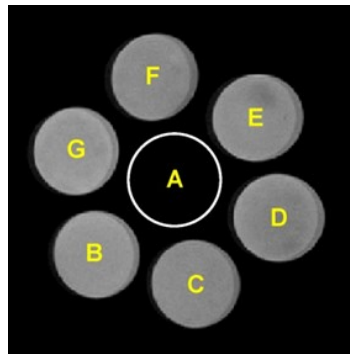


# Designing Dynamic Solid-Liquid Interfaces

## Carlos Co, PhD

Dr. Carlos Co's research focuses on the following three topics:

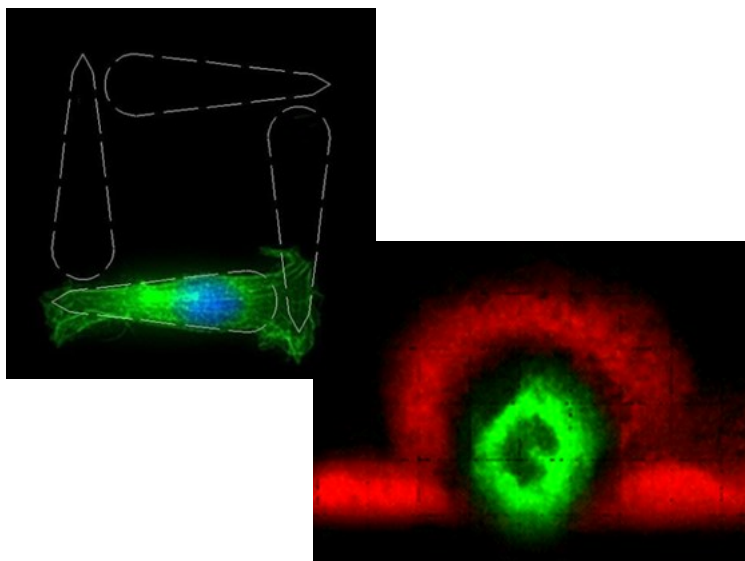
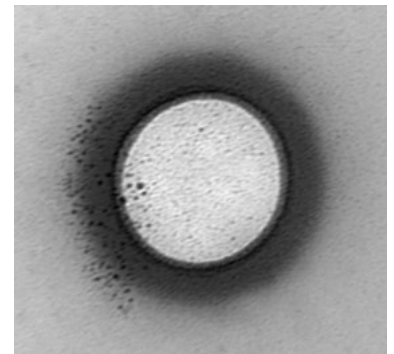
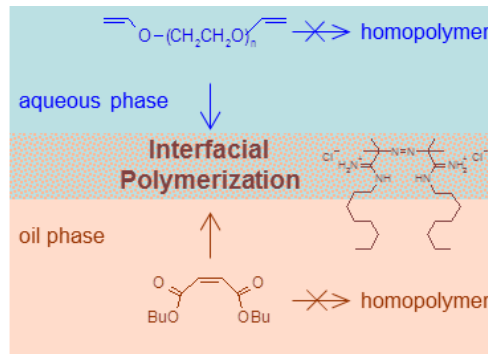


## Complex Glasses

Anhydrous sugar-based microemulsions and liquid-crystalline phases in the solid glass state. Robust self-assembled templates resist rearrangement during reaction, but readily dissolve in water afterwards.

## Liquid-Core Capsules

Encapsulation of sub-micron drops through interfacial *free-radical* alternating copolymerization of hydrophobic and hydrophilic monomers - a free-radical analogy of the nylon rope trick.



## Cell-Biomaterials Interfaces

Directing cell organization and migration using micropatterns and dynamic switching of interfacial states between cell-adhesive and cell-resistant states.



## More about Dr. Co

Co, an Associate Professor in Chemical Engineering, has been teaching and researching at UC for over ten years. His research has garnered over \$2 million in funding support. He has three patents and over 34 peer-reviewed publications to his name. His work has earned him the National Science Foundation's CAREER award, the Champion Educator Medal from the Turner Scholar's Program, and the Faculty Teaching Excellence Award.

## Representative Publications

- Bo, C., Kumar, G., **C. C Co**, and C. C. Ho, "Geometric Control of Cell Migration," *Scientific Reports – Nature*, (accepted)
- Andrews, R., Mun, K. S., Scott C., Ho C. C., and **C. C. Co**, "Rapid Prototyping of Heterotypic Cell-Cell Contacts", *Journal of Materials Chemistry B*, (accepted, available online DOI: 10.1039/C3TB21038C).
- Ko, Y. G., **C. C. Co**, and C. C. Ho, "Gradient Free Directional Cell Migration in Continuous Microchannels", *Soft Matter*, **9**, 2467-2474 (2013)
- Ko, Y. G., **C. C. Co**, and C. C. Ho, "Directing Cell Migration in Continuous Microchannels by Topographical Amplification of Natural Directional Persistence", *Biomaterials*, **34**, 353-360 (2013)
- **Co, C. C.**, C. C. Ho, and G. Kumar, "Motility Based Cell Sorting by Planar Cell Chromatography", *Analytical Chemistry*, **84** 10160-10164 (2012)
- Mun, K.S., Kumar, G., **C. C. Co**, and C. C. Ho, "Micropatterning Different Cell Types with Microarray Amplification of Natural Directional Persistence", *Advanced Healthcare Materials*, **2** 334-342 (2012)
- Dave H., Gao F., Lee J. H., Liberatore M., Ho C. C., and **C. C. Co**, "Self-Assembly in Sugar-Oil Complex Glasses", *Nature Materials*, **6**, 287-290 (2007). Highlighted in the New York Times, April 3, 2007 page F3.