

### List of Publications

51 original peer-reviewed research papers. Multiple papers cited over 200 times.

1. Jonathon B. Clemens, Osman Kibar and **Mirianas Chachisvilis**, A molecular propeller effect for chiral separation and analysis, *Nature Commun.* 6:7868 (2015) doi: 10.1038/ncomms8868.
2. Y. Terazono, G. Kodis, **M. Chachisvilis**, B.R. Cherry, M. Fournier, A. Moore, T.A. Moore, and D. Gust, Multiporphyrin Arrays with  $\pi$ - $\pi$  Interchromophore Interactions, *JACS*, 137 (2015) 245-258.
3. J. Candelario and **M. Chachisvilis**, Activity of bradykinin B<sub>2</sub> receptor is regulated by long-chain polyunsaturated fatty acids, *PLoS ONE*, 8 (2013) e68151.
4. J. Candelario and **M. Chachisvilis**, Real time detection of G protein activation using monomolecular G $\gamma$  FRET sensors, *Journal of Receptors and Signal Transduction*, 33 (2013) 63-72.
5. J. Candelario, H. Tavakoli and **M. Chachisvilis**, PTH1 receptor is involved in mediating cellular response to long-chain polyunsaturated fatty acids, *PLoS ONE*, 7 (2012) e52583.
6. A. Srinivas Reddy, D. T. Warshaviak and **M. Chachisvilis**, Effect of Membrane Tension on the Physical Properties of DOPC Lipid Bilayer Membrane, *Biochimica et Biophysica Acta: Biomembranes*, 1818 (2012) 2271–2281.
7. J. Candelario and **M. Chachisvilis**, Mechanical stress stimulates conformational changes in 5-hydroxytryptamine receptor 1B in bone cells, *Cellular and Molecular Bioeng.* 5 (2012) 277-286.
8. D. T. Warshaviak, M. J. Muellner and **M. Chachisvilis**, Effect of membrane tension on the electric field and dipole potential of lipid bilayer membrane. *Biochimica et Biophysica Acta* 1808 (2011) 2608-2617.
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11. Y.-L. Zhang, J.A. Frangos and **M. Chachisvilis**, Mechanotransduction by membrane mediated activation of G protein coupled receptors and G proteins, *Cellular Mechanotransduction*, eds. M. Mofrad and R. Kamm, Cambridge University Press, 2009, 89-119.
12. Y.-L. Zhang, J.A. Frangos, and **M. Chachisvilis**, Mechanical stimulus alters conformation of type 1 parathyroid hormone receptor in bone cells, *Am J Physiol Cell Physiol* 296 (2009) C1391-1399.
13. **M. Chachisvilis**, Y.-L. Zhang, J.A. Frangos, G Protein-coupled Receptors Sense Fluid Shear Stress in Endothelial Cells, *Proc. Natl. Acad. Sci. USA*, 103 (2006) 15463-15468.
14. B. Shao, J.S. Jaffe, **M. Chachisvilis**, S. Esener, Angular resolved light scattering for discriminating among marine picoplankton: modeling and experimental measurements, *Optics Express*, 14 (2006) 12473-12484.
15. Y-L. Zhang, J.A. Frangos, and **M. Chachisvilis**, Laurdan Fluorescence Senses Mechanical Strain in the Lipid Bilayer Membrane, *Biochem. Biophys. Res. Commun.* 347 (2006) 838-841.
16. R.A. Flynn, B. Shao, **M. Chachisvilis**, M. Ozkan, S.C. Esener, Counter-propagating optical trapping system for size and refractive index measurement of microparticles, *Biosensors & Bioelectronics* 21 (2006) 1029-1036.

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18. D. Watson, N.D. Hagen, J. Diver, P. Marchand, and **M. Chachisvilis**, Elastic light scattering from single cells: orientational dynamics in optical trap, *Biophysical Journal* 87 (2004) 1.
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21. M. M.-L. Grage, Y. Zaushitsyn, A. Yartsev, **M. Chachisvilis**, V. Sundström, and T. Pullerits, Ultrafast excitation energy transfer and trapping in a thin polymer film, *Phys. Review. B* 67 (2003) 205207.
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### Patents

1. Methods and apparatus for sorting cells using an optical switch in a microfluidic channel network, United States 7,745,221, Issued on June, 2010.
2. Separation and manipulation of a chiral object, United States 7,935,906, Issued on May, 2011.
3. Methods and apparatus for sorting cells using an optical switch in a microfluidic channel network, United States 8,426,209, Issued on April, 2013.
4. Methods and apparatus for optophoretic diagnosis of cells and particles, United States 20040067167, Filed on April, 2002.
5. Enhancing phoretic separation, United States 20090188800, Filed on January, 2009.
6. Moving a small object in a direction, United States 20090239281, Filed on March, 2009.
7. Enzymatic or organic catalytic chemical reactions, United States 20100120087, Filed on January, 2010.
8. Asymmetric systems, United States 20100190198, Filed on August, 2009.
9. Renewable energy extraction, United States 20120006027, Filed on July, 2011.
10. Skin perfusion monitoring device, PCT/us2014/068909, Filed on December, 2014.
11. Cutaneous blood flow monitoring device, United States 62162597, Filed on May, 2015.