Steven M. Johnson, Ph.D.

Full Professor
Brigham Young University
Department of Microbiology & Molecular Biology
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Education, Training and Positions

Professor Microbiology & Molecular Biology, Brigham Young University, 2023-present
Associate Professor Microbiology & Molecular Biology, Brigham Young University, 2015-2023
Assistant Department Chair Microbiology & Molecular Biology, Brigham Young University, 2015-2020
Assistant Professor Microbiology & Molecular Biology, Brigham Young University, 2009-2015
Postdoc Departments of Pathology and Genetics, Stanford University School of Medicine, 2004-2009
Ph.D. Molecular, Cellular and Developmental Biology Graduate Program, Yale University, 2004
M.Phil. Molecular, Cellular and Developmental Biology Graduate Program, Yale University, 2001
M.S. Molecular Biology Program, San Diego State University, 1999
B.S. Molecular Biology major, Chemistry and Philosophy minors, Brigham Young University, 1994

Honors and Fellowships

Alcuin Fellowship, Brigham Young University Undergraduate Education 2023-2027
Associate Editor, gratefully declined. 2021
Frontiers in Molecular Biosciences - Genome Organization and Dynamics
Phi Kappa Phi Faculty Initiate, ΦΚΦ Chapter 58, Brigham Young University. 2013
Teaching Award (Highest Students Ratings in a 500-level Course). 2012
Department of Microbiology and Molecular Biology, Brigham Young University
Research Award (Highest Impact Factor Journal Publication). 2012
Department of Microbiology and Molecular Biology, Brigham Young University
Postdoctoral Fellowship, Ruth L. Kirschstein-NSRA, Stanford Genome Training Program. 2008-2009
Invited Nobel week seminar, Karolinska Institutet, Stockholm, Sweden. December 2006
Postdoctoral Fellowship, American Cancer Society, Inc. 2005-2008
Exceptionally clear and effective poster presentation Award, MCDB Retreat, Yale University. 2002
Outstanding Teaching Associate of 1999, Biology Department, SDSU. 1999
Blue Ribbon Protocol Award, American Society of Nephrology Annual Meeting. 1996
Trustees' Scholar and Scholarship, Brigham Young University. 1988-1989, 1992-1994
Regents' Scholarship, Arizona State University, gratefully declined. 1988

Peer-Reviewed Publications (total Google scholar citations 7537, average per paper 327.70)

BYU students authors underlined

1. Lewis, J.M., Arens, D.K., Quaye, A., Calvopina-Chavez, D.G., Jensen, K.T., Miller, A.K., Moss, M.M., Warren, M.E., Tavana, J.P., **Johnson, S.M.**, and Juli (2024) Genome sequences of two *Klebsiella* phages isolated from wastewater treatment samples that infect a clinical *Klebsiella* isolate. ***Microbiology Resource Announcements*****,** 14, 1: https://journals.asm.org/doi/10.1128/mra.00836-23 .

2. Gal, J.L., and **Johnson, S.M.** (2024) An Exopolysaccharide from the Cyanobacterium *Arthrospira platensis* May Utilize CH−π Bonding: A Review of the Isolation, Purification, and Chemical Structure of Calcium-Spirulan. ***ACS Omega*****,** 9(33): 35243−35255. https://pubs.acs.org/doi/10.1021/acsomega.4c05066?ref=PDF.

3. Carter, J.L, Stevens, H., Ridge, P.G., and **Johnson, S.M.** (2023) Short sequence aligner benchmarking for chromatin research. ***Int. J. Mol. Sci.*****,** 24, 14074: https://doi.org/ 10.3390/ijms241814074.

4. Gal, J.L, Cole, N.R., Eggett, D.L., and **Johnson, S.M.** (2023) Growth comparison of *Arthrospira platensis* in different vessels: standard cylinder vs. enhanced surface area at low light. ***Applied Phycology*****,** 4(1): 1-14. https://doi.org/10.3390/biomedicines10030668.

5. Carter, J.L, Kempton, C.E., Hales, E.D.S, and **Johnson, S.M.** (2022) Manipulating chromatin architecture in *C. elegans*. ***Epigenetics and Chromatin*****,** 15, 38: https://doi.org/10.1186/s13072-022-00472-5.

