy, Kingstown, RI, September 21, 2019.

10. 2019: Douglas-Jenkins, J., Lint, M. and A.N. Reid. Recovery and identification of marine microbes from Narragansett Bay and assessment of their potential for biofilm formation. 12th annual RI-C-AIM SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical & Forensic Sciences and the Center for Biotechnology and Life Sciences, Kingstown, RI, July 26, 2019.

11. 2019: Jackson, E. and A.N. Reid. The role of flagella in mediating interactions between *Salmonella enterica* and red leaf lettuce. 12th annual RI-INBRE SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical & Forensic Sciences and the Center for Biotechnology and Life Sciences, Kingstown, RI, July 26, 2019.

12. 2019: Lint, M., Douglas-Jenkins, J. and A.N. Reid. Antimicrobial production and sensitivity of marine microbes in Narragansett Bay. 12th annual RI-C-AIM SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical & Forensic Sciences and the Center for Biotechnology and Life Sciences, Kingstown, RI, July 26, 2019.

13. 2019: Szemreylo, E., Szemreylo, K. and A.N. Reid. Role of flagellin methylation in *Salmonella enterica*. 12th annual RI-INBRE SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical & Forensic Sciences and the Center for Biotechnology and Life Sciences, Kingstown, RI, July 26, 2019.

14. 2019: Szemreylo, K., Szemreylo, E. and A.N. Reid. Role of flagellin methylation in attachment of *Salmonella enterica* to plant cell walls. 12th annual RI-INBRE SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical & Forensic Sciences and the Center for Biotechnology and Life Sciences, Kingstown, RI, July 26, 2019.

15. 2018: Jackson, E. and A.N. Reid. The role of flagella in persistence of *Salmonella enterica* on red leaf lettuce. 11th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 27, 2018.

16. 2018: Lincoln, E. and A.N. Reid. Isolation and characterization of marine microorganisms in Narragansett Bay, RI. 11th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 27, 2018.

17. 2018: Senecal, R. and A.N. Reid. Understanding the role of the LPS O antigen in persistence of *Salmonella enterica* on red leaf lettuce. 11th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 27, 2018.

18. 2018: Wulfman, C. and A.N. Reid. The role of biofilm components in the colonization and persistence of *Salmonella enterica* on red leaf lettuce. 11th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 27, 2018.

19. 2017: Beaton, K. and A.N. Reid. The influence of flagellin expression and fitness on the interaction of *Salmonella enterica* with leafy greens. 10th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 28, 2017.

20. 2017: Donahue, N., Beaton, K., Marsocci, C., LoCascio, B. and A.N. Reid. Effect of varying growth conditions on initial attachment, colonization and persistence of *Salmonella enterica* serovars on red leaf lettuce. 10th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 28, 2017.

21. 2017: LoCascio, B., Donahue, N. and A.N. Reid. Environmental conditions affecting biofilm expression in *Salmonella enterica* serovars. 10th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 28, 2017.

22. 2017: Marsocci, C., Kennedy, H. and A.N. Reid. Correlation between O Antigen expression and interaction of *Salmonella enterica* with leafy greens. 10th annual RI-INBRE SURF Conference, University of Rhode Island, College of Pharmacy and Center for Biotechnology and Life Sciences, Kingstown, RI, July 28, 2017.

23. 2016: Beaton, K. and A.N. Reid. The effect of salt concentration, temperature, and physical state of growth media on FliC and FljB expression in *Salmonella enterica* serovars. 9th annual RI-INBRE SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical and Forensic Sciences, Kingstown, RI, July 29, 2016

24. 2016: Donahue, N., LoCascio, B. and A.N. Reid. The effect of growth conditions on biofilm formation and cellulose expression in *Salmonella enterica* serovars. 9th annual RI-INBRE SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical and Forensic Sciences, Kingstown, RI, July 29, 2016

25. 2016: Kennedy, H. and A.N. Reid. Expression of LPS and CPS O antigens under varying growth conditions in a range of *Salmonella enterica* serovars. 9th annual RI-INBRE SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical and Forensic Sciences, Kingstown, RI, July 29, 2016

26. 2016: LoCascio, B., Donahue, N. and A.N. Reid. Conditions affecting Polysaccharide Intercellular Adhesin (PIA) expression in *Salmonella enterica* serovars. 9th annual RI-INBRE SURF Conference, University of Rhode Island, Richard E. Beaupre Center for Chemical and Forensic Sciences, Kingstown, RI, July 29, 2016

27. 2006: Reid, A.N., Pandey, R., Palyada, K. and A. Stintzi. Genome-wide analysis of the acid stress response of *Campylobacter jejuni* NCTC11168. 2nd annual Progress in Systems Biology symposium, Ottawa, Ontario. Nov 9-10, 2006.

