

Refereed Publications

1. **ACS Appl. Nano. Mater. (2018) 1, 960-968.** A General Strategy to Make an On-Demand Library of Structurally and Functionally Diverse SERS Substrates. Buddini Iroshika Karawdeniya, Y.M. Nuwan D.Y. Bandara, Julie C. Whelan, and Jason R. Dwyer. DOI: 10.1021/acsnm.7b00385
2. **(INVITED) ELECTROPHORESIS (2018) 39, 626-634.** *Conductance-Based Profiling of Nanopores: Accommodating Fabrication Irregularities.* Y.M. Nuwan D.Y. Bandara, Jonathan W. Nichols, Buddini Iroshika Karawdeniya, and Jason R. Dwyer. DOI 10.1002/elps.201700299.
3. **Physical Chemistry Chemical Physics (2017) 19, 27074-27080.** *A Comparison of SERS and MEF of Rhodamine 6G on A Gold Substrate.* Elizabeth Kohr, Buddini I. Karawdeniya, Jason R. Dwyer, Anju Gupta, and William B Euler. DOI: 10.1039/C7CP05569B.
4. **(INVITED, Focal Point Review) Applied Spectroscopy (2017) 71, 2051-2075.** Jason R. Dwyer and Maher Harb. *Through a window, brightly: A review of selected nanofabricated thin film platforms for spectroscopy, imaging, and detection.* DOI: <https://doi.org/10.1177/0003702817715496>
5. **ACS Applied Materials & Interfaces (2016) 8, 34964-34969.** Y.M. Nuwan D.Y. Bandara, Buddini Iroshika Karawdeniya, Julie C. Whelan, Lucas D.S. Ginsberg, and Jason R. Dwyer. *Solution-Based Photo-Patterned Gold Film Formation on Silicon Nitride.* DOI 10.1021/acsmi.6b12720
6. **(INVITED) Nanofluidics 2nd edition: Nanoscience and Nanotechnology Series (2016) 196-236.** Jason R. Dwyer*, Y.M. Nuwan D.Y. Bandara, Julie C. Whelan, Buddini Iroshika Karawdeniya, and Jonathon W. Nichols. *Silicon nitride membranes for nanofluidic device fabrication.* (Eds. Joshua Edel & Min Jun Kim, Royal Society for Chemistry). <http://dx.doi.org/10.1039/9781849735230>.
7. **ACS Applied Materials & Interfaces (2016), 8, 30583–30589.** *Real-time Profiling of Solid-State Nanopores During Solution-Phase Nanofabrication,* Y.M. Nuwan D.Y. Bandara, Buddini Iroshika Karawdeniya, and Jason R. Dwyer. DOI 10.1021/acsmi.6b10045
8. **ACS Applied Materials & Interfaces (2014) 6, 10952-10957.** Julie C. Whelan, Buddini Iroshika Karawdeniya‡, Y.M. Nuwan D.Y. Bandara‡, Brian D. Velleco, Caitlin M. Masterson and Jason R. Dwyer. *Electroless Plating of Thin Gold Films Directly onto Silicon Nitride Thin Films and into Micropores.* ‡equal contributions. DOI 10.1021/am501971n.
9. **(INVITED, cover) ACS Applied Materials & Interfaces Forum: New Frontiers and Challenges in Biomaterials (2013) 5, 9330-9337.** C.M. Frament, N. Bandara and J.R. Dwyer, *Nanopore surface coating delivers nanopore size and shape through conductance-based sizing.* (DOI: 10.1021/am4026455).
10. **(INVITED FOR ACS LIVESLIDES) J. Phys. Chem. Lett. (2013) 4, 2339.** C. Mueller, M. Harb, J.R. Dwyer* and R.J.D. Miller. *Nanofluidic cells with controlled path length and liquid flow for rapid, high-resolution in situ Imaging with Electrons.* DOI: 10.1021/jz401067k *URI Affiliation. <http://pubs.acs.org/iapps/liveslides/pages/index.htm?mscNo=jz401067k>
11. **Review of Scientific Instruments (2013) 84, 036101-036101-2.** Jason R. Dwyer*, Łukasz Szycc, Erik T.J. Nibbering and Thomas Elsaesser. *Note: An environmental cell for transient spectroscopy on solid samples in controlled atmospheres.* *Corresponding author. (DOI: 10.1063/1.4794092)
12. **MRS Online Proceedings Library (2013) 1544.** C. Mueller, M. Harb, J.R. Dwyer and R.J.D. Miller. *Nanofluidic Cells with Controlled Path Length and Liquid Flow For Rapid, High-Resolution In Situ Electron Microscopy.* *URI Affiliation. (DOI: <http://dx.doi.org/10.1557/opl.2013.780>)
13. **Journal of Physical Chemistry C (2012) 116, 23315-23321.** C.M. Frament and J.R. Dwyer. *Conductance-Based Determination of Solid-State Nanopore Size and Shape: An Exploration of Performance Limits.* (DOI: 10.1021/jp305381j).
14. **Journal of Physical Chemistry A (2011) 115, 13149-13157.** R. Dawes*, J.R. Dwyer*, W. Qu and K.M. Gough (*equal contributions). *QTAIM Investigation of the Electronic Structure and Large Raman Scattering Intensity of Bicyclo-[1.1.1]-pentane.*
15. **ACS Nano (2009) 3, 3009-3014.** V. Tabard-Cossa, M. Wiggin, D. Trivedi, N.N. Jetha, J.R. Dwyer and A. Marziali. *Single-Molecule Bonds Characterized by Solid-State Nanopore Force Spectroscopy.* (DOI: 10.1021/nn900713a)
16. **(SPECIAL ISSUE) Chemical Physics (2009) 357, 36-44.** Ł. Szycc, J.R. Dwyer, E.T.J. Nibbering and T. Elsaesser. *Ultrafast dynamics of N-H and O-H stretching excitations in hydrated DNA oligomers.* (DOI: 10.1016/j.chemphys.2008.08.013)

