J. Nadeau, complete publications list

Refereed Publications

1. Books

Authored

Jay Nadeau, *Introduction to Experimental Biophysics*, Second Edition, Taylor & Francis, 2017
Jay Nadeau, *Introduction to Experimental Biophysics—a Laboratory Guide*, Taylor & Francis, 2015
Jay Nadeau, *Introduction to Experimental Biophysics*, Taylor & Francis, 2011

2. Chapters

1. Bedrossian, M., Deming, J., Nadeau, J., "Methods for Collection and Characterization of Samples from Icy Environments," in Microbiology of Atypical Environments (Methods in Microbiology Vol. 45). Gurtler and Trevors, Eds., Academic Press, San Diego, CA (2018).

2. J. Nadeau, "Cytotoxicity of Conjugated and Unconjugated Semiconductor and Metal Nanoparticles," in *Nanotoxicology: Progress Towards Nanomedicine*, pp. 423-449, N. Monteiro-Riviere, Ed. CRC Press (2014).

3. J. Nadeau, "Quantum dot reactive oxygen species generation and toxicity in bacteria: mechanisms and experimental pitfalls," in *Quantum Dot Sensors: Technology and Commercial Applications*. Editors: Callan, J. and Raymo, F. Publisher: CRC Press (2013).

4. J. Nadeau and M. Davidson, "Optical Microscopy" and "Reflected-Light Optical Microscopy," in *Characterization of Materials*, E. N. Kaufmann (Ed.). Publisher: Wiley Scientific, September 2012 (ISBN 9780471266969).

5. J. Nadeau, G. Stucky, P. Holden, "Bacterial Interactions with CdSe Quantum Dots and Environmental Implications," in *Nanoscience and Nanotechnology: Environmental and Health Impacts*, Editor: Vicki H. Grassian, Publisher: John Wiley & Sons, Hoboken, NJ (2008).

6. J. Nadeau, "Transduction of ex vivo cell cultures through lentivirus vectors V: hippocampal neurons," *Methods Mol Biol.* 2003;229:141-54, Humana Press, April 2003.

3. Articles (* indicates that the first author is/was a trainee in my lab)

1. *Emma Bourne, Rania Zaki, Andrew Storino, Jay Nadeau, "Microbial Communities of Selected Regions of the Deep Springs Lake Aquifer System," *submitted*
2. *Hart Monyatovsky, Travis Anderson, Jay Nadeau, "Synthesis and Characterization of Highly Stable Fisetin Encapsulated in Lecithin-Chitosan-Savie Nanoparticles," *submitted*
3. *Carl Snyder et al., "Extant life detection using label-free video microscopy in analog aquatic environments," *PLoS ONE* 20(3): e0318239. https://doi.org/10.1371/journal.pone.0318239 (2025).
4. Mark Wronkiewicz et al., "Onboard Science Instrument Autonomy for the Detection of Microscopy Biosignatures on the Ocean Worlds Life Surveyor," *The Planetary Science Journal Planet. Sci. J.* **5** 19 (2024) https://iopscience.iop.org/article/10.3847/PSJ/ad0227
5. *Y. Chmykh and J. Nadeau, "The use of fluorescence lifetime imaging (FLIM) for in situ microbial detection in complex mineral substrates," *Journal of Microscopy* 2024, https://doi.org/10.1111/jmi.13264

