


# Cluster Innovation Centre



...Evolving Senses  
Dissolving Boundaries...

संकुल  
नवप्रवर्तन  
केंद्र

Title	Dr.	First Name	Swati	Last Name	Arora	Photograph
Designation	Associate Professor					
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Web-Page	<a href="http://people.du.ac.in/~rptandon9/aboutprof.htm">http://people.du.ac.in/~rptandon9/aboutprof.htm</a>					
Educational Qualifications						
Degree	Institution				Year	
B.Sc.	University of Delhi, Delhi. India				1983	
M.Sc.	University of Delhi, Delhi. India				1985	
Ph.D.	University of Delhi, Delhi. India				1990	
Career Profile						
Name of University/Institution/College	Designation	Status	From	To		
Cluster Innovation Centre, University of Delhi	Associate Professor	Permanent	March, 2015	Till date		
Zakir Husain Delhi College, University of Delhi.	Associate Professor	Permanent	Jan. 2006	March 2015		
Zakir Husain Delhi College, University of Delhi.	Reader	Permanent	Dec. 1998	Dec. 2005		
Zakir Husain Delhi College, University of Delhi	Senior Lecturer	Permanent	July 1994	July 1998		

Delhi.				
Zakir Husain Delhi College, University of Delhi.	Lecturer	Permanent	Jan. 1991	July 1994
Hindu and Hans Raj College, University of Delhi. Delhi. India	Lecturer	Adhoc	1989	1990
EIT Ministry of Education Asmara Eritrea Africa	Associate Professor	Temporary	12/01/2005	30/09/2005
<b>Administrative Assignments</b>				
<b>Looked after examination conduction</b> <b>Doing admissions for this academic session</b>				
<b>Areas of Interest / Specialization</b>				
Solar cells, polymer thin films and its applications, solar water distiller, biodegradable polymer composites				
<b>Subjects Taught</b>				
<b>Undergraduate course teaching</b>				
<b>Research Guidance</b>				
2 Ph.D. students awarded with Ph. D.				
<b>Publications Profile</b>				
<b>S No</b>	<b>Title with page no.</b>	<b>Journal ISSN/ISBN No.</b>	<b>Publisher (city/country) &amp; year of Publication</b>	
1	Influence of absorber plate shape factor and mass flow rate on the performance of the PVT system Volume 156, Page No. 692-701	Applied Thermal engineering ISSN: 1359-4311	Elsevier, 2019	
2	Prototyping Solar Powered Helmet, Volume 3, Issue 1, Page No. 117-124	DU Journal of Undergraduate Research and Innovation ISSN: 2395 - 2334	Delhi University, 2018	
3	Solar Trash Can: Hygienic and Inexpensive Solution to Open Bigger Trash Cans,	DU Journal of Undergraduate	Delhi University, 2018	

	Volume 3, Issue 1, Page No. 110-117	Research and Innovation ISSN: 2395 - 2334	
4	Degradation analysis of PCDTBT:PC71BM organic solar cells- an insight	Current Applied Physics, 16, 273-277	Elsevier, Amsterdam, Netherlands 2016
5	Bulk-heterojunction solar cells with different active layer blends: comparison of experimental and theoretical results	Advanced Materials Letters	VBRI press 2015
6	Influence of donor-acceptor materials on the photovoltaic parameters of conjugated polymer/fullerene solar cells,	Journal of Materials Science: Materials in Electronics	Springer, New York City, USA 2015
7	Feasibility of Castor Oil Derived Thermosetting Polymer as Low Dielectric Material	Global Journal for Research Analysis	2015
8	Optimizing P3HT/PCBM/MWCNT films for increased stability in polymer bulk heterojunction solar cells, 3046–3054.	Physics Letters A ISSN: 0375-9601	Elsevier, Amsterdam, Netherlands 2014
9	Characterization of doped PEDOT:PSS and its influence on the performance and degradation of organic solar cell, 0450202: 1-8	Semiconductor Science and Technology ISSN: 1361-6641	Institute of Physics, UK 2014
10	Evaluating Effect of Surface State Density at the Interfaces in Degraded Bulk Heterojunction Organic Solar Cell, 3044–3046.	Physica B ISSN: 0921-4526	Elsevier, Amsterdam, Netherlands 2012
11	Degradation in bulk heterojunction organic solar cells: changes in electrode interface and reduction in the occupation probability of the interface states, 9899:1-6	Journal of Polymer Research ISSN: 1572-8935	Springer, New York City, USA 2012
12	Effects of aging on the mobility and lifetime of carriers in organic bulk heterojunction solar cells, 063111:1-8	Journal of Renewable and Sustainable Energy ISSN 1941-7012	American Institute of Physics, USA 2011
13	Ultra violet electroluminescence from Zinc Oxide nano rods/ Deoxyribonucleic acid hybrid bio light emitting diode	Journal of Nano Photonics, ISSN: 1934-2608, page: 0595005-1-6	SPIE, USA 2011
14	An anomalous behaviour in degraded bulk heterojunction organic solar cells, 065803 (5pp)	Physica Scripta ISSN 1402-4896	Institute of Physics, UK 2011
15	Role of donor–acceptor domain formation and interface states in initial degradation of P3HT:PCBM-based solar cells 035804:1-6,	Physica Scripta ISSN 1402-4896	Institute of Physics, UK 2010
16	Influence of Surface States on Current Voltage Characteristics of M-I-pSi Solar	Journal of Physics D: Applied Physics,	Institute of Physics, UK