6. Wilson, N.R.C., Veatch, O.J., and **Johnson, S.M.** (2022) On the Relationship between Diabetes and Obstructive Sleep Apnea: Evolution and Epigenetics. ***Biomedicines*****,** 10, 668: https://doi.org/10.3390/biomedicines10030668.

7. Bates, D.A., Bates, C.E., Earl, A.S., Skousen, C., Fetbrandt, A.N., Ritchie, J., Bodily, P.M., and **Johnson, S.M.** (2021) Proximal-end bias from *in-vitro* reconstituted nucleosomes and the result on downstream data analysis. ***PLoS ONE*****,** 16(10): e0258737. https://doi.org/10.1371/journal.pone.0258737.

8. Adams, K., Weber, K.S., and **Johnson, S.M.** (2020). Exposome and immunity training: how pathogen exposure order influences innate immune cell lineage commitment and function. ***Int. J. Mol. Sci*****.,** 21, 8462; doi:10.339/ijms21228462.

9. Arens, D.K., Brady, T.S., Carter, J.L., Pape, J.A., Robinson, D.M., Russell, K.A., Staley, L.A., Stellter, J.M., Tateoka, O.B., Townsend, M.H., Whitley, K.V., Wienclaw, T.M., Williamson, T.L., **Johnson, S.M.**, and Grose, J.H. (2018) Characterization of two related *Erwinia* myoviruses that are distant relatives of the PhiKZ-like Jumbo phages. ***PLoS ONE***, 13(7): e0200202. https://doi.org/10.1371/journal.pone.0200202.

10. Carter, J.L., Morales, R., and **Johnson, S.M.** (2018). Chemotaxis based enrichment for transgenic animals containing the *rol-6* marker. ***microPublication Biology***. https://doi.org/10.17912/KEDF-YN42

11. Weber, K.S., Bridgewater, L.C., Jensen, J.L., Breakwell, D.P., Nielsen, B.L., and **Johnson, S.M.** (2018) Personal microbiome analysis improves student engagement and interest in immunology, molecular biology, and genomics undergraduate courses. ***PLoS ONE***, 13(4): e0193696. https://doi.org/10.1371/journal.pone.0193696.

12. Kieffer-Kwon, K.R., Nimura, K., Rao, S.S.P., Xu, J., Jung, S., Pekowska, A., Dose, M., Stevens, E., Mathe, E., Dong, P., Huang, S.C., Ricci, M.A., Baranello, L., Zheng, Y., Ardori, F.T., Resch, W., Stavreva, D., Nelson, S., McAndrew, M., Casellas, A., Finn, E., Gregory, C., St. Hilaire, B.G., **Johnson, S.M.**, Dubois, W., Cosma, M.P., Batchelor, E., Levens, D., Phair, R.D., Misteli, T., Tessarollo, L., Hager, G., Lakadamyali, M., Liu, Z., Floer, M., Shroff, H., Aiden, E.L., and Casellas, R. (2017) Myc regulates chromatin decompaction and nuclear architecture during B cell activation. ***Mol. Cell***, 67, 566-578.

13. Kempton, C.E., Weber, K.S., and **Johnson, S.M.** (2017) Method to increase undergraduate laboratory student confidence in performing independent research. ***JMBE***, 18(1): doi:10.1128/jmbe.v18i1.1230.

14. Weber, K.S., Jensen, J.L., and **Johnson, S.M.** (2015) Anticipation of personal genomics data enhances interest and learning environment in genomics and molecular biology undergraduate courses. ***PLoS ONE***, 10(8): e0133486. doi:10.1371/journal.pone.0133486.

15. Kempton, C.E., Heninger, J.R., and **Johnson, S.M.** (2014) Reproducibility and consistency of *in vitro* nucleosome reconstitutions demonstrated by invitrosome isolation and sequencing. ***PLoS ONE***, 9(8): e103752. doi:10.137/journal.pone.0103752.

16. Locke, G., Haberman D., **Johnson, S.M.**, and Morozov, A.V. (2013) Global remodeling of nucleosome positions in *C. elegans*. ***BMC Genomics***, 14:284. Doi: 10.1186/1471-2164-14-284.

17. Kundaje, A., Kyriazopoulou-Panagiotopoulou, S., Libbrecht, M., Smith, C.L., Raha, D., Winters, E.E., **Johnson, S.M.**, Snyder, M.P., Batzoglou S., and Sidow, A. (2012) Ubiquitous heterogeneity and asymmetry of the chromatin environment at regulatory elements. ***Genome Res***., 22, 1735-1747. *Featured on the journal cover*.

