

**Technical Program**

Monday, 8 October 2012

**Registration**

Time: 10:00 - 17:00 Hrs

at

Pak-China Friendship Centre, Islamabad

&

National Centre for Physics (NCP), Islamabad  
(For participants staying at NCP)

# Technical Program

**Day - 1: Tuesday, October 9, 2012**

Time: 08:00 - 09:30  
09:30 - 11:00

**Venue: Pak-China Friendship Centre**

Registration  
Opening Ceremony

1 <sup>st</sup> Session: <b>Nanometer Structures-I</b>		Chair: <b>Dr. András Berkó</b>	Venue: <b>Main Conference Hall</b>	
		Co-Chair: <b>Dr. Shahzad Alam</b>		
Time	Topic	Authors / Affiliations	Paper No.	Country
11:00-11:45	Invited Talk	<b>J. J. Pireaux</b> University de Namur (FUNDP), Director Laboratories USE, 61-Rue de Bruxelles, B-5000 Namur, Belgium	Invited Talk	Belgium
11:45-12:30	Magnetic nanostructures: Top down and bottom up approach	<b>Peter Varga</b> Institute for Applied Physics, Vienna University of Technology, Austria	Invited Talk NS-37-O	Austria
12:30-13:00	Self-organized formation of oxide-metal and bimetallic nanoparticles on oxide surfaces	<b>András Berkó</b> Department of Physical Chemistry and Material Science, University of Szeged, Hungary	Invited Talk NS-6-O	Hungary
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
<b>Venue: Main Conference Hall</b>				
2 <sup>nd</sup> Session: <b>Nanometer Structures-II</b>		Chair: <b>Dr. Peter Varga</b>	Co-Chair: <b>Dr. Seizo Morita</b>	
Time	Topic	Authors / Affiliations	Paper No.	Country
14:00-14:30	Towards atom-by-atom creation and evaluation of composite nanomaterials at RT based on AFM	<b>Seizo Morita</b> Institute of Scientific and Industrial Research (ISIR), Osaka University, Mihogaoka 8-1, Ibaraki, Osaka 567-0047, Japan	Invited Talk NS-5-O	Japan
14:30-15:00	Frontiers of nano composite coatings and their engineering applications	<b>S. Alam</b> , M. Irfan, B. D. Soomro, M. Shahid, B. Waseem Pakistan Council of Scientific and Industrial Research (PCSIR) Laboratories Complex, Ferozepur Road, Lahore-Pakistan	Invited Talk NS-39-O	Pakistan
15:00-15:15	Monitoring the dye impregnation time of nanostructure photoanodes for dye sensitized solar cells	<b>N. Shahzad</b> <sup>a,b</sup> , D. Pugliese <sup>a,b</sup> , R. Gazia <sup>a</sup> , A. Lamberti <sup>a,b</sup> , A. Sacco <sup>a,b</sup> , E. Tresso <sup>a,b</sup> and C. F. Pirri <sup>a,b</sup> <sup>a</sup> Center for Space Human Robotics PoliTo, Istituto Italiano di Tecnologia, Corso Trento 21, Torino, IT-10129, Italy <sup>b</sup> Applied Science and Technology Department, Politecnico di Torino, Corso Duca degli Abruzzi 24, Torino, IT-10129, Italy	NS-9-O	Italy
15:15-15:30	The role of oxygen vacancies in the growth and characteristics of In <sub>2</sub> O <sub>3</sub> pyramidal beaded nanowires	<b>Muhammad Hafeez</b> <sup>a</sup> , Tianyou Zhai <sup>b</sup> , Arshad S. Bhatti <sup>a</sup> , Yoshio Bando <sup>b</sup> and Dmitri Golberg <sup>b</sup> <sup>a</sup> Center for Micro and Nano Devices (CMND), Department of Physics, COMSATS Institute of Information Technology, Islamabad, 44000, Pakistan. <sup>b</sup> International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute of Materials Science (NIMS), Namiki 1-1, Tsukuba, Ibaraki, 305-0044, Japan	NS-32-O	Japan
15:30-15:45	Porous ZnO(OH)/N/C nanomaterials as novel photosensitisers for photodynamic activity against tumours	<b>Samina Nazir</b> <sup>a</sup> , Rashida <sup>b</sup> , Tajammul Hussain <sup>a</sup> , Ambreen Gull Muazzam <sup>b</sup> , Kehkashan Mazhar <sup>b</sup> <sup>a</sup> Nano Science and Catalysis Division, National Centre for Physics, Quaid-i-Azam University, Islamabad 44000, Pakistan. <sup>b</sup> Institute of Biomedical and Genetic Engineering, Islamabad 44000, Pakistan	NS-17-O	Pakistan
15:45-16:00	Characterization and the pattern of surfaces of sealant with nano size composite materials	<b>A. Quddos</b> , N. H. Samtio and A.M. Syed. Institute Of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan.	NS-33-O	Pakistan
16:00-16:15	<b>Tea Break</b>			

