

**PhD scholarships topup for ARC grant DP0877382**  
**Novel, network polymers with photoinduced plasticity**

Chief Researchers:

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Project summary: The production of crosslinked polymers (including thermosets and rubbers) is a multi-billion dollar industry and these polymers are irreplaceable in their use in numerous applications in the household goods, medical, electronics, automotive and construction industries. However, they shrink during solidification causing internal stresses which weaken them and they can not be reshaped, repaired or recycled. This project is aimed at developing a novel range of crosslinkable polymers having network strands (initially containing allylic sulphide moieties) which rearrange and thus change shape or reduce stress on irradiation by light. These materials could be used in applications ranging from repairable composites, stress-free lens, non-shrinking dental filling materials and light-sensitive actuators.

*PhD scholarships: Top-up of an APA or MGS scholarship to \$31000*

ARC Discovery grant-funded top-up scholarships are available for up to 3½ years to work on PhD projects entitled: Novel, network polymers with photoinduced plasticity

These projects will contribute to the understanding of the mechanisms of photo/thermal induced plasticity in crosslinked polymers by studying the polymerization kinetics of a range of these systems, investigating the plasticity mechanism and the kinetics and extent of the plasticity in flexible and rigid polymers as a function of temperature. This project is in association with CSIRO - Molecular and Health Technologies and the University of Colorado and it is anticipated that the successful applicant(s) will spend some time working in those laboratories.

Applicants with either an APA or Monash Graduate Scholarship should apply in writing, including CV to:

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