18. Valouev, A., **Johnson, S.M.**, Boyd, S., Smith, C.L., Fire, A.Z., and Sidow, A. (2011) Determinants of nucleosome organization in primary human cells. ***Nature***, 474, 516-520. *Web of Science Highly Cited Paper*.

19. **Johnson, S.M.** (2010) Painting a perspective on the landscape of nucleosome positioning. ***J Biomol Struct Dyn***., 27, 795-802.

20. Valouev, A., Ichikawa, J., Tonthat, T., Stuart, J., Ranade, S., Peckham, H., Zeng, K., Malek, J.A., Costa, G., McKernan, K., Sidow, A., Fire, A., and **Johnson, S.M.** (2008) A high-resolution, nucleosome position map of *C. elegans* reveals a lack of universal sequence-dictated positioning. ***Genome Res***., 18, 1051-1063. *Featured on the journal cover*.

21. **Johnson, S.M.**, Tan, F.J., McCullough, H.L., Riordan D.P., and Fire, A.Z. (2006) Flexibility and constraint in the nucleosome core landscape of *Caenorhabditis elegans* chromatin. ***Genome Res***., 16, 1505-1516. *Recommended by Faculty of 1000. Featured on the journal cover.*

22. Moreno-Herrero, F., Seidel, R., **Johnson, S.M.**, Fire, A., and Dekker, N.H. (2006) Structural analysis of hyperperiodic DNA from *Caenorhabditis elegans*. ***Nucleic Acids Res***., 34, 3057-3066.

23. Esquela-Kerscher, A., **Johnson, S.M.**, Bai, L., Saito, K., Partridge, J., Reinert, K.L., and Slack, F. J. (2005) Post-embryonic expression of *C. elegans* microRNAs belonging to the *lin-4* and *let-7* families in the hypodermis and the reproductive system. ***Dev. Dynamics***, 234, 868-877.

24. **Johnson, S.M.**, Grosshans, H., Shingara, J., Byrom, M., Jarvis, R., Cheng, A., Labourier, E., Reinert, K.L., Brown, D., and Slack, F.J. (2005) *RAS* is regulated by the *let-7* microRNA family. ***Cell***, 120, 635-647. *Must Read by Faculty of 1000. Web of Science Highly Cited Paper*.

25. **Johnson, S.M.**, Lin, S-Y., and Slack, F.J. (2003) The time of appearance of the *C. elegans let-7* microRNA is transcriptionally controlled utilizing a temporal regulatory element in its promoter. ***Dev. Biol***., 259, 364-379. *Recommended by Faculty of 1000.*

26. Lin, S-Y., **Johnson, S.M.**, Abraham, M., Vella, M.C., Pasquinelli, A., Gamberi, C., Gottlieb, E., and Slack, F.J. (2003) The *C. elegans hunchback* homolog, *hbl-1* controls temporal patterning and is a probable microRNA target. ***Dev. Cell***, 4, 639-650.

27. Ma, X., Husain, T., Peng, H., Lin, S., Mironenko, O., Maun, N., **Johnson, S.**, Tuck, D., Berliner, N., Krause, D.S., and Perkins, A.S. (2002) Development of a murine hematopoietic progenitor complementary DNA microarray using a subtracted complementary DNA library. ***Blood***, 100, 833-844.

Invited Seminars and Talks

Being Faculty at a Private University.
Invited talk, Career Exploration Seminar, The Whitney Laboratory for Marine Bioscience, University of Florida, St. Augustine, Florida, August 4, 2023

Expanding on the Histone Code Hypothesis.
Invited talk, 22nd Slack Lab Anniversary Celebration, Harvard Medical School/BIDMC, Boston, Massachusetts, June 25, 2022

Nucleosome Positioning, Meta-Shapes and Transgene Expression.
Invited seminar, Department of Molecular Biology and Biochemistry, Rutgers University, Piscataway, New Jersey September 17, 2015

Nucleosome Positioning.
Invited lecture, Department of Molecular Biology and Biochemistry, Rutgers University, Piscataway, New Jersey September 17, 2015

Chromatin Architecture, Meta-Shapes and Transgene Expression.
Invited seminar, MCDB, Yale University, New Haven, Connecticut March 18, 2014