	Cells	ISSN 1361-6463, page: 100-105	1992
17	Role of Interfacial oxide thickness and surface states in the performance of MIS Solar Cells	Solid State Electronics, ISSN: 0038-1101, page: 259-260	Elsevier, Amsterdam, Netherlands
18	Effect of location and Distribution of Surface States at Si-SiO <sub>2</sub> Interface on the performance of MO S and SO S Solar Cells	Eighth E.C. Photovoltaic Solar Energy Conference: Proceedings of the International Conference, ISBN: 902772816X, 9789027728166, pages: 1437-1440	Kluwer Academic Publishers, Italy 1988
19	Non-linear Propagation of Amplitude Modulated Electromagnetic Beam in a Dusty Plasma, pages: 67-68	XXV ICPIG International Conference on Phenomena in Ionized Gases, ISBN: 4990091507 9784990091507	2001
20	Transport Properties of bulk amorphous Ge <sub>20</sub> Se <sub>80-x</sub> Bix system, pages: 1-19	Proceeding of International Centre for Theoretical Physics, ICTP, Italy	ICTP, Italy 1990

Conference Organization/ Presentations (in the last three years)

Conference Organized: National Workshop on Innovative Green Techniques for Safe and Potable Water in Villages, Zakir Husain College, New Delhi, January 10-11, 2013

S No	Title /Subject of Paper	Title / Subject of conference/ Seminar/ Workshop	Organising Institution (with City & Country)
1	Tuning electrical and optical properties of PEDOT:PSS for various applications	International Conference on Technologically Advanced Materials & Asian Meeting on Ferroelectricity (ICTAM-AMF10) Nov 7-11, 2016	University of Delhi, Delhi, India
2	Fabrication and theoretical investigations in P3HT:PC71BM flexible organic solar cells and their aging studies	International Conference on Technologically Advanced Materials & Asian Meeting on Ferroelectricity (ICTAM-AMF10) Nov 7-11, 2016	University of Delhi, Delhi, India
3	Degradation analysis of organic solar cells under variable conditions	International Conference on Materials Science & Technology (ICMTech - 2016)	University of Delhi, Delhi
4	Air processable flexible organic solar cells: current conduction and aging studies	International Conference on Materials Science & Technology (ICMTech - 2016)	University of Delhi, Delhi
5	Study of V <sub>2</sub> O <sub>5</sub> Thin films for solar cell applications	National Conference on Microscopy & Advances in Material Sciences, 2015	Department of Physics, University of Jammu,

