




Faculty Details proforma for DU Web-site

Title	Dr	First Name	Annapoorni	Last Name	Subramanian	Photograph
Designation		Professor				
Address		109 Vaishali Pitampura Delhi – 110 088				
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Residence		011-27315329				
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Email		annapoornis@yahoo.co.in , annapoornis.phys@gmail.com				
Web-Page						
Educational Qualifications						
Degree		Institution			Year	
Angelo Indian High School Exam (AIHSC)		St. Francis Xavier Angelo Indian High School, Chennai			1977	
Pre-University (Maths, Phys, Chem)		Lady Doak College, Madurai Kamaraj University, Madurai			1979	
B.Sc (Special) Physics		Lady Doak College, Madurai Kamaraj University, Madurai			1982	
M.Sc (Physics)		Madura College, Madurai Kamaraj University, Madurai			1984	
Ph. D		Department of Physics, Indian Institute of Technology Chennai Title of thesis: Magnetic and Electrical behaviour of certain hydrogenated Rare Earth Transition Metal systems			1990	
Career Profile						
Post Doctoral Experience:						
Institution		Position held		Name of the project		
Indian Institute of Technology, Chennai		Project Associate Sept. 1989-Jan1990		Magnetostrictive materials for underwater sound transducers, Department of Electronics (DOE)		
National Physical Laboratory, Pusa, New Delhi		Research Associate Aug 90 – Feb.92		Synthesis, characterisation and application of conducting polymers, European Economy Community (EEC) project		
National Physical Laboratory, Pusa, New Delhi		Research Associate March 92 - Feb 93		CSIR Fellow		
Permanent Position Held:						

Institution	Position Held	Period
Department of Physics and Astrophysics, University of Delhi, Delhi	Lecturer	March 93 – Nov. 96
Department of Physics and Astrophysics, University of Delhi, Delhi	Reader	Nov. 96 – April 2001
Department of Physics, University of Allahabad, Allahabad	Reader	April 2001 - Jan 2002
Department of Physics and Astrophysics, University of Delhi, Delhi	Reader	Jan 2002 – Nov. 2006
Department of Physics and Astrophysics University of Delhi, Delhi	Professor	Nov 2006 – till date
Administrative Assignments		
Co-ordinator, M.Tech (Nanoscience and Nanotechnology) Provost, Rajeev Gandhi Hostel for Girls (RGHG), Dhaka Complex Managing Committee: Daulat Ram College, Keshav Mahavidhyalaya, Lady Irwin College and Ram Lal Anand College (presently) Academic council: Jawaharlal Nehru University (presently), Pondicherry University, Amity Institute of Nanotechnology		
Areas of Interest / Specialization		
Magnetic Phase transition in metal alloys, Nanomagnetic materials, Magnetic nanocomposites, Conducting Polymers, Biosensors, Plasmonic materials, Organic/inorganic interfaces		
Subjects Taught		
Theory: Electronics (Core) – M.Sc (Previous) Solid State Physics (Core) – M.Sc and M.Tech (Nanoscience and nanotechnology) Experimental Solid State Physics I and II – M.Sc (Final) Metamaterials: Plasmonics and Photonics – M.Tech (Nanoscience and Nanotechnology) Soft condensed matter – M.Tech (Nanoscience and Nanotechnology) Laboratory: Electronics – M.Sc (Previous) Solid State Physics – M.Sc (Previous) Waves and Optics – M.Sc (Previous) Experimental Solid State Laboratory – M.Sc (final)		
Research Guidance		

Research students: Completed: 17 working presently: 3

Sr. No	Title of thesis	Date of Regd.	Status (awarded/ submitted/ ongoing)	Name of the student
1	Study of nano-crystalline iron oxide and cobalt substituted iron oxide films by sol-gel process	1995	2001	Dr. Pratima Chauhan
2	Synthesis and characterisation of polyaniline and substituted polyaniline copolymers	1998	2002	Dr. Amit Lochan Sharma
3	Application of poly-n-vinylcarbazole, poly-3-dodecy thiophene and poly-3 hexyl thiophene Langmiur Blodgett films to some biosensors	1999	2003	Dr. Rahul Shingal
4	Transport and Magnetic properties of conducting polymers and related nano composites	1999	2003	Dr. Komila Suri
5	Memory effect in defored helix ferroelectric and electroclinic liquid crystal materials	2002	2006	Dr. Sarabjot Kaur
6	Optical and magnetic properties of nanometals prepared by electro-exploding wire technique	2002	2007	Dr. Abdullah Alqudami
7	Conducting mechanisms in poly (3-hexylthiophene) {P3HT} – a polymeric semiconductor	2003	2007	Dr. Rashmi
8	Structural and magnetic behaviour of conducting polymer/iron oxide nanocomposites	2003	2008	Dr. Raksha Sharma
9	Studies of Magnetic and electrical properties of Substituted Lithium Ferrites	2007	2010	Dr. Vivek Kumar Verma
10	Magnetic Interactions in Nanomagnetic Nickel Ferrite clusters	Sept. 2005	2010	Dr. Rakesh Malik