SRYou Day

1. 2024: Solomon, A. and A.N. Reid. The Role of the O-antigen Capsule of *Salmonella enterica* serovar Typhimurium in Flagellin Methylation and Plant-Pathogen Interactions. Salve Regina University Student Exposition, Newport, RI, April 10, 2024. (oral presentation)

2. 2023: Gallagher, M. and A.N. Reid. Methylation Patterns of Phase Locked Flagellar Mutants of *Salmonella enterica* and their Impact on the Plant Immune Response. Salve Regina University Student Exposition, Newport, RI, March 22, 2023. (oral presentation)

3. 2023: Solomon, A. and A.N. Reid. The Influence of the O-antigen Capsule of *Salmonella enterica* serovar Typhimurium on Flagellin Methylation and Cell-to-Cell Interactions. Salve Regina University Student Exposition, Newport, RI, March 22, 2023. (poster)

4. 2022: Douglas-Jenkins, J. and A.N. Reid. Characterization of community composition and biofilm formation of marine bacteria from Narragansett Bay. Annual SRyou Day Student Exposition. Salve Regina University. March 23, 2022. (oral presentation)

5. 2022: Emmons, M. and A.N. Reid. Deletion of the *fliB* gene in *Salmonella enterica* alters the expression of flagellin subunit genes *fliC* and *fljB*. Annual SRyou Day Student Exposition. Salve Regina University. March 23, 2022. (poster)

6. 2022: Gallagher, M. and A.N. Reid. Methylation patterns of phase-locked flagellar mutants of *Salmonella enterica* and their effect on plant-human pathogen interactions. Annual SRyou Day Student Exposition. Salve Regina University. March 23, 2022. (poster)

7. 2022: Jameson, F. and A.N. Reid. The role of flagellin methylation in plant-human pathogen interactions. Annual SRyou Day Student Exposition. Salve Regina University. March 23, 2022. (poster)

8. 2022: Solomon, A. and A.N. Reid. The influence of the O-antigen capsule of *Salmonella enterica* serovar Typhimurium on flagellin methylation and cell-to-cell interactions. Annual SRyou Day Student Exposition. Salve Regina University. March 23, 2022. (poster)

9. 2021: Inciarte, A. and A.N. Reid. The Comparison of Surface Hydrophobicity Between *Salmonella enterica* Serovars. Annual SRyou Day Student Exposition. Salve Regina University. March 24, 2021. (poster)

10. 2021: Douglas-Jenkins, J. and A.N. Reid. Characterization of biofilm formation by marine bacteria from Narragansett Bay and development of *in vitro* conditions for screening of anti-biofouling materials. Annual SRyou Day Student Exposition. Salve Regina University. March 24, 2021. (poster)

11. 2019: Aiello, K., Mosca, J. and A.N. Reid. Effect of Abiotic Factors on the Rhizosphere Microbiomes of Trees on the Salve Regina University Campus. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (poster)

12. 2019: Dill, V. Herter, H. and A.N. Reid. Analysis of European Beech Tree Rhizosphere Microbiome and its Impact on Tree Condition. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (poster)

13. 2019: Jackson, E. and A.N. Reid. The Role of Flagella in Persistence of *Salmonella enterica* on Red Leaf Lettuce. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (poster)

14. 2019: Johnson, V., **Florent, L.**, **Benoit, L.** and A.N. Reid. The Effect of Urbanization on the Rhizosphere Microbiome in *Acer pseudoplatanus*. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (poster)

15. 2019: Lincoln, E. and A.N. Reid. Isolation and Characterization of Marine Microorganisms in Narragansett Bay. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (oral presentation)