			Jammu
6	Flexible solar cells based on P3HT:PCBM Bulk Heterojunction	National Conference on Microscopy & Advances in Material Sciences, 2015	Department of Physics, University of Jammu, Jammu
7	Role of Doped PEDOT:PSS Hole Extracting Layer Towards Degradation in P3HT:PCBM Solar Cells.	International Conference on electron Microscopy (EMSI 2014), July 9-11, 2014	University of Delhi, Delhi India
8	Study of degradation in organic bulk heterojunction solar cells under variable conditions	Materials Research Society Spring Meeting (MRS-2014), San Francisco, California, USA	Materials Research Society, USA
9	Effect of MWCNT on the optical and electrical properties of P3HT:PCBM films.	International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials (ICWNCN-2012), March 13-16, 2012	University of Delhi, Delhi India
10	Enhancing the conductivity of polymer thin films for eco-friendly energy applications	Trends In Physics For Environmental Monitoring And Management (Etpemm-12)	Punjabi University, Patiala
11	Characterization of organic/CNT hybrid thin films for solar cell applications	WAMFER 2012, University of Delhi	University of Delhi
12	Use of solar energy for potable water: Analysis of single and multi-stage solar distiller	Trends In Physics For Environmental Monitoring And Management (Etpemm-12)	Punjabi University, Patiala
13	Performance and Analysis of Multistage Solar Water Distiller	Advances in Environmental Sciences (SAES) on August 24, 2012.	Shoolini University, HP
14	Safe Potable Water for the Village: Special Case study of villages of Ajmer	Advances in Environmental Sciences (SAES) on August 24, 2012.	Shoolini University, HP
15	Theoretical Analysis of a Multistage Solar Distiller	Advances in Environmental Sciences (SAES) on August 24, 2012.	Shoolini University, HP
16	Effect of MWNT on the optical properties of P3HT:PCBM films	Materials Research Society of India, Patiala Chapter - 23rd Annual General Meeting Functional Materials for sustainable Energy and Advanced Technologies February 13-15, 2012	Thapar University, Patiala, India
17	Evaluating Effect of Surface State Density at the Interfaces in Degraded Bulk Heterojunction Organic Solar Cell	26th International Conference on Defects in Semiconductors 2011	NEWZEALAND
18	Modelling Of P3HT:PCBM Based Organic Solar Cells	MRSI Delhi Chapter - National Seminar on Advanced Materials and Devices, Sonapat, Haryana, India,	GVM College, Sonapat Haryana
19	Degradation in Bulk Heterojunction Solar Cells.	ICAMA-2011	Kalasalingam University, Tamil Nadu
20	Degradation and stability of next generation solar cells due to air exposure.	International Conference ICEL-2010 from 17 – 21 October, 2010	University of Michigan, Michigan. USA.

21	Structural and morphological studies of Mn doped BLT thin films.	International Conference of EMSI, 2010	Bhabha Atomic Research Centre. Mumbai, India		
22	Effect of location and Distribution of Surface States at Si-SiO <sub>2</sub> Interface on the performance of MOS and SOS Solar Cells	Proc. of Eighth E.C. Photovoltaic Solar Energy –p-1437, Conf. 9-13 May, 1988.	Florence, ITALY		
<b>Research Projects (Major Grants/Research Collaboration)</b>					
	<b>Title</b>	<b>Major/Minor</b>	<b>Period[in years &amp; month(s)]</b>	<b>Name of funding agency</b>	<b>Outcome of the project</b>
	Feasibility studies to improve the quality of living and development of low cost efficient techniques to purify potable water in villages: Case study with reference to villages of Ajmer (Rajasthan).	Major 10 Lacs	1 year	University of Delhi	Completed successfully
	Development of innovative eco-friendly biodegradable polymer composites (substitute for plastics and filters).	Minor 3.5 Lacs	1 year	University of Delhi	Completed successfully
	EXPLORING SOLAR ENERGY AND ITS APPLICATIONS: FABRICATION OF DAY TO DAY UTILITY APPLIANCES/DEVICES	Major 5.1 Lacs	1 year	University of Delhi	Completed successfully
	Fabrication and characterization of perovskite solar cells	Minor 3.0 Lacs	1 year	University of Delhi	Completed successfully
<b>Awards and Distinctions</b>					
<ul style="list-style-type: none"> <li>• Adjunct Professor at EIT (Ministry of Education) Asmara Eritrea, Africa</li> <li>• Best Display Award for Business Ideas, in Antardhavni, 2015</li> </ul>					
<b>Association With Professional Bodies</b>					
<ul style="list-style-type: none"> <li>• Life time member of Electron Microscope Society of India (EMSI)</li> <li>• Life time member of Ramanujan Mathematical Society</li> </ul>					
<b>Other Activities</b>					

Signature of Faculty Member