Chromatin Patterns, Meta-Shapes and Transgene Expression.
Invited seminar, Biology Department, San Diego State University, San Diego, California, June 24, 2013

Evaluating, Defining and Applying Sequence-Directed Nucleosome Positioning.
Invited seminar, Center for NanoBiotechnology and Life Sciences Research, Alabama State University, Montgomery, Alabama, April 25, 2013

Unraveling The Patterns That Turn On Genes.
Invited seminar, Research Revolution '13, Orem Public Library, Orem, Utah, February 26, 2013

Nucleosome Organization and Positioning: From Human Cells to C. elegans*.*
Invited talk, The 2013 Southwest Regional Meeting of the Society for Developmental Biology, University of Utah, Salt Lake City, Utah, February 15, 2013

Nucleosome Organization and Positioning in Human Cells.
Invited talk and session chair, 5th Annual GeneExpression Systems-Epigenomics, Sequencing & SNiPomics 2012 meeting, Harvard Medical School, Boston, Massachusetts, July 9, 2012

Chromatin Architecture: Turning On and Off Genes.
Keynote address, 6th Annual Biotechnology Symposium, Mesa Community College, Mesa, Arizona, April 20, 2012

Gene Therapy-Turning On and Off Genes.
Invited seminar, Research Revolution '12, Orem Public Library, Orem, Utah, February 15, 2012

Chromatin Architecture, Nucleosome Positioning and Gene Regulation.

Invited seminar, Biophysics Graduate Symposium, Department of Physics and Biophysics Graduate Program, The Ohio State University, Columbus, Ohio, January 12, 2012

Nucleosome Organization in Primary Human Cells.
Selected talk, Keystone Symposia on Molecular and Cellular Biology; Histone Code: Fact or Fiction, Midway, Utah, January 13, 2011

Chromatin Architecture and Nucleosome Organization in Primary Human Cells.
Invited seminar, CTE Seminar Series, Life Science Department, Mesa Community College, Mesa, Arizona, December 1, 2010

Epigenetics, Chromatin Architecture and Nucleosome Positioning.
Invited seminar, Current Topics in Molecular Life Sciences Seminar, Brigham Young University, Provo, Utah, October 14, 2010

Genome-wide mapping and analysis of nucleosome positions in multiple human tissues.
Panel member and invited talk, Post-Conversation Nucleosome Positioning Workshop, 16th Conversation Satellite, State University of New York, Albany, New York, June 20, 2009

Parallel evolution of hypotheses and sequencing technologies in understanding chromatin architecture.
Invited seminar, San Francisco State University, San Francisco, California, October 16, 2008

Local scrutiny and global examination of flexibility and constraint in the C. elegans nucleosome position-ome.
Invited seminar, Utah State University, Logan, Utah, October 23, 2007

Toward a high-resolution nucleosome position map of the Caenorhabditis elegans genome.
Selected talk, 16th International *C. elegans* Meeting, University of California, Los Angeles, California, June 2007

Toward a high-resolution nucleosome position map of the C. elegans genome.
Selected talk, Bay Area Worm Meeting, California State University, East Bay, Hayward, California, March 2007

Contrasting methods of gene regulation: from small RNAs to the chromatin landscape.
Invited Nobel week seminar, Department of Oncology, Södersjukhuset, Karolinska Institutet, Stockholm, Sweden, December 2006

Flexibility and constraint in the nucleosome core landscape of Caenorhabditis elegans chromatin.
Invited talk, Bay Area Chromatin Meeting, Stanford University School of Medicine, Stanford, California, June 2006

The C. elegans ras gene, let-60, is regulated by a let-7 microRNA family member.
Invited talk, Developmental Biology Symposium, Yale University, New Haven, Connecticut, January 2004

mir-84, a let-7 family member, may regulate timing and other aspects of developmental events.
Selected talk, 14th International *C. elegans* Meeting, University of California, Los Angeles, California, July 2003

Temporal regulation of the let-7 stRNA.
Selected talk, MCDB Departmental Retreat, Woods Hole, Massachusetts, April 2001

Mentoring

Since 2009, I have been on 45 graduate student committees.

Since 2009, I have mentored 70 undergraduate students, three master's student (three graduated) and three Ph.D. students (one graduated) in my lab.

