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SPECIALIZATION: Confocal, Multiphoton Microscopy; Image analysis

SELECTED PUBLICATIONS

Leung, H. Lasers and more laser: Multiphoton editon. *Bulletin Micros. Society Canada* 41(3):16-19. (2013)

Leung, H. FRET microscopy essentials. *Bulletin Micros. Society Canada* 40(2):16-18. (2012)

Leung, H. Un-mixing the mix up with spectral imaging. *Bulletin Micros. Society Canada* 39(2):17-20. (2011)

Leung, H. Lasers and more lasers, Part II. *Bulletin Micros. Society Canada* 38(3):11-13. (2010)

Leung, H. New trends in microscopy and immunohistochemistry. *Bulletin Micros. Society Canada* 38(2):18-20. (2010)

Leung, H. Harmonic Imaging adds new dimensions to multiphoton Microscopy (MPM). *Bulletin Micros. Society Canada* 37(3):17-19. (2009)

Leung, H. A success story on labeling single molecules with Quantum Dots (QDS). *Bulletin Micros. Society Canada* 36(3):20-21. (2008)

Leung, H. Multiphoton Microscope advancing research in Alzheimer's disease. *Bulletin Micros. Society Canada* 36(2):23-25. (2008)

Leung, H. Recent advances in Quantum Dot Bioimaging - Part II: Single molecule labeling. *Bulletin Micros. Society Canada* 35(3):14-16. (2007)

Leung, H. Quantum dots as markers in BioImaging: seeing a whole new light. *Proc. Micros. Society Canada*. 34:Bio-25. (2007)

Leung, H. Recent advances in Quantum Dot Bioimaging - Part I: The world of nano-medicine. *Bulletin Micros. Society Canada* 35(1):13-15. (2007)

Leung, H. The use of water immersion objective lenses in reducing optical aberrations in confocal laser scanning microscopy (CLSM). *Bulletin Micros. Society Canada* 34(2):13-17. (2006)

Leung, H. Flow cytometry has its roots in microscopy. *Bulletin Micros. Society Canada* 33(3):24-26. (2005)

Cariappa, A., Mazo, I.B., Chase, C., Shi, H.N., Liu, H., Li, Q., Rose, H., **Leung, H.**, Cherayil, B.J., Russell, P. Von Andrian, U. and Pillai, S. Perisinusoidal B cells in the bone marrow participate in T-independent responses to blood-borne microbes. *Immunity* 23:397-407. (2005)

Leung, H. Fifteen years of multi-photon microscopy: things we have learnt. *Proc. Micros. Society Canada* 32:12-13. (2005)

Mazo, I.B., Honczarenko, M., **Leung, H.**, Cavanagh, L.L., Bonasio, R., Weninger, W., Engelke, K., Xia, L., McEver, R., Koni, P.A., Silberstein, L.E. and von Andrian, U.H. Bone marrow is a major reservoir and site of recruitment for central memory CD8+ T cells. *Immunity* 22: 259-270. (2005)

Leung, H. The story of FRET. *Bulletin Micros. Society Canada* 32(4):17-18. (2004)

Zhang, M., Alicot, E., Moore, F., Jr., **Leung, H.**, and Carroll, M.C. Binding of natural antibody to endothelium promotes ischemia reperfusion injury. *The FASEB Journal* 18: Abstract # 777.18 (2004)

Mazo, I.B., **Leung, H.**, Cavanagh, L.L., Bonasio, R., Weninger, W. and von Andrian, U.H. Differential homing of CD8 T cell subsets to the bone marrow. *The FASEB Journal* 18: Abstract # 87.6 (2004)

Leung, H. Fluorescence microscopy: the next generation.. *Bulletin Micros. Society Canada* 32(1):17-19. (2004)

Cavanagh, L.L., Bonasio, R., Mazo, I.B., Cariappa, A., **Leung, H.**, Weninger, W., Pillai, S., and von Andrian, U.H. The bone marrow is a site of dendritic cell T cell interactions. *Mol. Biol. Cell* 14(sup): Abstract #2132. (2003)

Leung, H. A real-time multifocal multi-photon microscope for 3D fluorescence microscopy. *Bulletin Micros. Society Canada* 31(4):11-13. (2003)

Leung, H. Using Photoshop for measurement and analysis. *Bulletin Micros. Society Canada* 31(3):19-22. (2003)

Leung, H. Quantum dots shine again. *Bulletin Micros. Society Canada* 31(1):7-9. (2003)

Wolf, K., Mazo, I., **Leung, H.**, Engelke, K., von Andrian, U.H., Deryugina, E.I., Strongin, A.Y., Bröcker, E-B. and Friedl, P. Compensation mechanism in tumor cell migration: mesenchymal-amoeboid transition after blocking of pericellular proteolysis. *J. Cell Biol.* 160:267-277. (2003)

Leung, H. Multiphoton, intravital, molecular imaging and more. *Bulletin Micros. Society Canada* 30(4):7-8. (2002)