16. 2019: LoCascio, B. and A.N. Reid. Environmental Conditions Affecting Biofilm Expression in *Salmonella enterica* Serovars. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (oral presentation)

17. 2019: Senecal, R. and A.N. Reid. Understanding the Role of the O antigen in *Salmonella enterica* Persistence on Red Leaf Lettuce. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (poster)

18. 2019: Wulfman, C. and A.N. Reid. The Role of Biofilm Components in the Colonization and Persistence of *Salmonella enterica* on Red Leaf Lettuce. 10th annual SRyou Day Student Exposition. Salve Regina University. March 27, 2019. (poster)

19. 2018: Beaton, K. and A.N. Reid. The Influence of Flagellin Expression and Fitness on the Interaction of *Salmonella enterica* with Leafy Greens. 9th annual SRyou Day Student Exposition. Salve Regina University. March 21, 2018. (poster)

20. 2018: Harmon, A. and A.N. Reid. Prevalence of Antibiotic Resistance Genes in Pristine vs Urban Environments. 9th annual SRyou Day Student Exposition. March 21, 2018. (poster)

21. 2018: Kennedy, H. and A.N. Reid. Expression of LPS and CPS O antigens Under Varying Growth Conditions in a Range of *Salmonella enterica* Serovars. 9th annual SRyou Day Student Exposition. March 21, 2018. (poster)

22. 2018: Marsocci, C. and A.N. Reid**.** Correlation Between O Antigen Expression and Interaction of *Salmonella enterica* with Leafy Greens. 9th annual SRyou Day Student Exposition. March 21, 2018. (poster)

23. 2018: Riley, E. and A.N. Reid. Metagenomic Analysis of the European Beech Tree Root Microbiome: The Search for Biological Markers of Tree Health. 9th annual SRyou Day Student Exposition. Salve Regina University. March 21, 2018. (poster)

24. 2018: Aresco, R., **Cotoia, A.**, **Donahue, N.**, **Gambardella, J.**, **Gendreau, A.**, **Kahler, E.**, **Kelly, J.**, **LeBlanc, A.**, **McGowan, M.**, **McVey, C.**, **Salwa, S.**, Reid, A.N. and S.B. Symington. Biotechniques: A Course-Based Research Approach to Enhance Faculty Student Scholarship. Collection of 11 posters produced during the Fall 2017 BIO235 Biotechniques course. 9th annual SRyou Day Student Exposition. Salve Regina University. March 21, 2018. (poster)

25. 2017: Beaton, K., Marsocci, C., and A.N. Reid. Molecular mechanisms underlying the interaction of *Salmonella enterica* with leafy greens. SRYou Day Student Expo. Salve Regina University. March 29, 2017. (poster)

26. 2017: Donahue, N., **Novicki, R.** and A.N. Reid. Decreasing virulence in *Salmonella enterica* serovars using lambda red recombinase. SRYou Day Student Expo. Salve Regina University. March 29, 2017. (poster)

27. 2017: Freeburg, H., **Johnson, S.**, **Riley, E**. and A.N. Reid. Healthy microbes, healthy trees: Analysis of the root microbiome of European Beech trees as a marker of tree health. SRYou Day Student Expo. Salve Regina University. March 29, 2017. (poster)

28. 2017: LoCascio, B. and A.N. Reid. Conditions affecting Polysaccharide Intercellular Adhesin (PIA) expression in *Salmonella enterica* serovars. SRYou Day Student Expo. Salve Regina University. March 29, 2017. (poster)

C) Conference attendance (no presentation)

National meetings
1. 2022: Connect Undergraduate Research (ConnectUR), June 27-29, Washington, D.C.

2. 2022: Annual American Society for Microbiology Conference for Undergraduate Education (ASMCUE), July 11-15, web conference.

3. 2017: 24th Annual American Society for Microbiology Conference for Undergraduate Education (ASMCUE), July 27-30. Denver, CO.

4. 2016: National Institutes of Health, NIGMS 6th Biennial National IDeA Symposium of Biomedical Research Excellence (NISBRE), June 26-28, Washington, DC

Regional meetings
1. 2018: Boston Bacteriology Meeting 2018, May 31-June 1, Harvard University Science Center, Cambridge, MA.