Johnson Lab Abstracts/Posters/Student Presentations (BYU student authors are underlined)

62. Gal, J.L., Holden, M., Taylor, L., Johnson, S.M. and Geary, B.D. (2024) Poster, Life Sciences Research Conference, Provo, Utah.
61. Evans, T., Bohn, A. and Johnson, S.M. (2022) Poster, ASM Intermountain Branch Meeting, Provo, Utah.
60. Stevens, H. and Johnson, S.M. (2022) Poster, BYU College Undergraduate Research Awards, Provo, Utah. (First Place Award)
59. Mann, D.M. and Johnson, S.M. (2022) Poster, BYU College Undergraduate Research Awards, Provo, Utah. (Second Place Award)
58. Hodson. S., Bates, D.A., and Johnson, S.M. (2022) Poster, 8th Annual Roseman University Research Symposium
57. Stevens. H. and Johnson, S.M. (2022) Poster, 8th Annual Roseman University Research Symposium
56. Mann, D.M. and Johnson, S.M. (2022) Poster, 8th Annual Roseman University Research Symposium
55. Cole, N., Adams, K. and Johnson, S.M. (2021) Poster, 15th Annual Utah Conference on Undergraduate Research, Online
54. Cole, N., Adams, K. and Johnson, S.M. (2021) Poster, BYU College Undergraduate Research Awards, Provo, Utah
53. Hodson, S., Ricks, S., Bates, D.A. and Johnson, S.M. (2021) Poster, 7th Annual Roseman University Research Symposium, Online
52. Cole, N., Adams, K. and Johnson, S.M. (2021) Poster, 7th Annual Roseman University Research Symposium, Online
51. Cole, N. and Johnson, S.M. (2020) Poster, 6th Annual Roseman University Research Symposium
50. Cole, N. and Johnson, S.M. (2020) Poster, ASM Intermountain Branch Meeting, Online
49. Russell, S. and Johnson, S.M. (2020) Poster, ASM Intermountain Branch Meeting, Online
48. Carter, J.L. and Johnson, S.M. (2019) Poster, 22nd International *C. elegans* Conference, UCLA, CA
47. Garner, D.A. and Johnson, S.M. (2019) Poster, 22nd International *C. elegans* Conference, UCLA, CA
46. Wilson, N.R.C. and Johnson, S.M. (2019) Poster, ASM Intermountain Branch Meeting, Provo, Utah
45. Ricks, S., Bates, D.A. and Johnson, S.M. (2019) Poster, ASM Intermountain Branch Meeting, Provo, Utah
44. Bates, D.A. and Johnson, S.M. (2019) Talk, ASM Intermountain Branch Meeting, Provo, Utah
43. Lundgren A.J., Carter, J.L. and Johnson, S.M. (2019) Poster, ASM Intermountain Branch Meeting, Provo, Utah
42. Carter, J.L. and Johnson, S.M. (2019) Talk, ASM Intermountain Branch Meeting, Provo, Utah
41. King, C.A., Schmidt, B., Bates, D.A. and Johnson, S.M. (2019) Poster, ASM Intermountain Branch Meeting, Provo, Utah
40. Garner, D.A. and Johnson, S.M. (2019) Poster, ASM Intermountain Branch Meeting, Provo, Utah
39. Hales, E.S., Grasley, M., Bates, D.A. and Johnson, S.M. (2019) Poster, ASM Intermountain Branch Meeting, Provo, Utah
38. Garner, D.A. and Johnson, S.M. (2019) Poster, BYU College Undergraduate Research Awards, Provo, Utah
37. Hales, E.S., Grasley, M., Bates, D.A. and Johnson, SM. (2019) Poster, HBLL/Coll. of Life Sciences Poster Competition
36. Garner, D.A. and Johnson, S.M. (2019) Poster, HBLL/Coll. of Life Sciences Poster Competition
35. Wilson, N.R.C. and Johnson, S.M. (2019) Poster, HBLL/Coll. of Life Sciences Poster Competition
34. Lundgren A.J., Carter, J.L. and Johnson, S.M. (2019) Poster, HBLL/Coll. of Life Sciences Poster Competition
33. Bates, D.A., Earl, A.S. and Johnson, S.M. (2018) Poster, Gordon Research Conference on Chromatin Structure and Function
32. Bates, D.A., Earl, A.S. and Johnson, S.M. (2018) Poster, Gordon Research Seminar on Chromatin: Plasticity and Genome Regulation in Physiology and Disease
31. Carter, J.L. and Johnson, S.M. (2018) Talk, ASM Tri-Branch Meeting, Durango, Colorado