11	Plasmonic Behaviour of Noble Metals and Metal – Metal oxide hybrid Nanostructures	01/08/06	2011	Dr.Nongmaithem Kamal Singh
12	Optical Properties of undoped and Erbium doped Ag/Au-dielectric nanocomposites and the effect of swift heavy ions	2007	2013	Dr. Manisha
13	Cobalt based hard Magnetic Nanostructures L10 CoPt alloys and CoFe ₂ O ₄	24/11/08	Nov. 2013	Dr. Neeru Sehdev
14	Structural and Magnetic Phase transition of Hard Magnetic FePt alloy nanostructures	24/11/08	Nov. 2013	Dr. Rohit Medwal <i>Best thesis award 2013, Department of Atomic Energy (DAE)</i>
15	ZnO/conducting polymer interfaces and nanocomposites: Optical, Electrical and Sensing properties	Nov 2008	June 2014	Dr..Mansi Dhingra <i>(Best Paper award in 2014, by Materials Research Society of India (MRSI)</i>
16	Electrical and Optical properties of ZnO based inorganic/Organic hybrid nanostructures for sensor applications	Nov 2008	August 2014	Dr. Lalit Kumar
17	Magnetic transitions in Fe-Pt alloy thin films	2010	August 2015	Dr. Rekha Gupta
18	Anisotropy driven magnetic properties of metal and metal alloys	Feb.2013	Ongoing	Mr. Rajan Goyal
19	Switching behaviour in magnetic multilayers	Feb 2015	Ongoing	Mr. Siddharth Choudhary
20	Electrical and optical properties of Oxy-nitrates	Feb 2015	Ongoing	Mr. Vishnu Mev

Publications Profile				
Refereed international Publications: 110 in Journals			15 in proceedings	
Books: Chapter 13: Conducting Polymer in Molecular Electronics in Handbook of Polymer in Electronics , edt. Bansi D. Malhotra, RAPRA Technology Ltd				
List of publications in Refereed International Journals (1989-2016)				
No	Year	Particulars of Publications	IF	Citations
1.	1989	Effect of hydrogen on the magnetic properties of $\text{Ho}_{0.85}\text{Tb}_{0.15}\text{Fe}_2$ and $\text{Dy}_{0.73}\text{Tb}_{0.27}\text{Fe}_2$ S Annapoorni , G Markandeyulu, KVS R Rao <i>Journal of Applied Physics</i> 65 (12), (1989), 4955-4958	2.18	22
2.	1990	^{57}Fe Mossbauer studies on $\text{Ho}_{0.85}\text{Tb}_{0.15}\text{Fe}_2\text{H}_x$ and $\text{Dy}_{0.73}\text{Tb}_{0.27}\text{Fe}_2\text{H}_x$ S Annapoorni , KVS R Rao <i>Journal of Applied Physics</i> 67 (1), (1990), 424-429	2.18	16
3.		Electrical Resistivity Measurements on $\text{Ho}_{0.85}\text{Tb}_{0.15}\text{Fe}_2\text{H}_x$ and $\text{Dy}_{0.73}\text{Tb}_{0.27}\text{Fe}_2\text{H}_x$ Systems S Annapoorni , G Markandeyulu, K VS Rama Rao <i>Journal of the Physical Society of Japan</i> 59 (8), (1990), 3014-3015	2.57	11
4.		Ferromagnetic resonance studies on $\text{Ho}_{0.85}\text{Tb}_{0.15}\text{Fe}_2\text{H}_x$ and $\text{Dy}_{0.73}\text{Tb}_{0.27}\text{Fe}_2\text{H}_x$ systems S Annapoorni , G Markandeyulu, K V S R Rao <i>Journal of Applied Physics</i> 68 (3), (1990), 1394-1396	2.18	04
5.	1991	Solubility of hydrogen in $\text{Zr}_{1-x}\text{Ho}_x\text{Co}_2$ ($0 \leq x \leq 1$) alloys R Ramesh, S Annapoorni , KVS R Rao <i>Journal of the Less Common Metals</i> 170 (1), (1991), 75-82	2.73	13
6.	1993	Synthesis and characterization of poly (aniline-co-o-anisidine). A processable conducting copolymer SS Pandey, S Annapoorni , BD Malhotra <i>Macromolecules</i> 26 (12), (1993), 3190-3193	5.80	136
7.		Photocarrier mobility in processable polyaniline S Annapoorni , NS Sundaresan, SS Pandey, BD Malhotra <i>Journal of Applied Physics</i> 74 (3), (1993), 2109-2111	2.18	22
8.	1994	Application of poly (aniline) as a glucose biosensor K Ramanathan, S Annapoorni , BD Malhotra <i>Sensors and Actuators B: Chemical</i> 21 (3), (1994), 165-169	4.09	34
9.	1996	Immobilization of glucose oxidase in electrochemically prepared polypyrrole films K Ramanathan, S Annapoorni , A Kumar, BD Malhotra <i>Journal of materials science letters</i> 15 (2), (1996), 124-12	2.37	21

