

Dr Martin de Jonge

Selected publications

1. **Nano-roughness in gold revealed from X-ray signature**, J.L. Glover, C.T. Chantler, M. D. de Jonge. *Physics Letters A* 373, 1177-80 (2009).
2. **Characterization of phosphorus, calcium, iron, and other elements in organisms at sub-micron resolution using X-ray fluorescence spectromicroscopy**, J. Diaz, E. Ingall, S. Vogt, M. D. de Jonge, D. Paterson, C. Rau, and J. A. Brandes. *Limnol. Oceanogr.: Methods* 7, 42–51 (2009).
3. **Quantitative scanning differential phase contrast microscopy**, M. D. de Jonge, B. Hornberger, C. Holzner, B Twining, D. Paterson, I. McNulty, C. Jacobsen, and S. Vogt. *Proceedings XRM08* (accepted).
4. **High-resolution X-ray imaging of Plasmodium falciparum-infected red blood cells**, GJ Williams, E Hanssen, AG Peele, MA Pfeifer, J Clark, B Abbey, G Cadenazzi, M. D. de Jonge, S Vogt, L Tilley, KA Nugent. *Cytometry A* 73A (10) 949-57 (2008)
5. **Quantitative Phase Imaging with a Scanning Transmission X-Ray Microscope**, M. D. de Jonge, B. Hornberger, C. Holzner, D. Legnini, D. Paterson, I. McNulty, C. Jacobsen, and S. Vogt. *Phys. Rev. Letts.* 100, 163902 (2008) DOI:10.1103/PhysRevLett.100.163902.
6. **Marine Polyphosphate: A Key Player in Geologic Phosphorus Sequestration**, J. Diaz, E. Ingall, C. Benitez-Nelson, D. Paterson, M. D. de Jonge, I. McNulty, J. A. Brandes. *Science* 320 (2008).
7. **Differential phase contrast with a segmented detector in a scanning X-ray microprobe**, B. Hornberger, M.D. de Jonge, M. Feser, P. Holl, C. Holzner, C. Jacobsen, D. Legnini, D. Paterson, P. Rehak, L. Strüder, and S. Vogt. *J. Synch. Radiat.*, 15 (4), (2008) DOI:10.1107/S0909049508008509.
8. **Exploring Ocean Biogeochemistry by Single-Cell Microprobe Analysis of Protist Elemental Composition**, B. S. Twining, S. B. Baines, S. Vogt, and M. D. de Jonge. *J. Eukaryot. Microbiol.*, 55 (3) 151–162 (2008).
9. **Nanoscale Imaging of Buried Structures with Elemental Specificity Using Resonant X-Ray Diffraction Microscopy**, C. Song, R. Bergstrom, D. Ramunno-Johnson, H. Jiang, D. Paterson, M. D. de Jonge, I. McNulty, J. Lee, K. L. Wang, and J. Miao. *Phys. Rev. Letts.*, 100 (2) 025504 (2008) DOI: 10.1103/PhysRevLett.100.025504.
10. **Quantitative phase measurement in coherent diffraction imaging**, J. N. Clark, G. J. Williams, H. M. Quiney, L. Whitehead, M. D. de Jonge, E. Hanssen, M. Altissimo, K. A. Nugent and A. G. Peele. *Optics Express* 16 (5) 3342-8 (2008).
11. **School for Environmental Sciences and Synchrotron Radiation**, J. Thieme, I. McNulty, M.D. de Jonge, S. Vogt. *Synchrotron Radiation News*, 21 (1) 21-2 (2008).

12. **Fresnel diffractive imaging: Experimental study of coherence and curvature**, L. W. Whitehead, G. J. Williams, H. M. Quiney, K. A. Nugent, A. G. Peele, D. Paterson, M. D. de Jonge, and I. McNulty. *Phys. Rev. B* **77** (10) (2008) DOI:10.1103/PhysRevB.77.104112.
13. **Quantitative Reconstruction of Differential Phase Contrast Images Obtained With a Configured Detector Using a Scanning Transmission X-Ray Microscope**, M.D. de Jonge, S Vogt, B Hornberger, C Holzner, C Jacobsen and D Paterson. *Microscopy and Microanalysis*, Volume 13, Supplement S02, 1574-5, (2007)
14. **Imaging Trace Elements in Cells with X-Ray Fluorescence Microscopy**, S Vogt, B Lai, L Finney, B Palmer, L Wu, H Harris, T Paunesku, MD de Jonge, D Legnini, J Maser, D Glesne, P Lay and G Woloschak *Microanalysis*, Volume 13, Supplement S02, 40-1, (2007)
15. **Keyhole coherent diffractive imaging**, B. Abbey, K. A. Nugent, G. J. Williams, J. N. Clark, A. G. Peele, M. A. Pfeifer, M. D. de Jonge, and I. McNulty. *Nature Physics* (2007) DOI:10.1038/nphys896.
16. **A method for phase reconstruction from measurements obtained using a configured detector with a scanning transmission X-ray microscope**, M. D. de Jonge, S. Vogt, D. Legnini, I. McNulty, C. Rau, D. Paterson, B. Hornberger, C. Holzner, C. Jacobsen. *Nucl. Instrum. Meth. A* **582** 218–220 (2007) DOI:10.1016/j.nima.2007.08.111.
17. **Measurement of the x-ray mass attenuation coefficient and determination of the imaginary component of the atomic form factor of tin over the energy range of 29–60 keV**, M.D. de Jonge, C.Q. Tran, C.T. Chantler, Z. Barnea, B.B. Dhal, D. Paterson, E.P. Kanter, S.H. Southworth, L. Young, M.A. Beno, J.A. Linton, and G. Jennings. *Phys. Rev. A*, accepted (2007).
18. **The four-dimensional mutual optical intensity for an undulator x-ray source: an experimental measurement**, C.Q. Tran, G.J. Williams, A. Roberts, S. Flewett, A.G. Peele, D. Paterson, M.D. de Jonge, and K.A. Nugent. *Phys. Rev. Letts*, submitted (2007).
19. **Crystal optics as guard apertures for coherent x-ray diffraction imaging**, X. Xiao, M.D. de Jonge, Y. Zhong, Y.S. Chu, and Q. Shen. *Opt. Letts.* **31** (21), 3194–6 (2006).
20. **X-ray optics for the future: high-accuracy measurements of x-ray mass attenuation coefficients**, M.D. de Jonge, C.Q. Tran, C.T. Chantler, and Z. Barnea. *AOS News* (cover story), **20** (3) 30–7 (2006).
21. **Analysis of x-ray absorption fine structure using absolute x-ray mass attenuation coefficients: application to molybdenum**, C.T. Chantler, L.F. Smale, M.D. de Jonge, Z. Barnea, and C.Q. Tran. *Rad. Phys. Chem* **75** (11) 1559–63 (2006).
22. **Improved techniques for measuring x-ray mass attenuation coefficients**, M.D. de Jonge, C.Q. Tran, C.T. Chantler, and Z. Barnea. *Optical Engineering* **45** (4) 46501 (2006).