30. Adams, K.D. and Johnson, S.M. (2018) Poster, ASM Tri-Branch Meeting, Durango, Colorado
29. Garner, D.A., Carter, J.L. and Johnson, SM. (2018) Poster, HBLL/Coll. of Life Sciences Poster Competition
28. Earl, A.S., Bates, D.A. and Johnson, S.M. (2018) Poster, HBLL/Coll. of Life Sciences Poster Competition
27. Hein, H.L.J. and Johnson, S.M. (2018) Poster, HBLL/College of Life Sciences Poster Competition
26. Morales, R.K., Carter, J.L. and Johnson, SM. (2018) Poster, HBLL/Coll. of Life Sciences Poster Competition
25. Adams, K.D. and Johnson, S.M. (2018) Poster, 4th Annual Roseman University Research Symposium
24. Carter, J.L. and Johnson, S.M. (2018) Poster, 4th Annual Roseman University Research Symposium
23. Garner, D.A., Carter, J.L. and Johnson, SM. (2018) Poster, 4th Annual Roseman Univ. Research Symposium
22. Earl, A.S., Bates, D.A. and Johnson, S.M. (2018) Poster, 4th Annual Roseman Univ. Research Symposium
21. Hein, H.L.J. and Johnson, S.M. (2018) Poster, 4th Annual Roseman University Research Symposium
20. Wilson, N.R.C. and Johnson, S.M. (2018) Poster, 4th Annual Roseman University Research Symposium
19. Nay, SJ. and Johnson, SM. (2014) Talk, UCUR, Brigham Young University
18. Richie, JB. and Johnson, SM. (2014) Poster, UCUR, Brigham Young University
17. Nay, SJ. and Johnson, SM. (2014) Poster, President's Leadership Council Presentation
16. Kempton, CE., Winters, EE. and Johnson, SM. (2013) Poster, 17th International *C. elegans* Meeting
15. Wright, AN. and Johnson, SM. (2013) Poster, 17th International *C. elegans* Meeting
14. Hammond, TR. and Johnson SM. (2013) Poster, President's Leadership Council Presentation
13. Shumway, HS., Hecht, KB. and Johnson, SM. (2013) Poster, UCUR, Utah State University
12. Hammond, TR. and Johnson, SM. (2013) Poster, UCUR, Utah State University
11. Vranes, ML. and Johnson, SM. (2013) Poster, UCUR, Utah State University
10. Wilkes, SR., McQuivey, KS. and Johnson, SM. (2012) Poster, NCUR, Weber State University
9. Roberts, JA., Martinez, SM. and Johnson, SM. (2012) Poster, NCUR, Weber State University
8. McQuivey, KS., Kempton, CE. and Johnson, SM. (2012) Poster, NCUR, Weber State University
7. Bollenbach, KS., Loud, Z. and Johnson, SM. (2012) Poster, NCUR, Weber State University
6. Winters, EE., Johnson, SM. and Singh, SR. (2012) Poster, President's Leadership Council Presentation
5. Winters, EE., Kundaje, A., Kyriazopoulou-Panagiotopoulou, S., Libbrecht, M., Smith, CL., Raha, D., Sidow, A., Snyder, MP., Batzoglou S., and Johnson, SM. (2012) Poster, President's Leadership Council Presentation
4. Kempton, CE., Winters, EE. and Johnson, SM. (2011) Poster, 16th International *C. elegans* Meeting
3. Johnson, SM., Valouev, A., Boyd, S., Smith, C., Sidow, A. and Fire, A. (2011) Poster, Keystone Symposia
2. Jorgensen, BV., Winters EE. and Johnson, SM. (2010) Poster, Life Sciences Practice Poster Session, BYU
1. Wilkes, SR., McQuivey, KS. and Johnson, SM. (2010) Poster, Life Sciences Practice Poster Session, BYU

Johnson Lab Student ORCA and CURA awards (BYU student authors are underlined)

