

Name : **Dr.Kumar Kumarappan**

Designation : Assistant Professor
Dept. of Physics

Qualification : M.Sc, Ph.D (Ireland)

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Area of Specialization : Physics, Material Science

Area of Specialization : Surface & Interface Physics, XPS,
Metal Oxide Semiconductors & Devices

Teaching Experience : 6 years



S. No.	Name of the Institution	Period of Service
1	Vidhyaa Giri College of Arts and Science	2019 - Present
2	Dubin City University, Ireland	2006 – 2009 & 2013

Publications

1. Kumarappan Kumar, Greg Hughes, *Synchrotron radiation based photoemission studies of indium oxide passivation of ZnO(0001) surface at high temperature*, arXiv preprint, arXiv:1810.0089 (<https://arxiv.org/abs/1810.00899>), October 2018.

2. B Brennan, K Kumarappan, G Hughes, *Atomic hydrogen cleaning of In_{0.53}Ga_{0.47}As studied using synchrotron radiation photoelectron spectroscopy*, Physica Status Solidi (RRL) - Rapid Research Letters 7 (11), 989-992, 1862-6270, November 2013.
3. Mahua Biswas, Yun Suk Jung, Hong Koo Kim, Kumarappan Kumar, Gregory J Hughes, S Newcomb, Martin O Henry, Enda McGlynn, *Microscopic origins of the surface exciton photoluminescence peak in ZnO nanostructures*, Physical Review B 83 (23), 235320, 2469-9969, June 2011.
4. D Byrne, E McGlynn, MO Henry, K Kumar, G Hughes, *A novel, substrate independent three-step process for the growth of uniform ZnO nanorod arrays*, Thin Solid Films 518 (16), 4489-4492, 0040-6090, June 2010.
5. D Byrne, E McGlynn, K Kumar, M Biswas, MO Henry, G Hughes, *A Study of Drop-Coated and Chemical Bath-Deposited Buffer Layers for Vapor Phase Deposition of Large Area, Aligned, Zinc Oxide Nanorod Arrays*, Crystal Growth & Design 10 (5), 2400-2408, 1528-7505, April 2010.
6. K Kumar, K Ramamoorthy, PM Koinkar, R Chandramohan, K Sankaranarayanan, *A novel way of modifying nano grain size by solution concentration in the growth of ZnAl₂O₄ thin films*, Journal of Nanoparticle Research 9 (2), 331-335, 1572-896X, May 2006.
7. K Kumar, K Ramamoorthy, R Chandramohan, K Sankaranarayanan, *A novel way of modifying the needle to hexagonal morphology of a single crystal by solution concentration*, Materials Science and Engineering: B 135 (2), 150- 153, 0921-5107, November 2006.
8. K Ramamoorthy, K Kumar, R Chandramohan, K Sankaranarayanan, R Saravanan, IV Kityk, P Ramasamy, *High optical quality IZO (In₂Zn₂O₅) thin films by PLD-A novel development for III-V opto-electronic devices*, Optics communications 262 (1), 91-96, 0030-4018, June 2006.

9. K Kumar, K Ramamoorthy, R Chandramohan, K Sankaranarayanan, *A novel growth method for ZnAl₂O₄ single crystals*, Crystal Research and Technology 41 (3), 217-220, 0022-0248, March 2006.
10. K Ramamoorthy, K Kumar, R Chandramohan, K Sankaranarayanan, *Review on material properties of IZO thin films useful as epi-n-TCOs in opto-electronic (SIS solar cells, polymeric LEDs) devices*, Materials Science and Engineering: B 126 (1), 1-15, 0921-5107, January 2006.
11. R Chandramohan, A Kathalingam, K Kumar, D Kalyanaraman, T Mahalingam, *Studies on electrosynthesized semiconducting zinc selenide thin films*, Ionics 10 (3-4), 297-299, 1862-0760, May 2004.
12. K Kumar, R Chandramohan, D Kalyanaraman, *Effect of heat treatment on cobalt and nickel electroplated surfaces with Cr₂O₃ dispersions*, Applied Surface Science 227 (1-4), 383-386, 0169-4332, April 2004.

Awards and Achievements

1. "Innovation Voucher" for successful University & Industry collaboration awarded by Enterprise Ireland (Govt. of Ireland), 2010.
2. Synchrotron Beam Time Awards - Danish Synchrotron Radiation Light Source (ISA, Aarhus University, Denmark) - awarded by European Union, 2008 & 2009.
3. Ph.D Fellowship, Dublin City University, awarded by Science Foundation of Ireland (Govt. of Ireland), 2006 – 2010.
4. Research Internship, Trinity College Dublin, awarded by Science Foundation of Ireland (Govt. of Ireland), May 2006 - August 2006.
5. Junior Research Fellowship, Mepco Schlenk Engineering College, awarded by the Metal Powder Company, Thirumangalam, India, 2003.

6. P. M. T & V. O. C Endowment Merit Scholarship, awarded by AlagappaUniversity, Karaikudi, India 2000.
7. Developed a ultra surface cleaning method for ZnO surfaces using atomic hydrogen (PhD Thesis).
8. First demonstrated the solution based method to growth ZnAl₂O₄ spinel assingle crystal (MSc Project).
9. NCC “C” Certificate holder with “A” Grade.