10.		Electrical properties of metal/Langmuir–Blodgett layer/semiconductive devices MK Ram, S Annapoorni , BD Malhotra <i>Journal of applied polymer science</i> 60 (3),(1996), 407-411	1.6	07
11.		Diode like behaviour of an ion irradiated polyaniline film MP Srivastava, SR Mohanty, S Annapoorni , RS Rawat <i>Physics Letters A</i> 215 (1),(1996), 63-68	1.68	58
12.	1997	Magnetite phase due to energetic argon ion irradiation from a dense plasma focus on hematite thin film P Agarwala, S Annapoorni , MP Srivastava, RS Rawat, P Chauhan <i>Physics Letters A</i> 231 (5), (1997), 434-438	1.68	30
13.	1998	Dielectric relaxation in thin conducting polyaniline films MK Ram, S Annapoorni , SS Pandey, BD Malhotra <i>Polymer</i> 39 (15), (1998), 3399-3404	1.65	38
14.		Preparation, characterization and optical properties of α -Fe ₂ O ₃ films by sol-spinning process P Chauhan, S Annapoorni , SK Trikha <i>Bulletin of Materials Science</i> 21 (5), (1998), 381-385	0.87	15
15.	1999	Humidity-sensing properties of nanocrystalline haematite thin films prepared by sol-gel processing P Chauhan, S Annapoorni , SK Trikha <i>Thin Solid Films</i> 346 (1), (1999), 266-268	1.877	120
16.	2001	Phase change induced by polypyrrole in iron-oxide polypyrrole nanocomposite K Suri, S Annapoorni , RP Tandon <i>Bulletin of Materials Science</i> 24 (6), (2001), 563-567	0.87	41
17.		Synthesis and Characterization of Fluoro-Substituted Polyaniline BD Malhotra, HH Weetall, Amit L Sharma, Manju Gerard, Rahul Singhal, S Annapoorni <i>Applied Biochemistry and Biotechnology-Part A-Enzyme Engineering and Biotechnology</i> , 96 (1-3) (2001), 155-166	1.735	
18.		Preparation and Characterization of Poly-N-Vinyl Carbazole Langmuir-Blodgett Films BD Malhotra, HH Weetall, Rahut Singhal, Anamika Gambhir, S Annapoorni <i>Applied Biochemistry and Biotechnology-Part A-Enzyme Engineering and Biotechnology</i> , 96 (1-3) (2001), 259-268	1.735	
19.		Synthesis and characterization of a copolymer: Poly (aniline-co-fluoroaniline) AL Sharma, V Saxena, S Annapoorni , BD Malhotra <i>Journal of Applied Polymer Science</i> 81 (6), (2001), 1460-1466	1.6	75

20.		A novel nanocomposite sensor for detection of humidity K Suri, S Annapoorni , RP Tandon <i>Journal of Scientific and Industrial Research</i> 60, (2001) 724-727	0.5	02
21.		Synthesis and characterization of polynitrosoaniline AL Sharma, S Annapoorni , BD Malhotra <i>Polymer</i> 42 (19), (2001), 8307-8310	1.653	09
22.		Synthesis and characterization of fluoro-substituted polyaniline AL Sharma, M Gerard, R Singhal, BD Malhotra, S Annapoorni <i>Applied biochemistry and biotechnology</i> 96 (1-3),(2001), 155-165	1.735	19
23.		Preparation and characterization of poly-N-vinyl carbazole Langmuir-Blodgett films R Singhal, A Gambhir, S Annapoorni <i>Applied biochemistry and biotechnology</i> 96 (1-3), (2001) 259-267	1.735	01
24.	2002	Gas and humidity sensors based on iron oxide–polypyrrole nanocomposites K Suri, S Annapoorni , AK Sarkar, RP Tandon <i>Sensors and Actuators B: Chemical</i> 81 (2), (2002), 277-282	4.09	172
25.		Nanocomposite of polypyrrole-iron oxide by simultaneous gelation and polymerization K Suri, S Annapoorni , RP Tandon, NC Mehra <i>Synthetic metals</i> 126 (2), (2002), 137-142	1.829	82
26.		Langmuir–Blodgett films of poly (3-dodecyl thiophene) for application to glucose biosensor R Singhal, W Takashima, K Kaneto, SB Samanta, S Annapoorni , <i>Sensors and Actuators B: Chemical</i> 86 (1), (2002),42-48	4.09	73
27.		Immobilization of urease on poly (N-vinyl carbazole)/stearic acid Langmuir–Blodgett films for application to urea biosensor R Singhal, A Gambhir, MK Pandey, S Annapoorni , BD Malhotra <i>Biosensors and Bioelectronics</i> 17 (8),(2002), 697-703	6.451	80
28.	2003	Characterization of electrochemically synthesized poly (2- fluoroaniline) film and its application to glucose biosensor AL Sharma, S Annapoorni , BD Malhotra <i>Current Applied Physics</i> 3 (2), (2003), 239-245	2.026	42
29.		Thermal transition behaviour of iron oxide–polypyrrole nanocomposites K Suri, S Annapoorni , RP Tandon, C Rath, VK Aggrawal <i>Current Applied Physics</i> 3 (2), 209-213	2.126	15
30.		Effect of field dependent trap occupancy on organic thin film transistor characteristics VR Balakrishnan, AK Kapoor, V Kumar, SC Jain, R Mertens, S. Annapoorni <i>Journal of Applied Physics</i> 94 (8), (2003), 5302-5306	2.18	13