6. *L. Sumrall, L. Smith, E. Alhatmi, Y. Chmykh, D. Mitchell, J. Nadeau, "Stability of retinol in liposomes as measured by fluorescence lifetime spectroscopy and FLIM," *BBA Advances*, 2023 Mar 18;3:100088. doi: 10.1016/j.bbadva.2023.100088
7. *Megan Marie Dubay, Jacqueline Acres, Max Riekeles, Jay L. Nadeau, "Recent advances in experimental design and data analysis to characterize prokaryotic motility," *Journal of Microbiological Methods*, Volume 204, 2023, 106658. https://www.sciencedirect.com/science/article/pii/S0167701222002536
8. *Carl Snyder et al., "Microbial motility at the bottom of North America: Digital holographic microscopy and genomic motility signatures in Badwater Spring, Death Valley National Park," *Astrobiology*, http://doi.org/10.1089/ast.2022.0090 (2022).
9. Taewoo Kim, Nathan Oborny, Eugene Serabyn, J. Kent Wallace, Kurt Liewer, Manuel Bedrossian, Stephanie Rider, Aaron Noell, Peter Wills, Chris Lindensmith, and Jay Nadeau, "A multi-modal volumetric microscope with automated sample handling for surveying microbial life in liquid samples," *Front. Astron. Space Sci.* (https://doi.org/10.3389/fspas.2022.763329) (2022).
10. Dubnick, A., Faber, Q., Hawkings, J. R., Bramall, N., Christner, B. C., Doran, P. T., Nadeau, J., Snyder, C., Kellerman, A. M., McKenna, A. M., Spencer, R. G. M., and Skidmore, M. L., "Biogeochemical responses to mixing of glacial meltwater and hot spring discharge in the Mount St. Helens crater," *Journal of Geophysical Research: Biogeosciences* 127, e2022JG006852. https://doi.org/10.1029/2022JG006852 (2022).
11. *Megan Dubay, Nikki Johnston, Mark Wronkiewicz, Jake Lee, Chris Lindensmith, and Jay Nadeau, "Quantification of motility in *Bacillus subtilis* at temperatures up to 84 ºC using a submersible volumetric microscope and automated tracking," *Frontiers in Microbiology* (10.3389/fmicb.2022.836808) (2022).
12. *Jacqueline Acres, Jay Nadeau, "2D vs 3D tracking in bacterial motility analysis," *AIMS Biophysics* 8(4): 385-399 (2021).
13. *Jacqueline Acres, Myka Jaap Youngapelian and J. Nadeau, "The influence of spaceflight and simulated microgravity on bacterial motility and chemotaxis," *NPJ Microgravity* 22(1):7 (2021).
14. *True Gibson, M. Bedrossian, E. Serabyn, C. Lindensmith and J. Nadeau, "Using the Gouy phase anomaly to localize and track bacteria in digital holographic microscopy 4D images," *JOSA A* 38(2):A11-A12 (2021).
15. *Farhadi A, Bedrossian M, Lee J, Ho G, Shapiro M, Nadeau J, "Genetically encoded phase contrast agents for digital holographic microscopy," *Nano Letters* 20(11): 8127-8134 (2020).
16. *Chmykh Y., Nadeau J., "Characterization of Retinol Stabilized in Phosphatidylcholine Vesicles with and without Antioxidants," *ACS Omega* 5(29): 18367–18375 (2020).
17. *Manuel Bedrossian, J. Kent Wallace, Eugene Serabyn, Christian Lindensmith, and Jay Nadeau, "Enhancing final image contrast in off-axis digital holography using residual fringes," *Optics Express* Vol. 28, Issue 11, pp. 16764-16771 (2020).
18. *Cohoe D., Haczarek I., Wallace JK, Nadeau J, "Multiwavelength digital holographic imaging and phase unwrapping of protozoa using custom Fiji plug-ins," Special Issue on Quantitative Phase Imaging, *Front. Phys*., 05 July 2019.
19. *Hanczarek I., Kenna, A. J., Lindensmith, C. and Nadeau, J., "Performance of fluorescent cell-labeling dyes under simulated Europa mission radiation conditions," *Radiation Research* 190(6):634-644 (2018).
20. Kudinov, K.A., Cooper, D.R., Ha, J.K., Hill, C.K., Nadeau, J. L., Seuntjens, J.P., Bradforth, S.E., "Scintillation yield estimates of colloidal cerium-doped LaF_3 nanoparticles and potential for `deep PDT,'" *Radiation Research* 190(1):28-36 (2018).
21. Nadeau, J., Bedrossian, M., Lindensmith, C., "Imaging technologies and strategies for detection of extant extraterrestrial microorganisms," *Advances in Physics: X* 3: 1424032 (2018).
22. * Bedrossian, M. El-Kholy, M., Neamati, D and Nadeau, J., "A machine learning algorithm for identifying and tracking bacteria in three dimensions," *AIMS Biophysics* 1: 36 (2018). doi:10.3934/biophy.2018.1.36.