4. Student Mentoring

A) Undergraduate Research

2024-2025: 6 students (academic year)
2023-2024: 8 students (academic year)
2022-2023: 3 students (academic year), 3 students (summer)
2021-2022: 7 students (academic year), 3 students (summer)
2020-2021: 5 students (academic year), 4 students (summer)
2019-2020: 13 students (academic year), 4 students (summer)
2018-2019: 15 students (academic year), 5 students (summer)
2017-2018: 8 students (academic year), 4 students (summer)
2016-2017: 10 students (academic year), 4 students (summer)
2015-2016: 3 students (academic year), 4 students (summer)

B) Senior Capstone Thesis Mentoring

Spring 2024:
1. Caissie, M. “Human Gut Links to Overall Long-Term Health and Mental Health Issues”
2. Cox, R. “An overview of the gut brain axis and the Impacts of gut microbiome dysbiosis on cognitive health”
3. Farkouh, M. “Non-Fimbrial Adhesins Effects on *Escherichia coli* O157:H7 Biofilm Formation in Post-Harvest Food”
4. Perry, M. “The Role of Nonfimbrial Adhesins on Unique Adhesion Phenotypes of Super-Shedding *E. coli*”
5. Solomon, A. “The Role of the O-antigen Capsule of *Salmonella enterica* serovar Typhimurium in Flagellin Methylation and Plant-Pathogen Interaction”

Spring 2023:
1. Gallagher, M. “Methylation Patterns of Phase Locked Flagellar Mutants of *Salmonella enterica* and Their Impact on the Plant Immune Response”
2. Jameson, F. “Methylation Patterns of Phase Locked Flagellar Mutants of Salmonella enterica and Their Impact on the Plant Immune Response”

Spring 2022:

1. Douglas-Jenkins, J. “Characterization of community composition and biofilm formation of marine bacteria from Narragansett Bay.”
2. Emmons, M. “The effect of flagellin methylation on attachment of *Salmonella enterica* serovars to leafy greens.”
3. Haas, B. “Determining the genotype of *Salmonella enterica* serovars using specialized gels and microscopy.”

Spring 2021:
1. Alkabouni, N. “Linkage between maternal stimuli and fetal development.”
2.Carrascozza, J. “Maternal immune activation and dysregulation of Interleukin-6 resulting in Autism-like pathologies and behaviors in offspring.”
3. Fitzpatrick, B. “Early-onset Alzheimer's has been closely associated with the mutations of APP, PSEN1, and PSEN2; Polymerase Chain Reaction, exome sequencing genetic and MRI imaging performed to identify the presence of mutations which will result in early detection and prevent progression of cognition loss and neurogenic muscle atrophy.”
4. Menjivar, G. “Impact of feeding practices on infant gut microbiome and health.”
5. Scano, S. “The gut microbiome’s effect on human health.”

Spring 2020:
1. Blodgett, J. “The Correlation Between the Expression of *agfA* and *fliB* Genes and the Ability of *Salmonella enterica* Serovar Javiana to Attach to Red Leaf Lettuce.”
2. Huber, A. “Metagenomic Analysis of Rhizosphere Microbiome Communities in the Salve Regina University Arboretum.”
3. Jackson, E. “The Role of Flagella in Mediating Interactions between *Salmonella enterica* and Red Leaf Lettuce.”
4. Szemreylo, E. “Role of Flagellin Methylation in *Salmonella enterica*.”
5. Szemreylo, K. “Role of Flagellin Methylation in Attachment of *S. enterica* to Plant Cell Walls.”

Spring 2019:
1. Archer, M. “Infant and Maternal Mortality Rates in the United States”.
2. Cirulli, P. “The Effects of Precipitation Events on the Concentration of Enterococci as a Fecal Indicator Bacteria within the Aquidneck Island Watershed”.
3. Florent, L. “The Effects of the Human Microbiome on Cancer Immunotherapy”.
4. Lincoln, E. “Isolation and Cultivation of Marine Microorganisms in Narragansett Bay, RI”.
5. LoCascio, B. “Environmental Conditions Affecting Biofilm Formation in *Salmonella enterica*.”
6. Miller, S. “Enterococci as an effective fecal indicator for water quality monitoring on Aquidneck Island”.
7. Senecal, R. “Understanding the Role of the LPS and CPS O antigen in Salmonella Persistence on Red Leaf Lettuce”.