15. Taylor, L. (2024) Techno-economic analysis of the AlgaTube™ as a vessel for photosynthetic manure remediation using the cyanobacterium, *Arthrospira platensis*
14. Stevens, H. (2023) Genetic Modification of NMAD-1 Demethylase in *C. elegans* to Affect Longevity
13. Mann, DM. (2022) Glutamine as an Acetyl-Lysine Mimic in Nucleosome Positioning Studies
12. Stevens, H. (2022) Genetic Modification of NMAD-1 Demethylase in *C. elegans* to Affect Longevity
11. Hodson, SR. (2022) RNA Broccoli Aptamer to Track Transcription Rates In Vitro
10. Cole, N. (2021) Epigenetic Profiling of Human Peripheral Blood Monocytes
9. Garner, D.A. (2019) The limits of DNA influence on Nucleosome Positioning
8. Earl, A.S. (2018) Histone Modifications and Nucleosome Positioning: A New Layer in the Histone Code Hypothesis?
7. Richie, JB. (2014) Histone Modifications and their Effects on Nucleosome Positioning and Gene Expression
6. Shumway, HS. (2013) Tissue Specific Isolation of Nucleosomes in *Caenorhabditis elegans*

5. Vranes, ML. (2013) The Effects of DNA Methylation on Nucleosome Positioning
4. Roberts, JA. (2012) DNA Sequence Effects on Nucleosome positioning
3. Bollenback, KS. (2011) Determining Nucleosome positioning in Varying Developmental Stages of *Caenorhabditis elegans*
2. Jorgensen, BV. (2010) Moving Nucleosomes to Regulate and Maintain Gene Function
1. Winters, EE. (2010) Isolating Mononucleosome Core DNAs To Be Used in the ENCODE Project

Total Funding: $755,830

External **Steven M. Johnson** (PI): $500,530
External **Steven M. Johnson** (Postdoc): $138,000
Internal **Steven M. Johnson** (PI): $100,100
Internal **Steven M. Johnson** (co-PI): $17,200

Current Funding

2024-2024 **Steven M. Johnson** (PI). MMBIO in Europe Study Abroad Student Support Gift; $5,000
David A. Johnson
2024-2024 **Steven M. Johnson** (PI). MMBIO in Europe Study Abroad Student Support Gift; $10,000
Kenneth E. and Becky H. Johnson Foundation
2023-2024 **Steven M. Johnson** (PI). Undergraduate and Graduate Student Training Grant Gift; $10,000
Kenneth E. and Becky H. Johnson Foundation
2023-2024 **Steven M. Johnson** (PI). CURA Award funding; $2,000
College of Life Sciences, Brigham Young University
2023-2024 **Steven M. Johnson** (PI). Technology Transfer Grant; $20,000
College of Life Sciences, Brigham Young University

Completed Funding

2022-2023 **Steven M. Johnson** (PI). Undergraduate and Graduate Student Training Grant Gift; $17,000
Kenneth E. and Becky H. Johnson Foundation
2021-2022 **Steven M. Johnson** (PI). CURA Award funding; $4,500
College of Life Sciences, Brigham Young University
2021-2022 **Steven M. Johnson** (PI). Undergraduate and Graduate Student Training Grant Gift; $24,000
Kenneth E. and Becky H. Johnson Foundation
2020-2021 **Steven M. Johnson** (PI). Undergraduate and Graduate Student Training Grant Gift; $24,000
Kenneth E. and Becky H. Johnson Foundation
2020-2021 **Steven M. Johnson** (PI). CURA and ORCA Awards funding; $6,600
College of Life Sciences, Brigham Young University
2019-2020 **Steven M. Johnson** (PI). Undergraduate and Graduate Student Training Grant Gift; $24,000
Kenneth E. and Becky H. Johnson Foundation
2018-2019 **Steven M. Johnson** (PI). Undergraduate and Graduate Student Training Grant Gift; $24,000
Kenneth E. and Becky H. Johnson Foundation
2018-2019 **Steven M. Johnson** (PI). College Mentoring (CEMENT) research award; $5,000

College of Life Sciences, Brigham Young University

2017-2018 **Steven M. Johnson** (PI). Nuclesome positioning Research Grant Gift; $20,000
Kenneth E. and Becky H. Johnson Foundation

2016-2017 **Steven M. Johnson** (PI). Undergraduate and Graduate Student Training Grant Gift; $22,500
Kenneth E. and Becky H. Johnson Foundation

2014-2018 **Steven M. Johnson** (PI). 1R15GM110646-01, NIH/NIGMS; $330,030
Overcoming Transgene Silencing by DNA-Directed Chromatin Reconformation