23. Marin, Z., Wallace, J. K., Nadeau, J. & Khalil, A., "Wavelet-based tracking of bacteria in unreconstructed off-axis holograms," *Methods*, doi:10.1016/j.ymeth.2017.09.003 (2017).
24. *Bedrossian, M., Lindensmith, C.,Nadeau, J.L., "Digital Holographic Microscopy, a Method for Detection of Microorganisms in Plume Samples from Enceladus and Other Icy Worlds," *Astrobiology* 17(9):913-925 (2017).
25. * M. Bedrossian, C. Barr, C. Lindensmith, K. Nealson, J. Nadeau, "Quantifying microorganisms at low concentrations using digital holographic microscopy," *JoVE*, Video 56343 https://www.jove.com/video/56343/ (2017).
26. * M. Bedrossian, C. Lindensmith, J. Nadeau, "Detection of microorganisms by digital holographic microscopy in plume samples from Enceladus and other icy worlds," *Astrobiology*, Enceladus special issue 17(9):913-925 (2017).
27. E. Serabyn, K. Liewer, J. K. Wallace, C. A Lindensmith, J. L. Nadeau, "A compact lensless digital holographic microscope for remote microbiology," *Optics Express* 24(25): 28540-28548 (2016).
28. * D. Bekah, D. Cooper, K. Kudinov, C. Hill, J. Seuntjens, S. Bradforth, J. Nadeau, "Synthesis and Characterization of Biologically Stable, Doped LaF3 Nanoparticles Co-Conjugated to PEG and Photosensitizers," *Journal of Photochemistry and Photobiology A: Chemistry* 329:26-34 (2016).
29. J. Nadeau, C. Lindensmith, J. Deming, V. Fernandez, R. Stocker, "Motility and morphology as biosignatures for outer planet missions," *Astrobiology*, October 2016, 16(10): 755-774. doi:10.1089/ast.2015.1376.
30. Jay L. Nadeau, YongBin Cho , Jonas Kühn, Kurt Liewer, "Improved tracking and resolution of bacteria in holographic microscopy using dye and fluorescent protein labeling," *Frontiers in Chemical Engineering*, 2016 | http://dx.doi.org/10.3389/fchem.2016.00017
31. Lindensmith CA, Rider S, Bedrossian M, Wallace JK, Serabyn E, Showalter GM, Deming JW, Nadeau JL, "A submersible, off-axis holographic microscope for detection of microbial motility and morphology in aqueous and icy environments," *PLoS One* 11(1):e0147700. doi: 10.1371/journal.pone.0147700 (2016).
32. Nadeau JL, Cho YB, Lindensmith CA, "Use of dyes to increase phase contrast for biological holographic microscopy," *Optics Letters* 40(17):4114-7 (2015).
33. J. Nadeau, "Initial photophysical characterization of the proteorhodopsin optical proton sensor (PROPS)," *Frontiers in Neuroscience* 9:315 doi: 10.3389/fnins.2015.00315 (2015).
34. *Eric Tawagi, Charlotte Massmann, Hicham Chibli, and Jay L. Nadeau, "Differential toxicity of gold-doxorubicin in cancer cells vs. cardiomyocytes as measured by real-time growth assays and fluorescence lifetime imaging microscopy (FLIM)," *Analyst* 140(16):5732-41.
35. J. Kent Wallace, S. Rider, G. Serabyn, J. Kuhn, K. Liewer, J. Deming, G. Showalter, C. Lindensmith, J. Nadeau, "Robust, compact implementation of an off-axis digital holographic microscope," *Optics Express* 23(13): 17367-17378 (2015).
36. * W. Poon, X. Zhang, J. Teodoro, J. Nadeau, "Targeting B16 tumors in vivo with peptide-conjugated gold nanoparticles," *Nanotechnology*, 26 285101 doi:10.1088/0957-4484/26/28/285101
37. * X. Zhang, J. Teodoro, J. Nadeau, "Au-Doxorubicin is effective in treating melanoma in mice," *Nanomedicine*, 2015 Apr 14. doi: 10.1016/j.nano.2015.04.001.
38. * Xuan Zhang, Sathvik Shastry, Stephen E. Bradforth and Jay L. Nadeau, "Nuclear uptake of ultrasmall gold-doxorubicin conjugates imaged by fluorescence lifetime imaging microscopy (FLIM) and electron microscopy," *Nanoscale*, 7(1):240-51 (2015).
39. * W. Poon, A. Heinmiller, X. Zhang, J. Nadeau, "Determination of biodistribution of ultrasmall gold nanoparticles by photoacoustic and fluorescence imaging,", *Journal of Biomedical Optics* 20(6): 066007 (2015). doi:10.1117/1.JBO.20.6.066007
40. * D. Cooper, D. Bekah, and J. Nadeau, "Gold nanoparticles and their alternatives for radiation therapy enhancement," *Frontiers in Chemistry* 2:86 doi: 10.3389/fchem.2014.00086 (2014).

