



# INSTITUTE COLLOQUIUM

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## Design of Advanced Materials

With experience and knowledge man learnt to make new materials from what was available in nature. Now we can design materials with precision and with the property we desire for an application.

I plan to discuss the variety of techniques and the versatility of advanced materials giving examples from our work on nanostructured materials for energy harvesting[1-3], sensing[4], intermetallics[5] and superconductors[6-9].

1. Chem. Soc. Rev. (2010) 39 (2), 474; J. Am. Chem. Soc. (2012) 134 (48), 19677; J. Phys. Chem. B. (2015) 119, 11295.
2. J. Phys. Chem. C. (2012) 116 (44), 23653-23662; J. Phys. Chem. C. (2014) 118, 17332.
3. ACS. Appl. Mater. Interface. (2016) 8 (35), 22860; ACS. Sust. Chem. Engg. (2016) 4, 1487.
4. Biosens. Bioelectronics. (2015) 72, 56; RSC. Adv. (2016) 6 (90), 86955.
5. J. Am. Chem. Soc. (1998) 120, 1223; Inorg. Chem. (2005) 44, 7443; J. Mag. Mater. (2016) 397, 315.
6. Chem. Soc. Rev. (1995) 24 (1), 1-7; Chem. Soc. Rev. (2013) 42 (2), 569-598.
7. Inorg. Chem. (2015) 54 (3), 1076; Inorg. Chem. (2017) 56 (6), 3182.
8. Nature Mater. (2016) 15 (1), 32-37; Scientific Reports (2016) 6: 37527.