2016-2017 **Steven M. Johnson** (Co-PI). Teaching Enhancement Grant; $8,700
Integrating microbiome metagenomic analysis into immuno, mol bio and genomics
College of Life Sciences, Brigham Young University

2014-2015 **Steven M. Johnson** (Co-PI). Teaching Enhancement Grant; $8,500
Integrating personal genome testing into genomics courses
College of Life Sciences, Brigham Young University

2013-2015 **Steven M. Johnson** (PI). Mentoring Environment Grant; $20,000
Office of Research and Creative Activities, Brigham Young University

2011-2013 **Steven M. Johnson** (PI). Mentoring Environment Grant; $20,000
Office of Research and Creative Activities, Brigham Young University

2010-2012 **Steven M. Johnson** (PI). Mentoring Environment Grant; $20,000
Office of Research and Creative Activities, Brigham Young University

2005-2008 Postdoctoral Fellowship; $138,000
American Cancer Society, Inc.

Teaching

Current courses:	Year(s)	Semester	Credits	Credit earned	Time per week
Advanced Molecular Biology MMBIO 441	(2009-present)	Fall	3 cr.	3	3 hrs/wk
Genomics MMBIO 468	(2012-present)	Winter	3 cr.	3	3 hrs/wk
Genomics MMBIO 665	(2017-present)	Winter	3 cr.	1	taught w/ 468
Readings in Mol. Bio. MMBIO 390R	(2022, 2024)	Summer	1 cr.	0	Study abroad
Molecular Biology Seminar MMBIO 490R	(2022, 2024)	Summer	1 cr.	0	Study abroad
Hist & Philos of Micro/Mol MMBIO 510	(2022, 2024)	Summer	2 cr.	0	Study abroad
Molecular Biology MMBIO 240	(2023-present)	Fall	3 cr.	3	3 hrs/wk
Unexpected Connections Honors 221	(2024)	Fall	3 cr.	1.5	3 hrs/wk
Past courses:					
Advanced Mol. Bio. Lab MMBIO 442	(2009-2023)	Fall	2 cr.	4	6 hrs/wk
Molecular Biology of the Cell MMBIO 661	(2010-2015)	Fall (1/3)	3 cr.	1	3 hrs/wk
Readings in Mol. Bio. MMBIO 390R	(2011)	Winter	1 cr.	1	1 hr/wk
RNA mediated Gene Reg. MMBIO 515	(2011)	Winter (1/2)	2 cr.	1	2 hrs/wk
Molecular Biology Seminar MMBIO 490R	(2013)	Winter	1 cr.	1	1 hr/wk
Graduate Seminar MMBIO 691R	(2013)	Winter	1 cr.	1	1 hr/wk

Citizenship

Co-Director of *Plagues, Penicillin, & Pasteur: Microbiology in Europe* Study Abroad 2024
Co-Director of *Plagues, Penicillin, & Pasteur: Microbiology in Europe* Study Abroad 2022

MMBIO Graduate Committee 2009-present, chair since 2020
MMBIO Graduate Coordinator 2020-present
Genomics Group Meeting Organizer 2009-2010
ORCA Undergraduate Grant Reviewer 2010
Life Sciences Building Committee 2010-2015
College Safety Committee 2011-2020
MMBIO Executive Committee 2015-present
College Research Committee 2015-present

Editorial Positions

Review Editor, *Frontiers in Molecular Biosciences – Genome Organization and Dynamics* 2021-present

Ad Hoc Reviewer for the following Journals: *Genome Biology, Genome Research, Nature Structure and Molecular Biology, Nature Communications, BMC Genomics* and *PLoS One*

Ad Hoc Member, Pathogenic Eukaryotes Study Section, National Institutes of Health, IDM, PTHE 2015

Ad Hoc Member, Molecular Genetics B Study Section, National Institutes of Health, GGG, MGB 2017

Ad Hoc Reviewer, Excellence in Research Award, HBCU-UP, National Science Foundation 2019

Patents

2004 Frank J. Slack, **Steven M. Johnson** and Helge Grosshans
Regulation of Oncogenes by microRNAs

2021 Jonathan L. Gal and **Steven M. Johnson**
A novel system of pipes and fittings for the mass cultivation of photosynthetic algae
Provisional Patent #63222641