Leung, H. Photoshop 101, the sequel: Creating XZ images. *Bulletin Micros. Society Canada* 30 (3):25-27. (2002)

Leung, H. Twinkle twinkle little stars: Quantum dots light up nano-space. *Bulletin Micros. Society Canada* 30(2):11-13. (2002)

Leung, H. Second harmonic generation offers intrinsic contrast without fluorescence. *Bulletin Micros. Society Canada* 29(4):9-10. (2001)

Leung, H. Confocal or multi-photon: Which one is better? *Bulletin Micros. Society Canada* 29(1):13-15. (2001)

Leung, H. Photoshop 101, part II: Creating stereo images. *Bulletin Micros. Society Canada* 28(3):7-11. (2000)

Leung, H. Review of a special issue of the Journal "Microscopy Research and Technique" devoted to multi-photon excitation. *Bulletin Micros. Society Canada* 28(1):9-10. (2000)

Khandaker, M.H., Mitchell, G., Xu, L., Andrews, J.D., Singh, R., **Leung, H.**, Madrenas, J., Ferguson, S.G., Ross D. Feldman, R.D. and Kelvin, D. Metalloproteinases are involved in lipopolysaccharide and tumor necrosis factor alpha mediated regulation of CXCR1 and CXCR2 chemokine receptor expression. *Blood* 93(7):2173-2185. (1999)

Leung, H. Photoshop 101 and Bio-Rad "PIC" files. *Bulletin Micros. Society Canada* 27(4):14-15. (1999)

- Leung, H.** A do-it-yourself guide to constructing a multi-photon microscope. *Bulletin Micros. Society Canada* 27(3):10-13. (1999)
- Leung, H.** Algae's protein outshines jellyfish in lighting up living cells. *Bulletin Micros. Society Canada* 27(1):9-11. (1999)
- Leung, H.** Recent development in multi-photon excitation: A workshop review. *Bulletin Micros. Society Canada* 26(4):8-11. (1998)
- Leung, H.** Multi-photon excitation brings new high to fluorescence microscopy. *Bulletin Micros. Society Canada* 25(4):9-11. (1997)
- Leung, H.** Lasers and more lasers. *Bulletin Micros. Society Canada* 25(2):13-15. (1997)
- Leung, H.** Water immersion objective lenses for confocal microscopy. *Bulletin Micros. Society Canada* 24(4):21-22. (1996)
- Leung, H.** The use of microwaves in confocal microscopy. *Bulletin Micros. Society Canada* 24(2):8-10. (1996)
- Leung, H.** Tandem Scanning Confocal Microscopy for in vivo Studies. *Bulletin Micros. Society Canada* 23(1):5-6. (1995)
- Leung, H.** Restoring XZ image distortion induced by mismatches in refractive index of the mounting medium in confocal fluorescence microscopy. *Bulletin Micros. Society Canada* 22(1):5-7. (1994)
- Leung, H.** The importance of mounting medium's refractive index and cover glass thickness for reducing optical aberration in a confocal laser scanning microscope. *Bulletin Micros. Society Canada* 21(2):19-24. (1993)
- Leung, H.** and Jeun, G. Errors and distortion induced under some operating conditions in a confocal laser scanning microscope (CLSM). *Proc. 50th Annual Meeting of EMSA* (G.W. Bailey, J. Bentley, J.A. Small eds.) p.782-783. San Francisco Press, San Francisco, CA. (1992)
- Leung, H.** and Jeun, G. Errors in measurement induced by varying illumination, detector aperture diameter, and signal amplification in a confocal laser scanning microscope. *Bulletin Micros. Society Canada* 20(2):26-33. (1992)
- Dehanty, P., **Leung, H.** and Locke, M. Paired cytoskeletal patterns in an epithelium of siamese twin cells. *Eur J. Cell Biol.* 56(2):443-450. (1991)
- Locke, M., Ketola-Pirie, C., **Leung, H.** and Nichol, H. (1991) Vacuolar apoferritin synthesis by the fat body of an insect (*Calpodes ethlius*). *J. Insec. Physiol.* 37(4):297-309.
- Palli, S.R., Hiruma, K., Riddiford, L.M., **Leung, H.** and Locke, M. Bi-directional protein secretion by insect epidermis: A model system for protein sorting studies. Abstract ASCB. *J. Cell Biol.* 111(5):459a #2569. (1990)
- Leung, H.**, Palli, S.R. and Locke, M. Arylphorin localization in *Calpodes ethlius* by immunogold labelling. *Proc. Micros. Society Canada* 16:70-71. (1989)
- Leung, H.**, Palli, S.R. and Locke, M. The localization of arylphorin in an insect, *Calpodes ethlius*. *J. Insect. Physiol.* 35(3):223-231. (1989)
- Locke, M., and **Leung, H.** The conservation of nucleolar patterns as evidence for a nuclear skeleton. Abstract ASCB. *J. Cell Biol.* 101(5): 327a #1236. (1985)
- Locke, M. and **Leung, H.** The pairing of nucleolar patterns in an epithelium as evidence for a conserved nucleolar skeleton. *Tissue & Cell* 17(4):573-588. (1985)
- Locke, M. and **Leung, H.** Nucleolar necklace formation in response to hemolymph ecdysteroid peaks. *Tissue & Cell* 17(4):589-603. (1985)

