

Dr. Arunkumar Panneerselvam

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<https://scholar.google.com/citations?user=YKmnuGgAAAAJ&hl=en>

Sr. Scientist

Department of Food Packaging Technology

CSIR-Central Food Technological Research Institute, Mysuru

Research Interests

Nanotechnology Applications in Food Packaging & Food Safety

**Research Project
(Ongoing)**

- 1 **Graphene Oxide Based Nanocomposite Films for Food Packaging Applications**, funded by **SERB (Rs. 52.44 Lakhs) – P.I. (2017-2020)**
Publications : 1 (Submitted), 3 (in preparation)
Posters: 3 (International conferences)

Completed

- 1 **CSIR-Mission Project** on Food and Consumer Safety Solutions
2 **Mission Project** on Nutrition & Nutraceuticals (Nutrifoods for Breakfast)

**Industry Projects
(Completed)**

3 Projects on **Safety Evaluation of Food Packaging Materials**
2 Projects on **Shelf-Life Evaluation of Food Products**

Technology

Carbonated Fruit Juice Beverages from Selected Fruits
CSIR funded Fast Track Translation Project under **Make in India** Initiative
Technology Transferred to 4 Food Beverage Industries in India.

Students

B.Tech/M.Tech/M.Sc Guided : 6
Ongoing: 1 PhD (Provisionally Registered), Post-doc: 0

Teaching

M.Sc (Food Technology): Packaging Technology & Supply Chain,
Coursework for **PhD (Chemical/Biological Science)** students.
Short-term course for Entrepreneurs, Farmers & Industry Personnel.

National Committee

Member, Technical committee of Bureau of Indian Standards (BIS) on
Plastics Packaging Sectional Committee **PCD 21** & Methods of Sampling
and Test for Plastics Sectional Committee, **PCD 27**

Professional bodies

Member of Royal Society of Chemistry, U.K. (MRSC)
Life Member of Association of Food Scientists & Technologists of India.
Life Member of Indian Science Congress Association
& Materials Research Society of India.

- Professional Experience**
- 2013–2014**
Assistant Professor (Chemistry),
Indian Institute of Food Processing Technology
(formerly IICPT), Thanjavur
Taught Chemistry, Nanotechnology courses for B.Tech (Food Process Engineering) and M.Tech (Food Science & Technology) students.
- 2011–2012**
Post-doctoral Research Associate
Department of Physics, **King's College London, U.K.**
Organometallic Synthesis of Reactive Nanoparticles for Radically
New Solder Materials
Industry Partners: **Henkel Technologies, Schlumberger**
- 2008–2010**
Post-doctoral Research Fellow
Department of Chemistry, **University College Cork, Ireland.**
Synthesis of Metal Fluoride and Metal Oxide Nanostructures by
Supercritical Fluid & Chemical Vapour Deposition Methods
Industry Partners: **Intel, Seagate, Applied Materials & SAFC Hitech.**
- 2003–2004**
Research Officer
Sanmar Speciality Chemicals Research Centre, Chennai.
Performed Grignard, nitration, halogenation & cyclisation reactions for synthesis of active pharmaceutical intermediates (APIs) in lab & plant scale.
- Education**
- 2004–2008**
Ph.D (Inorganic Materials Chemistry)
University of Manchester, Manchester, U.K.
Awarded Overseas Student Scholarship to pursue PhD.
Thesis
Preparation of Semiconductor Thin Films by
Chemical Vapour Deposition Techniques
- 2001–2002**
M.Phil (Inorganic Chemistry), CGPA: 4.74/6
Department of Inorganic Chemistry, University of Madras, Chennai, India.
- 1999–2001**
M.Sc (Chemistry) First Class (64.7%)
Department of Chemistry, Bharathidasan University, Tiruchirappalli, India.
- 1996–1999**
B.Sc (Chemistry), First Class with Distinction (78.5%)
Rajah Serfoji Govt. College, Thanjavur (Bharathidasan University)

List of Publications (Arunkumar Panneerselvam)