41. *Jonas Kuhn, Bimochan Niraula, Kurt Liewer, Gene Serabyn, J. Kent Wallace, Emilio Graff, Christian Lindensmith, and Jay Louise Nadeau, "A Mach-Zender Digital Holographic Microscope (DHM) with Sub-Micrometer Resolution for Imaging and Tracking of Marine Micro-Organisms," *Review of Scientific Instruments*, 85, 123113 (2014).
42. *Daniel R. Cooper, Konstantin Kudinov, Pooja Tyagi, Colin K. Hill, Stephen E. Bradforth and Jay L. Nadeau, "Photoluminescence of CexLa1-xF3/LaF3 nanoparticles and investigation of energy transfer to photosensitizer molecules," *Phys Chem Chem Phys* 16(24):12441-53 (2014).
43. * X. Zhang, Wilson Poon, J. Nadeau, "Nanoparticle Drug Formulations for Cancer Diagnosis and Treatment," *Critical Reviews in Oncogenesis*, 19 (3-4):223-45 (2014).
44. * H. Chibli, H. Gali, Y.A. Peter, J. L. Nadeau, "Immobilized Phage Proteins for Specific Detection of Staphylococci," *Analyst* 139, 179-186 (2014).
45. Song Tang, Vinay Allagadda, Hicham Chibli, Jay L. Nadeau and Gregory D. Mayer, "Comparison of cytotoxicity and expressions of metal regulatory genes in zebrafish (*Danio rerio*) liver cells exposed to cadmium sulfate, zinc sulfate and cadmium-based quantum dots," *Metallomics,* 5(10):1411-22 (2013).
46. Song Tang, Qingsong Cai, Hicham Chibli, Vinay Allagadda, Jay L. Nadeau, and Gregory D. Mayer, "Cadmium and CdTe-quantum dots alter DNA repair in zebrafish (*Danio rerio*) liver cells," *Toxicology and Applied Pharmacology*, 272(2):443-52 (2013).
47. * Marcel Georgin, Lina Carlini, Daniel Cooper, Stephen Bradforth, and Jay Nadeau, "Differential Effects of Beta-Mercaptoethanol on CdSe and InP Quantum Dots," *Physical Chemistry Chemical Physics* 15 (25), 10418 - 10428 (2013)
48. * Lina Carlini and Jay Nadeau, "Fluorescence Lifetime Imaging for Tracking Quantum Dot processing in Living Cells," *ChemComm*, 49, 1714-1716 (2013).
49. Brunetti V, Chibli H, Fiammengo R, Galeone A, Malvindi MA, Vecchio G, Cingolani R, Nadeau JL, Pompa PP, "InP/ZnS as a safer alternative to CdSe/ZnS core/shell quantum dots: in vitro and in vivo toxicity assessment," *Nanoscale* 5(1):307-17 (2013).
50. * Lina Carlini, Hicham Chibli, Xuan Zhang, and Jay Nadeau, "Comparative anti-cancer properties of QDs and Au particles conjugated to chemotherapeutic agents," *Reviews in Nanoscience and Nanotechnology* 2, 42-62 (2013).
51. Katalin Korpany, Pinky Langat, Dong Kim, Neil Edelman, Daniel Cooper, Jay Nadeau, and Amy Blum, "Conductance switching in the photoswitchable protein Dronpa," *Journal of the American Chemical Society* 134(39):16119-22 (2012).
52. * Xuan Zhang, Hicham Chibli, and Jay Nadeau, "Comparative Cytotoxicity of Gold-Doxorubicin and InP-Doxorubicin Conjugates," *Nanotechnology* 23(27):275103 (2012).
53. Jay Nadeau, Lina Carlini, Diana Suffern, Olga Ivanova, and Stephen Bradforth, "The Effects of β-Mercaptoethanol on Quantum Dot Intermittency Evaluated from Photoluminescence Decays," *Journal of Physical Chemistry C* 116 (4): 2728–2739 (2012).
54. * Faisal Naqib, Thomas Quail, Louai Musa, Horia Vulpe, Jay Nadeau, Jinzhi Lei, and Leon Glass, "Tunable Oscillations and Chaotic Dynamics in Systems with Localized Synthesis," *Physical Review E* 85 (4): 046210 (2012).
55. * Hicham Chibli, Soonhyang Park, and Jay Nadeau, "Quantum dot solubilization and toxicity assays in bacteria and mammalian cells," *Journal of Visualized Experiments,* http://www.jove.com/video/3969/ (2012).
56. * D. Bahcheli, V. Hay, C. Piccirillo, J. Nadeau, "Transfer of cell membrane components via trogocytosis occurs in CD4+Foxp3+CD25+ regulatory T-cell contact-dependent suppression," *Autoimmunity*, 44(8): 607-615 (2011).
57. * L. Carlini, H. Chibli, J. Nadeau, "Cytotoxicity of Biocompatible InP Quantum Dots Related to Reactive Oxygen Species Generation," *Nanoscale* 3(6), 2552 - 2559 (2011).
58. *S. Park, J. Wong, H. Chibli, J. Nadeau, "Antimicrobial Activity and Cellular Toxicity of Nanoparticle-Polymyxin B Conjugates," *Nanotechnology* 22 (2011) 185101.