23. **Fresnel coherent diffractive imaging**, G.J. Williams, H.M. Quiney, B.B. Dhal, C.Q. Tran, K.A. Nugent, A.G. Peele, D. Paterson, and M.D. de Jonge. *Phys. Rev. Letts.* **97** (2) 025506 (2006).
24. **Resonant x-ray scattering and x-ray absorption: closing the circle?**, Z. Barnea, C.T. Chantler, M.D. de Jonge, A.W. Stevenson and C.Q. Tran. Chapter in Ken Hines memorial volume (2006).
25. **The correction of systematic image deformations inherent to two-dimensional proportional counters**, M.N. Kinnane, J.A. Kimpton, M.D. de Jonge, K. Makonyi, and C.T. Chantler. *Meas. Sci. & Technol.* **16** (11) 2280–6 (2005).
26. **Measurement of the x-ray mass attenuation coefficient and determination of the imaginary component of the atomic form-factor of molybdenum over the 13.5–41.5-keV energy range**, M.D. de Jonge, C.Q. Tran, C.T. Chantler, Z. Barnea, B.B. Dhal, D.J. Cookson, W-K. Lee, and A. Mashayekhi. *Phys. Rev. A* **71** (3) 032702 (2005).
27. **Measurement of the x-ray mass attenuation coefficient of silver using the x-ray extended range technique**, C.Q. Tran, C.T. Chantler, Z. Barnea, M.D. de Jonge, B.B. Dhal, C.T.Y. Chung, D. Paterson, and J. Wang. *J. Phys. B* **38** (1), 89–107 (2005).
28. **Full-foil x-ray mapping of integrated column density applied to absolute determination of mass attenuation coefficients**, M.D. de Jonge, Z. Barnea, C.Q. Tran, and C.T. Chantler. *Meas. Sci. & Technol.* **15** 1811-22 (2004).
29. **X-ray bandwidth: determination by on-edge absorption and effect on various absorption experiments**, M.D. de Jonge, Z. Barnea, C.Q. Tran, and C.T. Chantler. *Phys. Rev. A* **69** (2) 022717 (2004).
30. **Absolute determination of the effect of scattering and fluorescence on x-ray attenuation measurements**, C.Q. Tran, M.D. de Jonge, Z. Barnea, and C.T. Chantler. *J. Phys. B* **37** (15), 3163–76 (2004).
31. **Quantitative determination of the effect of the harmonic component in monochromatised synchrotron x-ray beam experiments**, C.Q. Tran, M.D. de Jonge, Z. Barnea, B.B. Dhal, and C.T. Chantler. *Developments in Quantum Physics*. Edited by F. Columbus & V. Krasnoholovets, Nova Science Publishers, (2004).
32. **Accurate determination of the thickness or mass per unit area of thin foils and single-crystal wafers for x-ray attenuation measurements**, C.Q. Tran, C.T. Chantler, Z. Barnea, and M.D. de Jonge. *Rev. Sci. Instrum.* **75** (9), 2949–9 (2004).
33. **Improved techniques for measuring x-ray mass attenuation coefficients**, M.D. de Jonge, C.Q. Tran, C.T. Chantler, and Z. Barnea. *Proceedings of SPIE Volume: 5538: Optical constants of materials for UV to x-ray wavelengths*. Edited by R. Soufli & J.F. Seely. 96–106 (2004).
34. **Quantitative determination of major systematics in synchrotron x-ray experiments: seeing through harmonic components**, C.Q. Tran, Z. Barnea,

M.D. de Jonge, B.B. Dhal, D. Paterson, D.J. Cookson, and C.T. Chantler. *X-Ray Spectrometry* **32** (1), 69–74 (2003).

35. **Quantitative determination of the effect of the harmonic component in monochromatised synchrotron x-ray beam experiments**, C.Q. Tran, M.D. de Jonge, Z. Barnea, B.B. Dhal, and C.T. Chantler. 19th International conference on x-ray and inner-shell processes. Edited by S. Bianconi, A. Marcelli, N.L. Santini, Frascati Physics Series Vol. XXXII, pp. 335–42 (2003).