- 1 S. R. Stürzenbaum, M. Höckner, **A. Panneerselvam**, J. Levitt, J-S. Bouillard, S. Taniguchi, L-A. Dailey, R. A. Khanbeigi, E. V. Rosca, M. Thanou, K. Suhling, A. V. Zayats and M. Green, “Biosynthesis of luminescent quantum dots in an earthworm”, *Nature Nanotechnology*, **2013**, **8**, 57-60; Impact Factor: 33.40, **Citations: 99**.
- 2 Mark Armstrong, **Arunkumar Panneerselvam**, Colm O'Regan, Michael Morris and Justin Holmes “Supercritical Fluid Synthesis of FeF₂ and CoF₂ Li-Ion Conversion Materials”, *Journal of Materials Chemistry A*, **2013**, **1**, 10667-10676, Impact Factor: 11.3, **Citations: 37**.
- 3 Hiren R. Kotadia, **Arunkumar Panneerselvam**, Mark W. Sugden, Hector Steen, Mark Green and Samjid H. Mannan, “Electronics assembly and high temperature reliability using Sn-3.8Ag-0.7Cu solder paste with Zn additives”, *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2013**, **3**, 1786-1793, Impact Factor: 1.88, **Citations: 7**.
- 4 H. R. Kotadia, **A. Panneerselvam**, O. Mokhtari, M. A. Green and S. H. Mannan, “Massive spalling of Cu-Zn and Cu-Al intermetallic compounds at the interface between solders and Cu substrate during liquid state reaction”, *Journal of Applied Physics*, **2012**, **111**, 074902 (1-6); Impact Factor: 2.28, **Citations: 11**.
- 5 **Arunkumar Panneerselvam**, Ganga Periyasamy, Karthik Ramasamy, Mohammad Afzaal, Mohammad A. Malik, Paul O'Brien, Neil A. Burton, John Waters and Bart E. van Dongen, “Factors controlling material deposition in the CVD of nickel sulfides, selenides or phosphides from dichalcogenoimidodiphosphinato complexes: deposition, spectroscopic and computational studies”, *Dalton Transactions*, **2010**, **39**, 6080-6091, (Invited Paper in Themed issue: **Frontiers of Synthetic Solid State Chemistry**); Impact Factor: 4.17, **Citations: 13**.
- 6 **Arunkumar Panneerselvam**, Chinh Q. Nguyen, Mohammad A. Malik, Paul O'Brien and James Raftery, “The CVD of silver selenide films from dichalcogenophosphinato and imidodichalcogenodiphosphinosilver(I) single-source precursors”, *Journal of Materials Chemistry*, **2009**, **19**, 419-427; Impact Factor: 6.62, **Citations: 51**.
- 7 **Arunkumar Panneerselvam**, Mohammad A. Malik, Paul O'Brien and Madeleine Helliwell, “The Aerosol-Assisted CVD of silver films from single-source precursors”, *Chemical Vapour Deposition*, **2009**, **15**, 57-63; Impact Factor: 1.33, **Citations: 13**.
- 8 **Arunkumar Panneerselvam**, Mohammad A. Malik, Paul O'Brien and James Raftery, “The CVD of silver sulfide and silver thin films from a homoleptic crystalline single-source precursor”, *Journal of Materials Chemistry*, **2008**, **18**, 3264-3269; Impact Factor: 6.62, **Citations: 22**.

List of Publications (Arunkumar Panneerselvam)

- 9 **Arunkumar Panneerselvam**, Mohammad A. Malik, Mohammad Afzaal, Paul O'Brien and Madeleine Helliwell, "The chemical vapor deposition of nickel phosphide or selenide thin films from a single precursor", *Journal of the American Chemical Society*, **2008**, **130**, **2420-2421**;
Impact Factor: 14.61, **Citations: 148**.
- 10 **Arunkumar Panneerselvam**, Chinh Q. Nguyen, John Waters, Mohammad A. Malik, Paul O'Brien, James Raftery and Madeleine Helliwell, "Ligand influence on the formation of P/Se semiconductor materials from metal-organic complexes", *Dalton Transactions*, **2008**, **4499-4506** (Invited Paper in Themed issue: **The Renaissance of Main Group Chemistry**); Impact Factor: 4.17, **Citations: 40**.
- 11 Roger M. Jarvis, Helen E. Johnson, Emma Olembe, **Arunkumar Panneerselvam**, Mohammad A. Malik, Mohammad Afzaal, Paul O'Brien and Royston Goodacre, "Towards quantitatively reproducible substrate for SERS", *Analyst*, **2008**, **133**, **1449-1452**; Impact Factor: 3.97, **Citations: 25**.
- 12 K.R.Krishnapriya, D.Saravanakumar, **P. Arunkumar** and M. Kandaswamy, "Synthesis of new oxamide-based ligand and its coordination behaviour towards copper(II)ion: Spectral and electrochemical studies, *Spectrochim. Acta A*, **2008**, **69**, **1077-1081**; Impact Factor: 3.23, **Citations: 9**.
- 13 May C. Copsey, **Arunkumar Panneerselvam**, Mohammad Afzaal, Tristram Chivers, Paul O'Brien, "Syntheses, X-ray structures and AACVD studies of group 11 ditelluroimidodiphosphinate complexes", *Dalton Transactions*, **2007**, **1528-1538**; Impact Factor: 4.17, **Citations: 36**.
- 14 B. S. Krishnamoorthy, S. Chandrasekar, **P. Arunkumar** and K. Panchanatheswaran, "Dibenzyl(dichloro)(1,10-phenanthroline)tin(IV) chloroform solvate", *Applied Organometallic Chemistry*, **2005**, **19**, **186**; Impact Factor: 3.14, **Citations: 7**.

Book Chapter

- 1 **Arunkumar Panneerselvam** and Mark Green, "Recent Advances in Quantum Dot Synthesis", *Nanoscience, Volume 1: Nanostructures through Chemistry*, **2013**, **1**, **208-243**
ISBN: 978-1-84973-435-6; Royal Society of Chemistry Specialist Periodical Reports Series.

Conference Publications

- 1 H. R. Kotadia, **A. Panneerselvam**, M. A. Green, M. P. Clode, S. H. Mannan and H. Steen, Reliability of electronics assembled using SAC + Zn solder pastes, *IMAPS High Temperature Electronics Conference (HiTEC)*, **May 8-10, 2012**, 000051-000057, Albuquerque, USA.
- 2 Hiren R. Kotadia, **Arunkumar Panneerselvam**, Mark A. Green and Samjid H. Mannan, Limitations of Nanoparticle Enhanced Solder Pastes for Electronics Assembly, *IEEE Nano 2012, 12th IEEE International Conference on Nanotechnology*, **20-23 August 2012**, Birmingham, U.K.