59. * X. Zhang, H. Chibli, R. Mielke, J. Nadeau, "Ultrasmall Gold-Doxorubicin Conjugates Rapidly Kill Apoptosis-Resistant Cancer Cells," *Bioconj. Chem.* 22 (2): 235–243 (2011).
60. * E. Dumas, C. Gao, D. Suffern, S. Bradforth, N. Dimitrijevic, J. Nadeau, "Interfacial charge transfer between CdTe quantum dots and Gram negative vs. Gram positive bacteria," *Environmental Science and Technology* 44(4):1464-70 (2010).
61. * Samuel Clarke, Randall E. Mielke, Andrea Neal, Patricia Holden, and Jay L. Nadeau, "Bacterial and mineral elements in an arctic biofilm: a correlative study using fluorescence and electron microscopy," *Microscopy and Microanalysis* 26:1-13 (2010).
62. * Annette Hollmann, Tzankov A, Martínez-Marignac VL, Baker K, Grygorczyk C, Grygorcyk R, Foulkes W, Nadeau J, Panasci L, Dirnhofer S, Aloyz R., "Therapeutic implications of Src independent calcium mobilization in diffuse large B-cell lymphoma," *Leukemia Research* 34(5):585-93 (2010).
63. * D. Cooper, N. Dimitrijevic, J. Nadeau, "Photosensitization of CdSe/ZnS QDs and reliability of assays for reactive oxygen species production," *Nanoscale* 2 (1) :114 -121 (2010).
64. Stefan Jericho, P. Klages, J. Nadeau, E.M. Dumas, M.H. Jericho, and H. J. Kreuzer, "In-line digital holographic microscopy for terrestrial and exobiological research," *Planetary and Space Science* 58 (4): 701-705 (2010).
65. J. D. Rogers, N. Perreault, T. D. Neiderberger, C. Lichten, L. G. Whyte, J. L. Nadeau, "A life detection problem in a high Arctic microbial community," *Planetary and Space Science* 58 (4): 623-630 (2010).
66. * D. Cooper and J. Nadeau, "Nanotechnology for in vitro neuroscience," *Nanoscale* 1(2):183-200 (2009).
67. J. L. Nadeau, "From Gene to Protein: a Three-Week Intensive Course in Molecular Biology for Physical Scientists," *Biochemistry and Molecular Biology Education* 37 (4): 211-219 (2009).
68. Pollard, W, Haltigin, T, Whyte, L, Niederberger, T, Andersen, D, Omelon, C, Nadeau, J, Ecclestone, M, and Lebeuf, M. "Overview of analogue science activities at the McGill Arctic Research Station, Axel Heiberg Island, Canadian High Arctic," *Planetary and Space Science*, Special Issue - Exploring Mars and its Earth Analogues, 57: 646–659 (2009).
69. * Daniel Cooper, Lina Carlini, Samuel Clarke, Diana Suffern, Rupesh Parbhoo, Stephen Bradforth, and Jay Nadeau, "Photoenhancement of lifetimes in CdSe/ZnS and CdTe quantum dot-dopamine conjugates," *Physical Chemistry Chemical Physics* 11(21) 4298 – 4310 (2009).
70. * Eve Dumas, Valéry Ozenne, Randall Mielke, and Jay Nadeau, "Mechanisms of Toxicity of CdTe Quantum Dots in Bacterial Strains," *IEEE Transactions in NanoBioScience*, Special Issue on Colloidal Quantum Dots for Biomedical Applications 8(1): 58-64 (2009).
71. Thomas D. Niederberger, Nancy N. Perreault, Jay Nadeau, Randall E. Mielke, Charles W. Greer, Dale T. Andersen and Lyle G. Whyte, "Sulfur-oxidizing filaments inhabiting a unique cryo-environment of the Canadian high Arctic," *Env. Micro.* 11(3):616-29 (2009).
72. * S. Anil Kumar, Y. Peter, J. Nadeau, "Facile biosynthesis, separation and conjugation of gold nanoparticles to doxorubicin," *Nanotechnology* 19: 495101 (2008).
73. * Samuel J. Clarke, C. A. Hollmann, and Jay L. Nadeau, "Tracking of quantum dot surface properties and spectral changes with o-phthaldialdehyde," *Bioconjugate Chemistry* 19(2):562-8 (2008).
74. J. L. Nadeau, N. Perreault, T. D. Neiderberger, L. G. Whyte, H. J. Sun, and R. Leon, "Fluorescence microscopy as a tool for in situ life detection," *Astrobiology* 8(4): 859-74 (2008).
75. * R. Khatchadourian, S. Clarke, A. Bachir, P. Wiseman, and J. Nadeau, "Fluorescence intensity and intermittency as tools for tracking bioconjugate processing in living cells," *J Biomed Biotech*, 2007 (70145).
76. * S.J. Clarke, S. Koshy, J. Zhang, N. Cohen, J. Nadeau, "Power and wavelength dependence of photoenhancement in (CdSe)ZnS-dopamine in aqueous solution and live cells," *Z. Phys. Chem* 222(5-6): 851 (2008).