31.		AC conduction in nanocomposites of polypyrrole K Suri, S Annapoorni , RP Tandon <i>Journal of non-crystalline solids</i> 332 (1), (2003)279-285	1.766	12
32.	2004	Single domain magnetic arrays: role of disorder and interactions Subhalakshmi Lamba, S Annapoorni <i>The European Physical Journal B-Condensed Matter and Complex Systems</i> , 39(1), (2004)19-25	1.345	26
33	2005	Composition dependent magnetic properties of iron oxide-polyaniline nanoclusters R Sharma, S Lamba, S Annapoorni , P Sharma, A Inoue <i>Journal of Applied Physics</i> 97 (1), 014311	2.18	29
34		Colloidal dispersions of polyindole G Rajasudha, D Rajeswari, B Lavanya, R Saraswathi, S Annapoorni , N.C. Mehra <i>Colloid and Polymer Science</i> 283 (5), (2005)575-582	2.430	17
35.		Memory effect in smectic-A phase of ferroelectric liquid crystal AK Thakur, SS Bawa, AM Biradar, S Kaur, S Annapoorni <i>Journal of Applied Physics</i> 97 (8), (2005)084106	2.18	04
36.		Magnetic properties of polypyrrole-coated iron oxide nanoparticles R Sharma, S Lamba, S Annapoorni <i>Journal of Physics D: Applied Physics</i> 38 (18), (2005)3354	2.721	25
37.		Is Curie–Weiss law valid in every ferro-to-para transition? S Kaur, AK Thakur, A Choudhary, SS Bawa, AM Biradar, S Annapoorni <i>Applied Physics Letters</i> 87 (10), (2005)102507	3.302	13
38.		Interaction effects in magnetic oxide nanoparticle systems R Sharma, C Pratima, S Lamba, S Annapoorni <i>Pramana</i> 65 (4), (2005), 739-743	0.649	05
39.		Fluorescent silver nanoparticles via exploding wire technique A Abdullah, S Annapoorni <i>Pramana</i> 65 (5), (2005)815-819	0.649	24
40.	2006	Magnetic relaxation studies in organic-inorganic nanoclusters R Sharma, K Suri, RP Tandon, S Annapoorni , S Lamba, BV Kumaraswami <i>Journal of Applied Physics</i> 99 (2), (2006) 024311	2.18	07
41.	2007	The incorporation of silver nanoparticles into polypyrrole: conductivity changes A Alqudami, S Annapoorni , P Sen, RS Rawat <i>Synthetic metals</i> 157 (1),(2007) 53-59	1.829	39
42.		Fluorescence from metallic silver and iron nanoparticles prepared by exploding wire technique		

		A Alqudami, S Annapoorni <i>Plasmonics</i> 2 (1), (2007), 5-13	2.238	54
43.		Magnetic properties of iron nanoparticles prepared by exploding wire technique A Alqudami, S Annapoorni , S Lamba, PC Kothari, RK Kotnala <i>Journal of Nanoscience and Nanotechnology</i> 7 (6), (2007) 1898-1903	1.556	09
44	2008	Effects of swift heavy ions irradiation on polypyrrole thin films RC Ramola, A Alqudami, S Chandra, S Annapoorni , JMS Rana, <i>Radiation Effects & Defects in Solids</i> 163 (2), (2008), 139-147	0.603	24
45.		Conduction mechanisms in poly (3-hexylthiophene) thin-film sandwiched structures AK Kapoor, S Annapoorni , V Kumar <i>Semiconductor Science and Technology</i> 23 (3), (2008), 035008	2.19	09
46.		A comparative study of the effect of O ⁺ 7ion beam on polypyrrole and CR-39 (DOP) polymers RC Ramola, S Chandra, JMS Rana, RG Sonkawade, PK Kulriya, F Singh, DK Avasthi, S Annapoorni <i>Journal of Physics D: Applied Physics</i> 41 (11), (2008), 115411	2.721	26
47.		Metal oxide/polyaniline nanocomposites: Cluster size and composition dependent structural and magnetic properties R Sharma, R Malik, S Lamba, S Annapoorni <i>Bulletin of Materials Science</i> 31 (3), (2008), 409-413	0.87	12
48.		Ag–Au alloy nanoparticles prepared by electro-exploding wire technique A Alqudami, S Annapoorni , SM Shivaprasad <i>Journal of Nanoparticle Research</i> 10 (6), (2008), 1027-1036	2.278	33
49.		Competing magnetic interactions in nickel ferrite nanoparticle clusters: Role of magnetic interactions R Malik, S Annapoorni , S Lamba, P Sharma, A Inoue <i>Journal of Applied Physics</i> 104 (6), (2008), 064317	2.18	16
50.	2009	Study of optical band gap, carbonaceous clusters and structuring in CR-39 and PET polymers irradiated by 100MeV O ⁷⁺ ions RC Ramola, S Chandra, A Negi, JMS Rana, S Annapoorni , <i>Physica B: Condensed Matter</i> 404 (1), (2009), 26-30	1.278	40
51.		Interaction of oxygen (O ⁺) ion beam on polyaniline thin films S Chandra, S Annapoorni , RG Sonkawade, PK Kulriya, F Singh, <i>Indian Journal of Physics</i> 83 (7), (2009) 943-947	1.377	05
52.		Magnetic and electrical properties of manganese and cadmium co-substituted lithium ferrites V Verma, SP Gairola, MC Mathpal, S Annapoorni , RK Kotnala <i>Journal of Alloys and Compounds</i> 481 (1) (2009), 872-876	2.999	09