Locke, M. and **Leung, H.** A function for endoplasmic reticulum in the movement of ferritin. Abstract ASCB. *J. Cell Biol.* 99(4):358a #1315. (1984)

Locke, M. and **Leung, H.** The induction and distribution of an insect ferritin - a new function for the endoplasmic reticulum. *Tissue & Cell* 16(5):739-766. (1984)

OTHER ACHIEVEMENT

- Contributing editor of the Microscopical Society of Canada Bulletin (1992- present)

FRONT COVERS:

American Laboratory, Vol 44, No 1, January 2012 (Multi-photon Image)

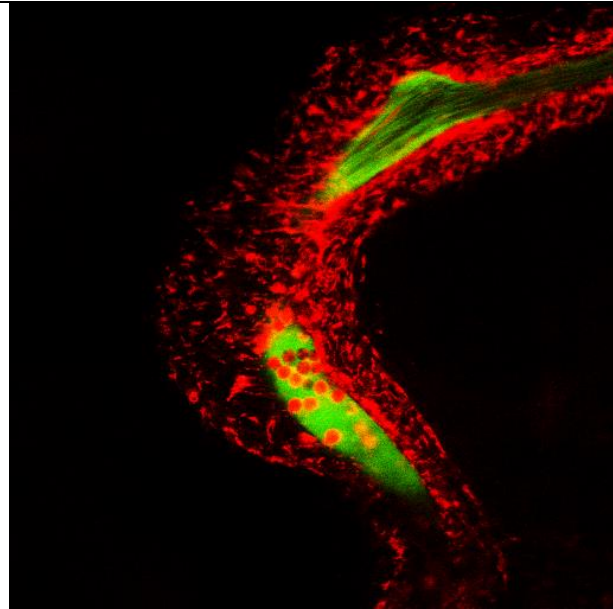
Microscopical Society of Canada Bulletin, 2003, 2004 and 2009 (Confocal and Multiphoton Images)

Journal of Cell Biology, Vol 160, No 2, January 2003 (Multi-photon Image)

Microcopy and Microanalysis, Vol.6, No.3, May/June 2000 (SEM image)

Discoveries in Biology: Nondestructive Investigations with Living Animals, by D.M. Ogilvie and R.H. Stinson. 1992 (SEM image)

IMAGE COMPETITIONS:



1st price winner (with U. von Andrian & K. Engelke)
BioRad and Journal of Cell Biology Image Competition 2003

Multi-photon section through a bone marrow cavity in the skull of a live mouse. The blood Plasma is labelled with FITC-dextran (green). Note the rapid blood flow in the vessel center in the upper portion of the vessel. Rhodamine 6G (red) stains nuclei and mitochondria in the hematopoietic cells that adhere within the vessel (the round spheres inside the green dextran-filled vessel) and the surround tissue. The cavity is enclosed in solid bone, which is not penetrated by rhodamine 6G and , hence, appears black.

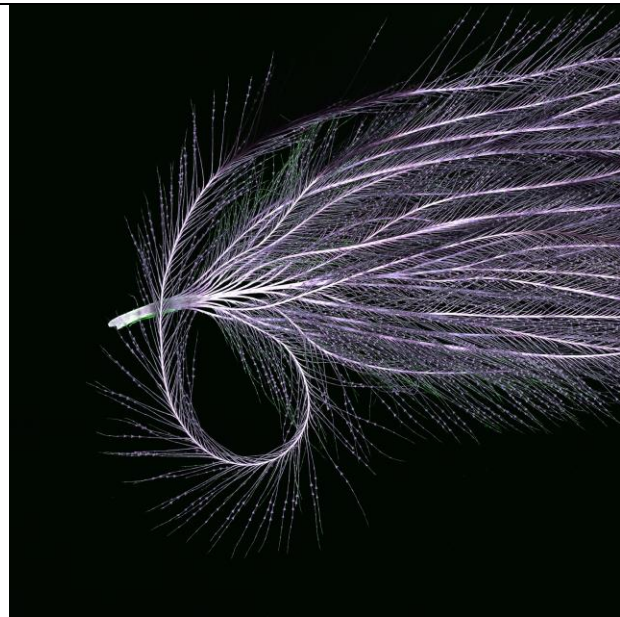


Image of Distinction “Down Feather”
Nikon Small World Photomicrography Competition 2011



Image of Distinction “Stinger of Honey Bee”
Nikon Small World Photomicrography Competition 2015