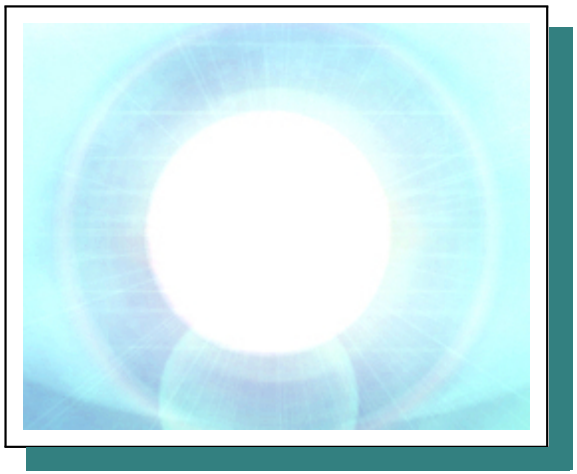
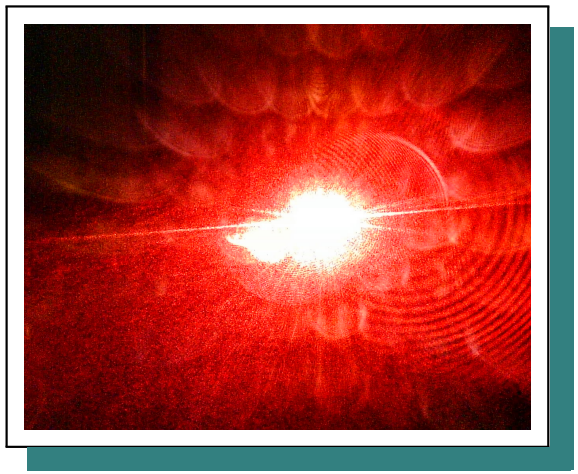
Biophotonics: living resonators

ARC Georgina Sweet Laureate Project: T. Monro, S. Afshar, A. François, N. Riesen

- Simulating 'whispering gallery modes' in micro-resonators.
- Testing the viability of resonator configurations using an FDTD tool.
- Measuring angular distributions of modes collected from a fibre.





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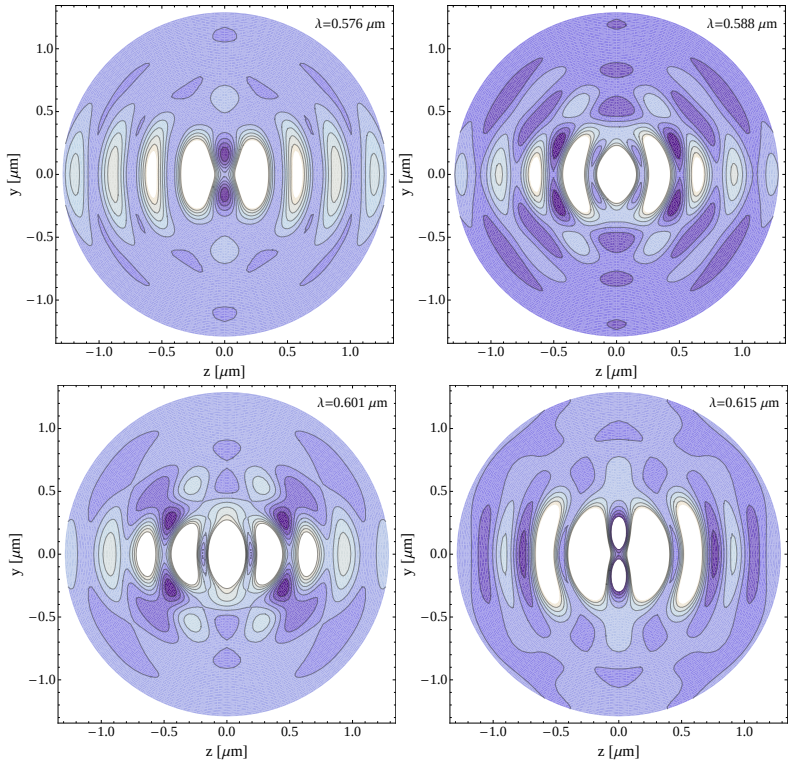
- We are mapping out resonator configurations suitable for bio-sensing.
- Realistic structural imperfections are incorporated.
- Optimal design solutions will be checked against a fabricated cell analogue (poly-electrolyte cell).
- Candidate cells that fail on a single criterion (size/shape/fluorescence) will be investigated- either genetic engineering or sorting methods.



Power distribution collected in a circular region for different modes.

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