Spring 2018:
1. Beaton, K. “The Influence of Flagellar Expression and Fitness and on the Interaction of *Salmonella enterica* with Leafy Greens”.
2. Donahue, N. “Effects of varying growth conditions on initial attachment, colonization, and persistence of *Salmonella enterica* serovars on red leaf lettuce”.
3. Harmon, A. “Prevalence of Antibiotic Resistance Genes in Pristine vs Urban Environments”.
4. Kennedy, H. “Expression of LPS and CPS O antigens Under Varying Growth Conditions in a Range of *Salmonella enterica* Serovars”.
5. Marsocci, C. “Correlation between O-Antigen expression and interaction of *Salmonella enterica* with leafy greens”.
6. Riley, E. “Metagenomic Analysis of the European Beech Tree Root Microbiome: The Search for Biological Markers of Tree Health”.

Spring 2017:

1. Freeburg, H. “Metagenomic analysis of the European Beech tree root microbiome to identify biological markers for tree health”.
2. Muggeo, P. “Environmental effect of birth method on the dysbiotic microflora in genetically-susceptible infants with Celiac disease”.

Spring 2016:
1. Bouthiette, M. “The Zika virus: a scientific analysis of a global health concern”.
2. Hartnett, L. “Using genetically modified bacteria as vectors for cancer therapies”.
3. Inglesia, C. “The power of pharmacogenetic tools to predict the outcome of Hepatitis C treatment”.
4. Keefe, J. “Anti-Science or Heartless Scientists; A Review of Diagnosis and Treatment Methods for the Presence of *Borrelia burgdorferi* and Lyme Disease”.
5. Mazzola, L. “Modifications in oral contraceptives to minimize change in blood coagulation factors in women”.

5. Membership in professional societies

American Society for Microbiology (ASM), 2000-2005, 2015-current
Council on Undergraduate Research (CUR), member since 2018
International Association for Food Protection (IAFP), member since 2016
Society for the Advancement of Biology Education Research (SABER), member since 2021

Service

1. Service to the University

Open House, Connections Day and Spotlight Events
2023-2024: February 2, 2024 (Accepted Students Day); April 6, 2024 (Connections Day)
2022-2023: October 16, 2022 (Open House); April 1, 2023 (Connections Day)
2021-2022: April 24, 2022 (Open House)
2020-2021: April 10, 2021 (virtual Connections Day)
2019-2020: October 20 (Open House); February 14 (Early action accepted students day)
2018-2019: September 29 (Spotlight); October 14 (Open House); February 15 (Early action accepted students day); April 6 (Connections Day); April 28 (Open House)
2017-2018: September 24 & October 29 (Open House); April 7 (Connections Day)
2016-2017: September 25 & October 30 (Open House); April 1 (Connections Day)
2015-2016: September 27 & October 25 (Open House); April 2 (Connections Day),

Elected Committees
2022-2024: Curriculum Committee (Vice-Chair, 2022-2023; Chair: 2023-2024)
2021-2023: Sabbaticals Committee
2019-2023: Faculty Assembly Executive Committee
2019: Core Review Committee (committee dissolved Dec. 2019)

Non-elected Committees
2021-present: IT Steering Committee
2021: Search committee for Director of the Center for Teaching and Learning
2020-2023: Faculty Manual Commission
2018-2020: International Programs Faculty Advisory Committee
2018-present: Salve Arboretum Committee
2016-2017: Community of Practice, Writing in the First Year

Other Contributions

2021: Participant in Art and Science Focus Group
2020: Facilitator, Pell Center Roundtable Discussions, February 21, 2020 and April 21, 2020, “Coronavirus: are we prepared?”
2019: Presentation at Faculty Development Workshop, May 21, 2019, “Integrative Capstone”, Reid and Symington
2018: Faculty Hooder at Spring Convocation
2017: Hosted 5th graders from Blackstone Valley Preparatory School (May 25)
2016-present: Faculty Mentorship initiative (mentor: Dr. Frankel)
2016: Collegium participant

2. Service to the Department

Leadership

2022-2024: Chairperson, Biology and Biomedical Sciences
2018-2019: Acting Chair, Biology and Biomedical Sciences