53.		Comparative study of structural and magnetic properties of nano-crystalline $\text{Li}_{0.5}\text{Fe}_{2.5}\text{O}_4$ prepared by various methods V Verma, V Pandey, S Singh, RP Aloysius, S Annapoorni , RK Kotnala <i>Physica B: Condensed Matter</i> 404 (16), (2009)2309-2314	1.278	05
54.		Structural, morphological, and optical characterisation of ZnO nanostructures fabricated by electrochemical deposition NK Singh, N Tripathi, S Rath, S Annapoorni <i>Journal of nanoscience and nanotechnology</i> 9 (9) (2009)5608-5613	1.556	08
55.		Remarkable influence on the dielectric and magnetic properties of lithium ferrite by Ti and Zn substitution V Verma, V Pandey, VN Shukla, S Annapoorni , RK Kotnala <i>Solid State Communications</i> 149 (39), (2009) 1726-1730	1.897	22
56.		Alignment of magnetic clusters in polymer using Ar ion beam R Malik, R Sharma, D Kanjilal, S Annapoorni <i>Journal of Physics D: Applied Physics</i> 42 (23), (2009)235501	2.721	01
57.		Enhanced Bio-molecular Sensing Capability of LSPR, SPR-ATR Coupled Technique N. Kamal Singh, Abdullah Alqudami, S. Annapoorni , Vineet Sharma and K. Muralidhar		
58.	2010	Low temperature resistivity study of nanostructured polypyrrole films under electronic excitations S Chandra, S Annapoorni , F Singh, RG Sonkawade, JMS Rana, RC Ramola <i>Nuclear Instruments and Methods in Physics Research Section B: Beam</i> 268 (1), (2010) 62-66	1.12	17
59.		Effects of an oxygen-ion beam (O^{+7} , 100 MeV) and γ irradiation on polypyrrole films S Chandra, S Annapoorni , F Singh, RG Sonkawade, JMS Rana, RC Ramola <i>Journal of applied polymer science</i> 115 (4), (2010)2502-2507	1.6	06
60.		Role of anisotropy and interactions in magnetic nanoparticle systems R Malik, S Lamba, RK Kotnala, S Annapoorni <i>The European Physical Journal B</i> 74 (1), (2010) 75-80	1.345	14
61.		Effects of gamma ray and neutron radiation on polyaniline conducting polymer RG Sonkawade, V Kumar, L Kumar, S Annapoorni , SG Vaijapurkar, AS Dhaliwal <i>Indian Journal of Pure and Applied Physics</i> 48 (7), (2010)453-456	0.766	16
62.		Magnetic properties of nano-crystalline $\text{Li}_{0.35}\text{Cd}_{0.3}\text{Fe}_{2.35}\text{O}_4$		

		ferrite prepared by modified citrate precursor method V Verma, MA Dar, V Pandey, A Singh, S Annapoorni , RK Kotnala <i>Materials Chemistry and Physics</i> 122 (1),(2010) 133-137	2.129	06
63		Raman study of polyaniline nanofibers prepared by interfacial polymerization M Jain, S Annapoorni <i>Synthetic metals</i> 160 (15), (2010) 1727-1732	1.829	49
64.		ZnO nanoparticles prepared by an electroexploding wire technique NK Singh, A Alqudami, S Annapoorni <i>Physica Status Solidi (a)</i> 207 (9), (2010)2153-2158	1.61	04
65.		Enhanced microwave absorption properties in polyaniline and nano-ferrite composite in X-band SP Gairola, V Verma, L Kumar, MA Dar, S Annapoorni , RK Kotnala <i>Synthetic Metals</i> 160 (21), (2010) 2315-2318	1.829	47
66.		Optical and room temperature sensing properties of highly oxygen deficient flower-like ZnO nanostructures NK Singh, S Shrivastava, S Rath, S Annapoorni <i>Applied Surface Science</i> 257 (5),(2010) 1544-1549	2.538	33
67.		Mössbauer and magnetic studies in nickel ferrite nanoparticles: effect of size distribution R Malik, S Annapoorni , S Lamba, VR Reddy, A Gupta, P Sharma, A Inoue <i>Journal of Magnetism and Magnetic Materials</i> 322 (23), (2010) 3742-3747	1.970	26
68.	2011	Enhancement of photoluminescence in Er-doped Ag–SiO ₂ nanocomposite thin films: a post annealing study M Tiwary, NK Singh, S Annapoorni , DC Agarwal, DK Avasthi, YK Mishra, P Mazzoldi, G Mattei, C Sada, E Trave, G Battaglin <i>Vacuum</i> 85 (8), (2011) 806-809	1.530	13
69.		Enhanced phase stabilization of CoPt in the presence of Ag N Sehdev, R Medwal, S Annapoorni <i>Journal of Applied Physics</i> 110 (3), (2011)033901	2.18	21
70.		ZnO modified gold disc: A new route to efficient glucose sensing NK Singh, B Jain, S Annapoorni <i>Sensors and Actuators B: Chemical</i> 156 (1), (2011) 383-387	4.097	07
71.		Dispersion of laser droplets using H ⁺ ions and annealing effect on pulsed laser deposited nickel ferrite thin films R Malik, S Annapoorni , S Lamba, S Mahmood, RS Rawat <i>Applied Physics A</i> 105 (1), (2011)233-238	1.694	02
72	2012	Order–disorder investigation of hard magnetic nanostructured FePt alloy		