3 <sup>rd</sup> Session: <b>Nanometer Structures-III</b>		<b>Chair: Dr. J. J. Pireaux</b>	<b>Venue: Main Conference Hall</b>	
		<b>Co-Chair: Dr. Zhenchao Dong</b>		
16:15-16:30	Synthesis of novel silica encapsulated spiropyran based thermochromic materials	Syed Tajammul Hussain <sup>a</sup> , <b>Anila Iqbal</b> <sup>ab</sup> , Javaid Hussain Zaidi <sup>b</sup> , Samina Nazir <sup>a</sup> <sup>a</sup> Nano Science and Catalysis Division, National Centre for physics, Quaid-i-Azam University Campus, Islamabad, Pakistan <sup>b</sup> Department of Chemistry, Quaid-i-Azam University, Islamabad, Pakistan	NS-25-O	Pakistan
16:30-16:45	Growth and characterization of carbon nanofibers on indium arsenide nanowires	<b>M. Arshad</b> <sup>a,b,c,d</sup> , C. Cepek <sup>b</sup> , P. Rudolf <sup>f</sup> , and S. T. Hussain <sup>a</sup> <sup>a</sup> National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan. <sup>b</sup> Laboratorio T.A.S.C.-C.N.R-I.N.F.M., S.S. 14 Km 163.5, 34012 Trieste, Italy <sup>c</sup> Zernike Institute for Advanced Materials, Groningen, Netherlands <sup>d</sup> International Centre for Theoretical Physics, Trieste (Italy)	NS-20-O	Pakistan
16:45-17:00	Synthesis and characterization of doped nanocrystalline iron pyrite (FeS <sub>2</sub> ) for photovoltaic applications	Dr. Tajammul Hussain <sup>a</sup> , <b>Ejaz Ahmed</b> <sup>b</sup> , Sadia Khalid <sup>b</sup> , Shahzad Abu Bakar <sup>a</sup> <sup>a</sup> Nano Science & Catalysis Division, National Centre for Physics, Quaid-i-Azam University Complex, Islamabad, Pakistan, 44000 <sup>b</sup> Department of Physics Bahauddin Zakariya University Multan 60800, Pakistan	NS-23-O	Pakistan
17:00-17:15	On the decoration of 3D nickel foam with metal oxide and hydroxide nanostructures	<b>Yaqoob khan</b> , Syed Tajammul Hussain Nanosciences and Catalysis Division, National Centre for Physics, Quaid-i-Azam University Campus, Islamabad, Pakistan	NS-18-O	Pakistan
17:15-17:30	Sintering effects on structure, morphology, and electrical properties of sol-gel synthesized, nano-crystalline erbium oxide	<b>Allah Bakhsh</b> , Asghari Maqsood National University of Science and Technology (NUST), Islamabad	NS-1-O	Pakistan
17:30-17:45	Synthesis and Characterization of MnO <sub>2</sub> Nano-Materials	<b>Adil Mubeen</b> <sup>1</sup> , Salamat Ali <sup>1</sup> , S. Tajammul Hussain <sup>2</sup> <sup>1</sup> Department of Physics, Government College University, Lahore <sup>2</sup> National Centre for Physics, Quaid-i-Azam University Campus, Shahadra Valley, Islamabad, Pakistan	NS-43-O	Pakistan
17:45-18:00	Synthesis and characterization of polymer /carbon nanotube for enhanced thermal stability	<b>M. Siddique</b> <sup>a</sup> , Dr. Syed Tajammul Hussain <sup>b</sup> , Saima Nawaz <sup>a,b</sup> <sup>a</sup> Department of Chemistry, Quaid-i-Azam University Islamabad, 45320, Pakistan <sup>b</sup> Nano Science and Catalysis Division, National Centre for Physics, Quaid-i-Azam University Campus, Shahdra Valley Road, Islamabad, 45320, Pakistan	NS-22-O	Pakistan
18:00-18:15	Nanotechnology in diagnosis of diseases	<b>M. Afzal</b> , Aalia Nazir, M. Naeem Anjum, S.A. Buzdar Department of Physics, The Islamia University of Bahawalpur.	NS-13-O	Pakistan

