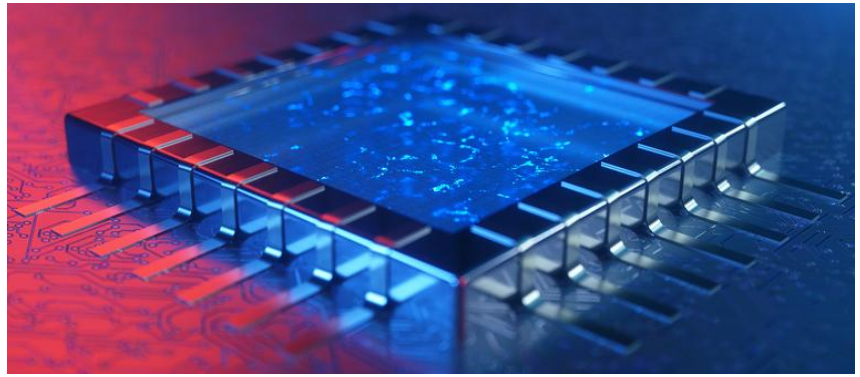
Research Project 2: Liquid Metal and Polymer Composites for Electronic Packaging

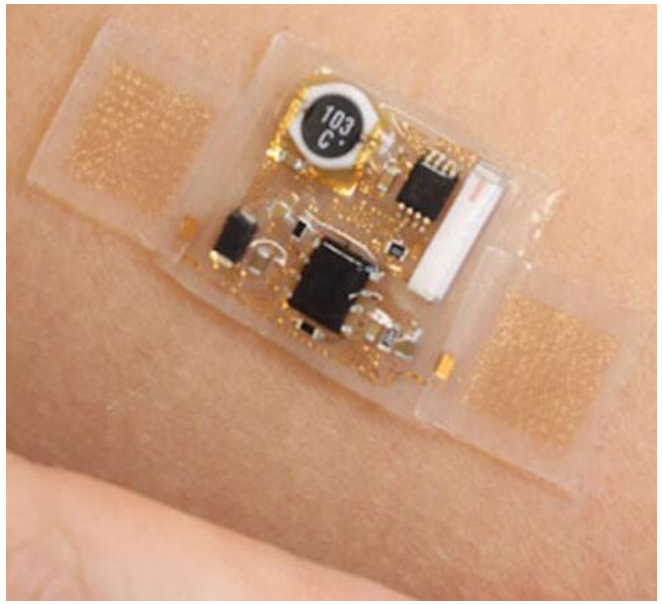
Joint project

SPC
Sustainable Polymer Chemistry

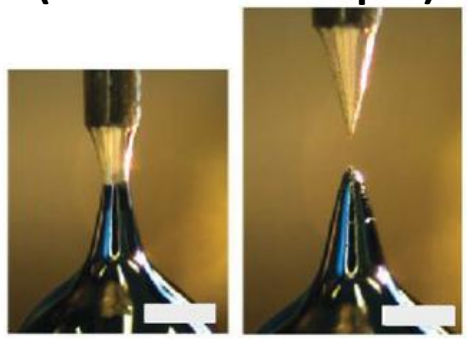
Electronic packaging: Encase and interconnect



Flexible electronics: Challenge to interconnect



Liquid metal (scale bar = 500 µm)



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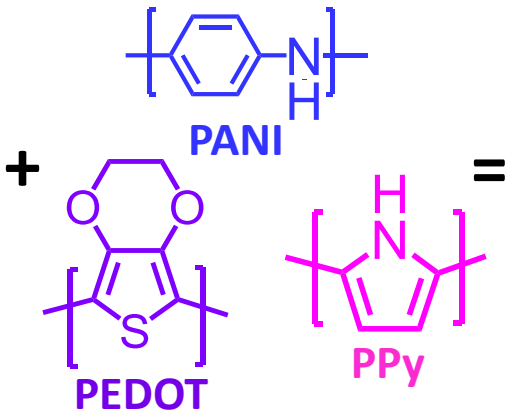
Conductive polymers



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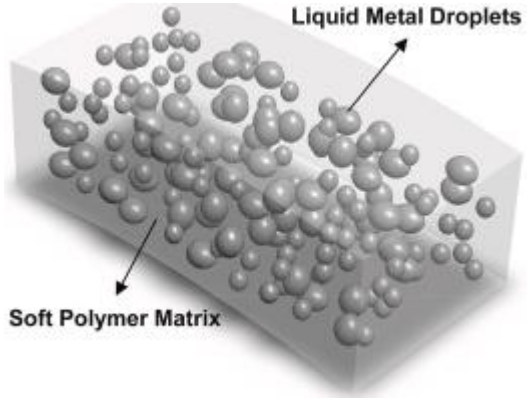
Composites for flex-e packaging



Research questions:

1. Which **conductive polymer** is most suitable?
2. What is the **optimal ratio** of liquid metal to polymer?
3. What is the **conductivity**, **mechanical strength** and **flexibility** of the resulting composite? How fast do they **solidify** after mixing?
4. What are the **smallest** feature sizes we can print?