77. * A. Kaats, H. Galiana, J. Nadeau, "Standardizing the atomic description, axis and centre of biological ion channels," *J. Neurosci. Meth.* 165 (1): 135-143 (2007).
78. Jennifer A. Rochira, Manasa V. Gudheti, Ryan R. Laughlin, Jay L. Nadeau, and Samuel T. Hess, "Fluorescence Intermittency Limits Brightness in CdSe/ZnS Nanoparticles Quantified by Fluorescence Correlation Spectroscopy," *Journal of Physical Chemistry C*, 111 (4): 1695-1708 (2007).
79. J. Maurer, V. White, D. Dougherty, J. Nadeau, "Reconstitution of ion channels in agarose-supported silicon orifices," *Biosensors and Bioelectronics* 22(11): 2577-84 (2007).
80. * Samuel J. Clarke, C. Annette Hollmann, Zhijun Zhang, Diana Suffern, Stephen E. Bradforth, Nada M. Dimitrijevic, William G. Minarik and Jay L. Nadeau, "Photophysics of dopamine-modified quantum dots and effects on biological systems," *Nature Materials* 5(5): 409-17 (2006).
81. * Kloepfer JA, Bradforth S, Nadeau JL, "Photo-physical properties of biologically compatible CdSe quantum dot structures," *Journal of Physical Chemistry B* 109: 9996-10003 (2005).
82. * Kloepfer JA, Mielke RE, Nadeau JL, "Uptake of CdSe and CdSe/ZnS quantum dots into bacteria via purine dependent mechanisms," *Applied and Environmental Microbiology* 71(5):2548-57 (2005).
83. Leon R, Nadeau J, Evans K, Paskova T, Monemar B, "Electron irradiation effects on nanocrystal quantum dots used in bio-sensing Applications," *IEEE Transactions on Nuclear Science* 51(6) : 3186–3192 (2004).
84. * Kloepfer JA, Cohen N, Nadeau JL, "FRET between CdSe quantum dots in lipid vesicles and water- and lipid-soluble dyes," *Journal of Physical Chemistry B* 108 (44): 17042-17049 (2004).
85. * Kloepfer JA, Wong M, Nealson KH, Stucky G, Nadeau JL, "Quantum dots as species- and metabolism-specific microbiological labels," *Applied and Environmental Microbiology* 69(7):4205-1 (2003).
86. **(For 2002 and before, published under the name H. Nadeau before legal name change)**
87. "NRSF causes cAMP-dependent suppression of sodium channel type II in cultured hippocampal
88. neurons," Nadeau H, Lester HA, *The Journal of Neurophysiology* 88(1): 409-21 (July 2002)
89. (5 others before 2002)