**Day - 2: Wednesday, October 10, 2012**

<b>1<sup>st</sup> Session: Nanometer Structures-IV</b>		<b>Venue: Main Conference Hall</b>		
		<b>Chair: Dr. J. J. Pireaux</b>	<b>Co-Chair: Dr. M. Aslam</b>	
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
09:00-09:30	<b>Invited Talk</b>	<b>Anderle Mariano</b> Dipartimento della Conoscenza del Sistema Trentino dell'Alta Formazione e Ricerca e disupporto al Comitato Tecnico Scientifico, Via Jacopo Aconcio, 5 38122 Trento, Italia		Italy
09:30-10:00	Laser based advanced techniques for synthesis of nano materials	<b>M. A. Gondal</b> Laser Research Group, Physics Department and Center of Excellence in Nanotechnology King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia	Invited Talk NS-2-O	Saudi Arabia
10:00-10:30	Nano catalytic conversion of syn gas derived from Thar coal to fuel	<b>Syed Tajammul Hussain</b> Nano Science & Catalysis Division, National Centre for Physics, Quaid-i-Azam University Complex, Islamabad, Pakistan, 44000	Invited Talk NS-41-O	Pakistan
10:30-10:45	Formation of carbon nano and micro structures on C <sub>1</sub> <sup>+</sup> irradiated copper surfaces	<b>Shoaib Ahmad</b> Rafi Chair, Centre for Advance Studies in Physics (CASP), Government College University, Lahore	NS-42-O	Pakistan
10:45-11:00	Synthesis of multi-walled carbon nanotubes and their application in resin based nanocomposites	<b>Shahid Nisar Ahmad</b> <sup>2,*</sup> , Saira Hakeem, Rashid Ahmed Alvi <sup>1</sup> , Khawar Farooq <sup>1</sup> , and Sadaf Saeed <sup>1</sup> <sup>1</sup> Institute of Industrial Control System, P.O. Box. 1398, Islamabad, Pakistan <sup>2</sup> National Center for Physics, Quaid-i-Azam University, Islamabad, Pakistan	NS-40-O	Pakistan
11:00-11:15	<b>Tea Break</b>			
<b>Venue: Main Conference Hall</b>				
<b>2<sup>nd</sup> Session: Nanometer Structures-V</b>		<b>Chair: Dr. M. Ashraf Gondal Co-Chair: Dr. S. Tajammul Hussain</b>		
11:15-11:45	Exploring single molecular optoelectronics by STM	<b>Zhenchao Dong</b> Hefei National Laboratory for Physical Sciences at the Microscale, University of Science and Technology of China, Hefei, Anhui 230026, People's Republic of China	Invited Talk NS-38-O	China
11:45-12:00	Enhanced inter-grain connectivity in nano- particles doped (Cu <sub>0.5</sub> Tl <sub>0.5</sub> )Ba <sub>2</sub> Ca <sub>2</sub> Cu <sub>3</sub> O <sub>10-δ</sub> superconductors	<b>Nawazish A. Khan</b> <sup>a</sup> , Abida Saleem <sup>b</sup> , and S.Tajammul Hussain <sup>b</sup> <sup>a</sup> Materials Science Laboratory, Department of Physics, Quaid-i-Azam University, 45320, Islamabad, Pakistan. <sup>b</sup> Nano Science & Catalysis Division, NCP, Shadhara Valley Road , 45320, Islamabad, Pakistan.	NS-21-O	Pakistan
12:00-12:15	Growth of vertically aligned multiwall carbon nanotubes columns	<b>M. I. Shahzad</b> <sup>a</sup> , M. Giorcelli <sup>a</sup> , D. Perrone <sup>b</sup> , P. Jagdale <sup>a</sup> , A Virga <sup>a</sup> , A. Tagliaferro <sup>a</sup> <sup>a</sup> Department of Applied Science and Technology, Polytechnic of Turin, Turin-10129, Italy. <sup>b</sup> Center for Space Human Robotics, Italian Institute of Technology, Turin-10129, Italy.	NS-7-O	Italy
12:15-12:30	Decoration of carbon nanotubes with ferrite nanoparticles	<b>Syed Danish Ali</b> National Centre for Physics, Quaid-i-Azam University, Islamabad	NS-14-O	Pakistan
<b>Venue: Main Conference Hall</b>				
<b>3<sup>rd</sup> Session: Electronic Materials &amp; Processing-I</b>		<b>Chair: Dr. Peter Varga Co-Chair: Dr. Zhenchao Dong</b>		
12:30-13:00	Bulk etching of silicon wafer and development of a polyimide membrane	<b>M. Aslam</b> Head, Electronics Materials and Processing Division, Pakistan Vacuum Society, P. O. Box 1880, Islamabad -Pakistan	Invited Talk EMP-19-O	Pakistan
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
14:00-14:45	III-Nitride compound semiconductor devices for energy applications: Solid state lighting, photovoltaic cells and	Bahadır Kucukgok, Andrew Melton, Na Lu and <b>Ian Ferguson</b> Department of Electrical and Computer Engineering University of North Carolina at Charlotte-9201, University	Invited Talk EMP-6-O	USA