		R Medwal, N Sehdev, S Annapoorni <i>Journal of Physics D: Applied Physics</i> 45 (5), (2012)055001	2.721	26
73		Oxygen vacancy induced phase formation and room temperature ferromagnetism in undoped and Co-doped TiO ₂ thin films P Mohanty, NC Mishra, RJ Choudhary, A Banerjee, T Shripathi, NP Lalla, S Annapoorni , Chandana Rath <i>Journal of Physics D: Applied Physics</i> 45 (32), (2012) 325301	2.721	18
74		Electronic states of self stabilized L10 FePt alloy nanoparticles R Medwal, N Sehdev, S Annapoorni <i>Applied Physics A</i> 109 (2), (2012)403-408	1.694	05
75.		Synthesis and characterization of Au–alumina nanocomposites prepared by atom beam co-sputtering M Tiwari, DC Agarwal, S Mohapatra, JC Pivin, DK Avasthi, S Annapoorni <i>Physica Status Solidi (a)</i> 209 (12), (2012) 2499-2504	1.61	03
76.	2013	Temperature-dependent magnetic and structural ordering of self-assembled magnetic array of FePt nanoparticles R Medwal, N Sehdev, S Annapoorni <i>Journal of Nanoparticle Research</i> 15 (2), (2013) 1-10	2.278	09
77.		Worm like zinc oxide nanostructures as efficient LPG sensors M Dhingra, NK Singh, S Shrivastava, PS Kumar, S Annapoorni <i>Sensors and Actuators A: Physical</i> 190 , (2013)168-175	1.903	05
78.		Polyaniline mediated enhancement in band gap emission of Zinc Oxide M Dhingra, S Shrivastava, PS Kumar, S Annapoorni <i>Composites Part B: Engineering</i> 45 (1), (2013)1515-1520	3.242	06
79.		Correlation of interlayer diffusion with the stoichiometric composition of RF sputtered Pt/Co/Pt sandwiched structures N Sehdev, R Medwal, DC Agrawal, S Annapoorni <i>Journal of Materials Science</i> 48 (8), (2013)3192-3197	2.371	03
80.		A new route to glucose sensing based on surface plasmon resonance using polyindole L Kumar, R Gupta, D Thakar, V Vibhu, S Annapoorni <i>Plasmonics</i> 8 (2), (2013) 487-494	2.238	06
81.		ZnO/PPy Hybrid Heterojunction as an Ultraviolet Photo-sensor M Dhingra, S Shrivastava, PS Kumar, S Annapoorni <i>Journal of electronic materials</i> 42 (6), (2013)1235-1241	1.635	04
82.		Impact of interfacial interactions on optical and ammonia sensing in zinc oxide/polyaniline structures M Dhingra, L Kumar, S Shrivastava, PS Kumar, S Annapoorni <i>Bulletin of Materials Science</i> 36 (4), (2013) 647-652 MRSI prize for best paper: A cash prize of Rs.2000 by the	0.87	07

		Materials Research society of India (MRSI), 2014		
83.		Effects of Li and Au ion beams irradiation on Makrofol-KG A Negi, RV Hariwal, A Semwal, D Kanjilal, RC Ramola, S Annapoorni <i>Radiation Effects and Defects in Solids</i> 168 (7-8), (2013)580-586	0.603	01
84.		Phase investigation in Pt supported off-stoichiometric iron- platinum thin films R Gupta, R Medwal, S Annapoorni <i>Materials Research Bulletin</i> 48 (10), (2013)3881-3886	2.288	05
85.		Pt diffusion driven L1 0 ordering in off-stoichiometric FePt thin films R Gupta, R Medwal, N Sehdev, S Annapoorni <i>Journal of Magnetism and Magnetic Materials</i> 345 , (2013)60-64	1.970	01
86.		Effect of Pt layers on chemical ordering in FePt thin films R Gupta, R Medwal, P Sharma, AK Mahapatro, S Annapoorni <i>Superlattices and Microstructures</i> 64 , (2013)408-417	1.295	03
87.	2014	Possibility of room-temperature multiferroism in Mg-doped ZnO P Kumar, Y Kumar, HK Malik, S Annapoorni , S Gautam, KH Chae, K Asokan <i>Applied Physics A</i> 114 (2), (2014)453-457	1.694	13
88.		Magnetic memory effects in nickel ferrite/polymer nanocomposites R Malik, N Sehdev, S Lamba, P Sharma, A Makino, S Annapoorni <i>Applied Physics Letters</i> 104 (12), (2014)122407	3.302	07
89.		Processing temperature driven morphological evolution of ZnO nanostructures prepared by electro-exploding wire technique L Kumar, R Medwal, P Sen, S Annapoorni <i>Materials Research Express</i> 1 (1), (2014) 015045		02
90.		Defects mediated diffusion in Pt/Co/Pt multilayers induced by dense electronic excitations N Sehdev, R Medwal, R Malik, DC Agarwal, K Asokan, D Kanjilal, S. Annapoorni <i>Current Applied Physics</i> 14 (3), (2014) 455-461	2.026	
91.		Dielectric Response of Poly Methyl Methacrylate/ZnFe2O4 Composites Under 400 KeV Ar+ 2 Ions A Negi, F Singh, RK Kotnala, D Kanjilal, S Annapoorni <i>Advanced Science Letters</i> 20 (5-6), (2014)1089-1093	1.9	
92.		Electrical Coupling of Organic/inorganic Semiconductor Interfaces: A Comparative Study. M Dhingra, S Shrivastava, PS Kumar, S Annapoorni <i>Advanced Materials Research</i> 974 (2014)	1.9	
93.		Room temperature coercivity and interaction effects in L10 FePt nanoparticles R Medwal, N Sehdev, S Lamba, A Banerjee, S Annapoorni		