17. **Journal of Physical Chemistry B**, (2008) **112**, 11194-11197. J.R. Dwyer, Ł. Szyc, E.T.J. Nibbering and T. Elsaesser. *Ultrafast vibrational dynamics of adenine-thymine base pairs in DNA oligomers*. (DOI: 10.1021/jp8054119)
18. **Springer Series in Chemical Physics, Ultrafast Phenomena XVI (2008) 92, 535-537**. J.R. Dwyer, Ł. Szyc, E.T.J. Nibbering and T. Elsaesser. *Ultrafast vibrational dynamics of adenine-thymine base pairs in hydrated DNA*.
19. **(INVITED) Chemical Physics (2007) 341, 175-188**. T. Elsaesser, N. Huse, J. Dreyer, J.R. Dwyer, K. Heyne and E.T.J. Nibbering. *Ultrafast vibrational dynamics and anharmonic couplings of hydrogen-bonded dimers in solution*.
20. **(INVITED) Journal of Modern Optics (2007) 54, 923-952**. J.R. Dwyer, R.E. Jordan, C.T. Hebeisen, M. Harb, R. Ernstorfer, T. Dartigalongue and R.J.D. Miller. *Experimental basics for femtosecond electron diffraction studies*. (DOI: 10.1080/09500340601125020)
21. **Journal of Modern Optics (2007) 54, 905-922**. J.R. Dwyer, R.E. Jordan, C.T. Hebeisen, M. Harb, R. Ernstorfer, T. Dartigalongue and R.J.D. Miller. *Femtosecond electron diffraction: An atomic perspective of condensed phase dynamics*. (DOI: 10.1080/09500340601095348)
22. **Springer Series in Chemical Physics, Ultrafast Phenomena XV (2007) 88, 335-337**. A. Paarmann, D. Kraemer, M.L. Cowan, N. Huse, M. Harb, B.D. Bruner, J.R. Dwyer, E.T.J. Nibbering, T. Elsaesser and R.J.D. Miller. *2D-IR photon echo spectroscopy of liquid H₂O—Combination of novel nanofluidics and diffractive optics deciphers ultrafast structural dynamics*.
23. **Chemical Physics Letters (2006) 432, 146-151**. J.R. Dwyer, J. Dreyer, E.T.J. Nibbering and T. Elsaesser. *Ultrafast dynamics of vibrational N-H stretching excitations in the 7-azaindole dimer*.
24. **Philosophical Transactions of the Royal Society A (2006) 364, 741-778**. J.R. Dwyer, C.T. Hebeisen, R. Ernstorfer, M. Harb, V.B. Deyirmenjian, R.E. Jordan and R.J.D. Miller. *Femtosecond electron diffraction: "Making the molecular movie"*. (DOI: 10.1098/rsta.2005.1735)
25. **Nature (2005) 434, 199-202**. M.L. Cowan, B.D. Bruner, N. Huse, J.R. Dwyer, B. Chugh, E.T.J. Nibbering, T. Elsaesser and R.J.D. Miller. *Ultrafast memory loss and energy redistribution in the hydrogen bond network of liquid H₂O*. (DOI: 10.1038/nature03383)