Non-Refereed Publications

1. Books

Authored

Jay Nadeau, Leila Cohen, Ben Sauerwine, *Truly Tricky Graduate Physics Problems*, Bitingduck Press, 2014, 270 pages

Jay Nadeau, *Going to MARS: Science in Canada's High Arctic*, Bitingduck Press, 2020, 116 pages

2. Articles

1. Jay Nadeau, Nikki Johnston, Andrew Greenberg, Max Riekeles, Ernest Thomas, Daniel Sillivant, Carlos Sahagun, Christian Lindensmith, "A high-resolution digital holographic microscope for space flight," *Proc. SPIE* 13570, Multimodal Sensing and Artificial Intelligence for Sustainable Future, 1357017 (2025).

2. Taewoo Kim, Eugene Serabyn , Kurt Liewer , Nathan Oborny , J. Kent Wallace , Stephanie Rider, Manuel Bedrossian , Christian Lindensmith and Jay Nadeau, "ELVIS: A Correlated Light-Field and Digital Holographic Microscope for Field and Laboratory Investigations– Field Demonstration." *Microscopy Today* 28 (4): 14-18 (2020).

3. Taewoo Kim, Eugene Serabyn , Maximilian Schadegg, Kurt Liewer , Nathan Oborny , J. Kent Wallace, Stephanie Rider , Manuel Bedrossian , Christian Lindensmith and Jay Nadeau,

"ELVIS: A Correlated Light-Field and Digital Holographic Microscope for Field and Laboratory Investigations," *Microscopy Today* 28(3): 18-25 (2020).

4. J. Nadeau, "What if microbes could live in extreme environments beyond earth?" *Futurum Careers* (education/public outreach), https://futurumcareers.com/what-if-microbes-could-live-in-extreme-environments-beyond-earth.

5. E. Serabyn ; K. Wallace ; K. Liewer ; C. Lindensmith ; J. Nadeau, "Digital holographic microscopy for remote life detection," *Proc. SPIE.* 10677, Unconventional Optical Imaging, 1067724 (2018) https://doi.org/10.1117/12.2307675

6. Manuel Bedrossian ; Jay Nadeau ; Eugene Serabyn ; Chris Lindensmith, "Sources and propagation of errors in quantitative phase imaging techniques using optical interferometry," *Proc. SPIE.* 10074, Quantitative Phase Imaging III, 100740E (2017) https://doi.org/10.1117/12.2250069

7. Jay Nadeau ; Yong Bin Cho ; Marwan El-Kholy ; Manuel Bedrossian ; Stephanie Rider ; Christian Lindensmith ; J. Kent Wallace, "Holographic microscopy for 3D tracking of bacteria," *Proc. SPIE.* 9718, Quantitative Phase Imaging II 97182B (2016)