		<i>Journal of Physics D: Applied Physics</i> 47 (35), (2014) 355002	2.721	01
94.		Engineering strain, densification, order parameter and magnetic properties of FePt thin films by dense electronic excitations R Gupta, N Sehdev, K Asokan, D Kanjilal, S Annapoorni <i>Journal of Applied Physics</i> 116 (8), (2014) 083902	2.18	
95.		Effect of functionalization on positional ordering of 3nm FePt nanoparticles: Langmuir–Blodgett monolayer R Medwal, K Gogia, D Thakar, V Vibhu, JR Mohan, N Sehdev, S. Annapoorni <i>Surface and Coatings Technology</i> 258 , (2014)509-514	2.102	
96.		Au–ZnO hybrid nanostructures prepared by electro-exploding wire technique: Raman signal enhancement and photoluminescence emission quenching NK Singh, R Medwal, S Annapoorni <i>Journal of Materials Science</i> 49 (24), (2014) 8386-8393	2.371	
97.		Fabrication of PANI/ZnO heterojunction Lalit Kumar, Anant Bansal and S. Annapoorni <i>AIP Conf. Proc.</i> 1591 , (2014) 1470;		
98		Structural and magnetic transformation in electro chemically synthesized FePt thin films on Si/Pt electrodes Rekha Gupta, Rajan Goyal, Rohit Medwal and S. Annapoorni <i>AIP Conf. Proc.</i> 1591 , (2014) 107;		
99.	2015	Axonic Au tips induced enhancement in Raman spectra and biomolecular sensing A Saini, R Medwal, S Bedi, B Mehta, R Gupta, T Maurer, J Plain, S. Annapoorni <i>Plasmonics</i> 10 (3), (2015)617-623	2.238	01
100		Direct evidence of chemical ordering in the FePt nanostructured alloy by HR-TEM R Gupta, R Medwal, S Annapoorni <i>Superlattices and Microstructures</i> 83 , (2015)459-465	1.295	Nil
101		Modification of magnetic anisotropy induced by swift heavy ion irradiation in cobalt ferrite thin films R Nongjai, S Khan, H Ahmed, I Khan, S Annapoorni , S Gautam, HJ Lin, Fan-Hsiu Chang, Keun Hwa Chae, K Asokan <i>Journal of Magnetism and Magnetic Materials</i> 394 , (2015)432-438	1.970	Nil
102		Coherent phonon modes in nanostructured zinc oxide synthesized by arc-exploding technique R Medwal, S Gupta, SP Pavunny, RK Katiyar, S Annapoorni , RS Katiyar <i>Materials Letters</i> 160 , (2015)183-185	2.489	Nil
103	2016	Growth of cobalt nanoparticles in Co–Al ₂ O ₃ thin films deposited		

		by RF sputtering R Goyal, S Lamba, S Annapoorni <i>Physica Status Solidi (A)</i> , 213 (2016)1309-1316	1.525	Nil
104		Nucleation controlled magnetization reversal mechanism in oriented L1 0 FeCoPt ternary alloys R Goyal, N Sehdev, S Lamba, S Annapoorni <i>Solid State Communications</i> 226 , (2016) 44-50	1.897	Nil
105		Origin of open recoil curves in L1 0-A1 FePt exchange coupled nanocomposite thin film R Goyal, A Kapoor, S Lamba, S Annapoorni <i>Journal of Magnetism and Magnetic Materials</i> 418 (2016) 200-205	1.970	Nil
106		Structural, electrical and magnetic properties of dilutely Y doped NiFe ₂ O ₄ nanoparticles Pramod Kumar, Geeta Rana, Gagan Dixit, Ashish Kumar, Vikas Sharma, Rajan Goyal, K.Sachdev, S. Annapoorni , K. Asokan <i>Journal of Alloys and Compounds</i> 685 (2016), 492-497	2.999	Nil
107		Temperature controlled junction behavior of polyaniline/ZnO heterostructures Mansi Dhingra, Sadhna Shrivastava, K. Asokan and S.Annapoorni <i>AIP Conf. Proc.</i> 1731 , (2016) 140038;		
108		Gallium arsenide/gold nanostructures deposited using plasma method O. Mangla, S. Roy and S. Annapoorni <i>AIP Conf. Proc.</i> 1731 , (2016) 050006;		
109		Gold nanoparticles prepared by electro-exploding wire technique in aqueous solutions Lalit Kumar, Akanksha Kapoor, Mayank Meghwal and S. Annapoorni <i>AIP Conf. Proc.</i> 1731 , (2016), 050062		
110		Room temperature functioning flexible ammonia sensor based on polyaniline Lalit Kumar, Amarjeet Kaur, S. Annapoorni Sensors & Actuators: B. Chemical (under revision)		
		Citation Indices	All (from 1989)	Since 2011
		Citations	2096	1155
		h-index	25	20
		I10-index	53	38
Conference Organization/ Presentations (in the last three years)				