Search Committees

2023: chair of the search committee for hire of Assistant Professor of Biology (Dr. Wise)
2022: chair of the search committee for hire of Lecturer for Nursing Anatomy & Physiology in Dept of Biology (Prof. Irving)
2022: member of search committee for hire of Clinical lecturer in the Department of Nursing
2020: member of search committee for hire of Lecturer and Laboratory Coordinator in Dept of Biology (Prof. Roy)
2019: member of search committee for hire of Laboratory Coordinator in Dept of Biology (failed search)
2018-2019: Chair of search committee for hire of Assistant Professor of Biology (Dr. Green-Gavrielidis)
2019: member of search committee for hire of Visiting Assistant Professor of Biology (Dr. Stephens)
2017-2018: member of search committee for hire of Assistant Professor of Biology (failed search)
2017: participation in screening and interviews for VAP candidates

3. Service to the Scientific Community

2022: Abstract reviewer, 2022 National Conference on Undergraduate Research (NCUR), Council on Undergraduate Research, Virtual, April 4-8, 2022
2021: iPoster judge, World Microbe Forum International Conference, held virtually.
2021: Proposal Reviewer, RI-INBRE Enhanced Virtual Education, RESearch and Training (EVEREST) pilot funding ($200 honorarium received), January 2021
2021: Abstract reviewer, 2021 National Conference on Undergraduate Research (NCUR), Council on Undergraduate Research, Virtual, April 12-14, 2021
2019: Poster judge, Boston Bacteriology Meeting, Harvard University, Cambridge, MA, June 6-7, 2019.
2018: Poster judge, Boston Bacteriology Meeting, Harvard University, Cambridge, MA, May 31-June 1, 2018.
2018: Research Supervisor (Qualified Scientist), RI State Science Fair (Jordan Miner, Rogers High School, Newport; Ella West, Portsmouth High School, Portsmouth)
2017: Invited Panelist, Predoctoral and Postdoctoral Awards, US Department of Agriculture, National Institute of Food and Agriculture, October 24-27, 2017, Washington, D.C.

Honors and Awards

Sister M. Therese Antone Recognition Award, Salve Regina University. $2500, awarded September 2020.

Postdoctoral fellowship, Natural Sciences and Engineering Research Council of Canada (NSERC),

$80, 000 over 2 years, held from 2005 to 2007.

Doctoral Research Award, Canadian Institutes for Health Research (CIHR), $20, 500/year, held from 2002 to 2005.

Post-graduate Scholarship – NSERC PGS B, $19,100/year, held from 2001 to 2002.

Post-graduate Scholarship – NSERC PGS A, $17,300/year, held from 1999 to 2001.

Professional Development

Strategies for Effective and Inclusive Mentorship.
June 4, 2021; virtual seminar hosted by the Metcalf Institute, University of Rhode Island.

National Institutes of Health, Becoming a Resilient Scientist, Facilitator Training Program
Jan - May, 2021; virtual hosted by National Institutes of Health.
This program was intended to train faculty at institutions across the US to serve as facilitators of conversations around issues of wellness, resilience, emotional awareness, assertiveness, feedback and mentoring. Along with Drs. Symington and Green-Gavrielidis, I participated in this training program and hosted small group discussion groups with a small number of interested faculty on campus. The eventual goal is to bring this content and these conversations to the Biology students at Salve, and perhaps eventually to the broader Salve community.

Inclusive Mentoring workshop: Cultivating Excellence in Student Lab Researchers.
Dec 10, 2020; virtual workshop hosted by University of Rhode Island

Developing and Teaching an Online Course
2020-2021; Magna Publications online course

Bioinformatics T3: Train the Trainer - Establishing Early Undergraduate Experiences in Bioinformatics
Jun 29-Jul 3, 2020; remote hosted by MDI Biological Laboratory in conjunction with New Hampshire IDeA Network for Excellence in Biomedical Research (NH-INBRE). Subsequent to attending this training program, I implemented a genome assembly bioinformatics module into BIO253L Genetics Lab.

Mental Health First Aid Training
Jan 14-15, 2019; Salve Regina University

Committee Leadership Workshop
May 23, 2019; Salve Regina University