8. Konstantin Kudinov ; Devesh Bekah ; Daniel Cooper ; Sathvik Shastry ; Colin Hill ; Stephen Bradforth ; Jay Nadeau , "Lanthanum fluoride nanoparticles for radiosensitization of tumors," *Proc. SPIE.* 9722, Colloidal Nanoparticles for Biomedical Applications XI 97220V (2016) https://doi.org/10.1117/12.2213374

9. Jay Nadeau ; Wilson Poon ; Xuan Zhang, "Mechanisms of cell penetration and cytotoxicity of ultrasmall Au nanoparticles conjugated to doxorubicin and/or targeting peptides," *Proc. SPIE.* 9338, Colloidal Nanoparticles for Biomedical Applications X, 93380L (2015) https://doi.org/10.1117/12.2077256

10. J. Nadeau, E. Zhang, H. Chibli, "Enhanced cytotoxicity of doxorubicin conjugated to ultrasmall Au nanoparticles," NSTI-Nanotech, Anaheim, CA, 2010

11. Jay L. Nadeau, Randall E. Mielke, and Samuel Clarke, "Quantum dot conjugates for SEM of bacterial communities," SPIE Scanning, Monterey, CA, 2009

12. Diana Suffern ; Daniel Cooper ; Lina Carlini ; Rupesh Parbhoo ; Stephen Bradforth ; Jay Nadeau, "Photoenhancement of quantum dots and conjugates measured by time-resolved spectroscopy," *Proc. SPIE.* 7189, Colloidal Quantum Dots for Biomedical Applications IV, 718905 (2009) https://doi.org/10.1117/12.813863

13. Jay L. Nadeau; Samuel J. Clarke; Anil Kumar Suresh; Rafael A. Khatchadourian; Eve-Marie Dumas, "The relationship of QD composition and conjugate to cellular uptake and toxicity," *Proc. SPIE.* 68660J (2008) https://doi.org/10.1117/12.762333

14. Jay Nadeau ; Samuel Clarke ; C. Annette Hollmann ; Daniel Bahcheli ; Rafael Khatchadourian ; Alexia Bachir ; Paul Wiseman, "Quantum dot systems for specific biosensing applications," *Proc. SPIE.* 6448, Colloidal Quantum Dots for Biomedical Applications II, 64480M (2007) https://doi.org/10.1117/12.724218

15. Stephen E. Bradforth; Samuel J. Clarke; C. Annette Hollmann; Daniel Bahcheli; Jay L. Nadeau, "Labeling of subcellular redox potential with dopamine-conjugated quantum dots," *Proc. SPIE* Volume 6096, Colloidal Quantum Dots for Biomedical Applications; 60960O (2006) https://doi.org/10.1117/12.663332

16. J. L. Nadeau, S. J. Clarke, C. A. Hollmann, D. M. Bahcheli, "Quantum dot-FRET systems for imaging of neuronal action potentials," Engineering in Medicine and Biology Society, 2006. EMBS '06. 28th Annual International Conference of the IEEE, NY, NY, Aug. 2006, pp. 855 – 858

17. Samuel Clarke, Daniel M. Bahcheli, Zhijun Zhang, Annette Hollmann, and Jay L. Nadeau, "Quantum dots as phototoxic drugs and sensors of specific metabolic processes in living cells," Engineering in Medicine and Biology Society, 2005. EMBS '05. 27th Annual International Conference of the IEEE, Aug. 2005, pp. 504 - 507

18. Jay Nadeau ; Samuel Clarke ; Rafael Khatchadourian ; Daniel Bahcheli ; Stephen Bradforth, "Mechanisms of quantum dot interactions with biological cells," *Proc. SPIE.* 5969, Photonic Applications in Biosensing and Imaging, 596907 (2005) https://doi.org/10.1117/12.628608

19. Jay Nadeau ; Vladimir Ilchenko ; Dmitri Kossakovski ; Gregory Bearman ; Lute Maleki, "High-Q whispering-gallery mode sensor in liquids," *Proc. SPIE.* 4629, Laser Resonators and Beam Control V (2002)