1. Plasmonic behaviour of metal/metal oxide nanostructures and their applications in biosensing, Department of Physics, DAV college, Kanpur, Advancement of Nanomaterials and its Applications, 10th February 2012
2. Magnetic nanostructures for memory applications: Role of Interaction, Magnetic Materials (MAGMA – 2012), Indian Institute of Technology, Chennai, March 2012
3. Role of interactions in magnetic nanostructures: Hard and Soft magnets, 2nd National Conference on Physics and Technology of Novel Materials – PTNM II – 2013, Sambalpur University, 10th March 2012.
5. Enhanced Sensing behaviour in Organic-Inorganic Nano hybrid interfaces, International conference on Advances in Nanomaterials (ANM-2012), Indian institute of Technology, Chennai, 18th October 2012
6. Organic-Inorganic nanohybrid interfacial structures: Mechanism of Photoconduction and sensing characteristics, Recent Trends in Semiconductor Devices and Technology, SP Jain Auditorium, 20th January 2013
7. Nanoscale Optical biosensor: Theory to Applications, National conference on relevance of nanotechnology in Biology, Hans Raj College, 1st March 2013
8. Structural and Magnetic Phase Transition in Pt based Nanostructured alloys, Lecture workshop on Nanoscience and Nanotechnology, Department of Chemistry, Jamia Millia Islamia, New Delhi, 2nd March 2013
9. Nanostructured Plasmonic Sensors, Emerging Trends in Growth and Characterisation of single crystals and nanomaterials, Sacred Heart College, Trissur, Kerala, 12th March 2013.
10. Surface Plasmon Resonance; Theory to applications, AIRF, Jawaharlal Nehru University, JNU, 27th September 2013.
11. Enhanced sensing behaviour in organic-Inorganic nano hybrid interfaces, 1st Indo-UK conference on recent advances in chemical sensors (IUCRACS-14), Gargi College, 11th Feb 2014
12. Phase transformation and magnetic properties of Pt based hard magnetic alloys, School of Physics, University of Hyderabad, 16th April 2014.
13. Magnetic properties of Pt based hard magnetic alloys: Phase transformation, CSR-DAE, Indore, July 2014
14. Dense electronic excitations induced phase transformation in Pt based magnetic alloys, VIT University, Vellore, Chennai, December 02 - 04, 2015

Research Projects (Major Grants/Research Collaboration)			
Projects Approved: (Research and Teaching program)			
No.	Title of the project Proposal	Amount Funded /Funding Agency	Period/ Status
1	Self assembled layers of conducting polymers for molecular Electronics (jointly with National Physical Laboratory, New Delhi) (PI)	Rs, 6,00,000, DST	2000-2004
2	Oxide based nanomaterials and nanocomposites for magnetic memory and sensor applications (SR/S5/NM-52/2002) (PI)	Rs. 12,20,000, DST, Nanoscience and Nanotechnology Mission	June 2003 - Dec 2006
3	<u>Teaching Program</u> Integrated M.Tech in Nanoscience and Nanotechnology (SR/NM/PG-21/2007) Co-ordinator	Rs.2,61,35,000 DST, Nanomission	Aug 2008 – Aug 2013
4	Investigations of Magnetic, Optical and Electrical properties of Nanomaterials: Synthesis, characterization and applications (SR/NM/NS-45/2007) (PI)	Rs.5,23,84,800, DST, Nanomission	Aug 2009 – Aug 2012
5	Synthesis and Characterisation of Polymeric and Metal-oxide nanostructure substrates for detection of toxic vapours (Co-PI)	~ Rs. 8 L Lastech, DRDO	2010 -2012
6	Research Grant received from Delhi University: (I) Optical and magnetic sensing of metal and metal oxide nanostructures prepared by thermal evaporation and rf sputtering techniques (ii) Nanoparticle array structures for sensing application (iii) Magnetic properties of nanomagnetic arrays (iv) Organic/Inorganic hybrid (v) Anisotropy driven magnetic systems	Rs. 2.5 L Rs. 4.2 L Rs. 2.5 L Rs. 2.5 L Rs. 2.8 L	2007 2009 – 10, 2010 - 11 2011 -12 2012 -13 2013 -14
7	Investigation of phase transition in Pt based hard magnetic alloy films CSIR 03(1249)/12/EMR-II. (PI)	Rs.10 L	2013-16

Programmes taken up involving inter-institutional collaboration: (Only travel support for students)

Low energy (60 keV to 1 MeV) ion irradiation of magnetic nanocomposites, Dr. Kanjilal and Dr. Asokan, Inter University Accelerator Centre (IUAC), Delhi

Swift Heavy ion irradiation: Dr. Awasthi, Dr. Kanjilal and Dr. Asokan, Inter University Accelerator Centre (IUAC), Delhi

Magnetic relaxation studies in PANI/NiFe₂O₄ and PANI/□-Fe₂O₃ nanocomposites, Dr. Alok Banerjee, and Dr. Ragavendra Reddy, Inter University Consortium, Indore.

Collaborations: Inter University Accelerator Centre (IUAC), New Delhi (National)
Inter University Consortium (IUC), Indore
National Physical Laboratory (NPL), New Delhi
Solid State Physics Laboratory (SSPL), DRDO, Delhi
(International) Nanyang Technical University, Singapore,
Tohoku Institute of Technology, Tohoku, Japan

Awards and Distinctions

BEST PAPER PRIZE for the year 2014 (For publication in the Bulletin of Materials Science):

Cash award of Rs. 2000/-

“Impact of interfacial interactions on optical and ammonia sensing in zinc oxide/polyaniline structures”, by Mansi Dhingra, Lalit Kumar, P Senthil Kumar, **S Annapoorni**, Sadhna Shrivastava, Bulletin of Materials Science, Vol. 36, No. 4, August 2013, pp 647

Association With Professional Bodies

Life Member:

Materials Research Society of India, (MRSI) – Executive committee, Delhi Chapter 20

Biosensor Society of India (BSI).

Magnetic Society of India (MSI): Executive committee member (2012 - 15)

Member Academic Council)

Other Activities

Interested in classical and light music