26. **Springer Series in Chemical Physics, Ultrafast Phenomena XIV (2005) 79, 144-148**. J.R. Dwyer, R.E. Jordan, B.J. Siwick, C.T. Hebeisen and R.J.D. Miller. *Femtosecond electron diffraction: Towards making the "molecular movie"*.
27. **Chemical Physics (2004) 299, 285-305**. B.J. Siwick, J.R. Dwyer, R.E. Jordan and R.J.D. Miller. *Femtosecond electron diffraction studies of strongly driven structural phase transitions*.
28. **(JOURNAL COVER) Science (2003) 302, 1382-1385**. B.J. Siwick, J.R. Dwyer, R.E. Jordan and R.J.D. Miller. *An atomic level view of melting using femtosecond electron diffraction*. (DOI: 10.1126/science.1090052)
29. **Springer Series in Chemical Physics, Ultrafast Phenomena XIII (2003), 71, 322-324**. B.J. Siwick, J.R. Dwyer, R.E. Jordan and R.J.D. Miller. *Ultrafast electron optics: Propagation dynamics and measurement of femtosecond electron packets*.
30. **Journal of Applied Physics (2003) 94, 807-808**. B.J. Siwick, J.R. Dwyer, R.E. Jordan and R.J.D. Miller. *Response to "Comment on 'Ultrafast electron optics: Propagation dynamics of femtosecond electron packets'"*.
31. **Journal of Applied Physics (2002) 92, 1643-1648**. B.J. Siwick, J.R. Dwyer, R.E. Jordan, and R.J.D. Miller. *Ultrafast electron optics: Propagation dynamics of femtosecond electron packets*.
32. **Canadian Journal of Chemistry (2000) 78, 1035-1043**. K.M. Gough, J.R. Dwyer and R. Dawes. *Ab initio analysis of C-H and C-C stretching intensities in Raman spectra of hydrocarbons*.
33. **Journal of Chemical Physics (1999) 111, 9971-9981**. M. Snajdr, J.R. Dwyer and S.M. Rothstein. *Histogram filtering: A technique to optimize wavefunctions for use in Monte Carlo simulations*.
34. **Journal of Physical Chemistry A (1998) 102, 2723-2731**. K.M. Gough and J.R. Dwyer. *Effect of structure and conformation on Raman trace scattering intensities in hydrocarbons*.
35. **Canadian Journal of Chemistry (1996) 74, 1139-1144**. K.M. Gough, M. Yacowar, R.H. Cleve and J.R. Dwyer. *Analysis of polarizability derivatives in H₂, HF, F₂, N₂ and CO with the theory of atoms in molecules*.

Refereed Book Chapter

1. **(INVITED)** K.M. Gough, R. Dawes, J.R. Dwyer and T.R. Welshman, *QTAIM analysis of Raman scattering intensities: Insights into the relationship between molecular structure and electronic charge flow*. In *Recent Advances in the Quantum Theory of Atoms in Molecules* (Eds. R.J. Boyd and C. Matta., Wiley-VCH). March 2007, ISBN 978-3-527-30748-7.