	thermoelectric applications	City Boulevard, Charlotte		
14:45-15:00	Three phase six-switch PWM buck rectifier with power factor improvement	<b>M. Zafarullah Khan<sup>a</sup></b> , M. Mohsin Naveed <sup>a</sup> and D. M. Akbar Hussain <sup>b</sup> <sup>a</sup> Institute of Industrial Control Systems, P.O Box, 1398, Rawalpindi, Pakistan. <sup>b</sup> Department of Energy Technology Aalborg University Denmark	EMP-17-O	Pakistan
15:00-15:15	Electro-deposition of copper alloys from chalcopyrite ore solution	<b>Jamila Begum</b> Environment Department, Northern University, Nowshera, KPK, Pakistan	EMP-4-O	Pakistan
15:15-15:30	On the quaternary systems Ce-Ni-Zn-(B, Si)	<b>Z. Malik</b> , A. Grytsiv, O. Sologub and P. Rogl University of Vienna, Institute of Physical Chemistry, A-1090, Währingerstr.42, Wien, Austria	EMP-13-O	Austria
15:30-15:45	Effective-bandgap modification and photovoltaic application of ZnO/ZnSe core/shell nanowire array	<b>Waseem. A. Bhutto</b> , Zhiming Wu, Yiyao Cao, Jianchao Ni, Shuping Li, and Junyong Kang Fujian Key Laboratory of Semiconductor Materials and Applications, Department of Physics, Xiamen University, Xiamen 361005, P. R. China	EMP-9-O	China
15:45-16:00	Electrochemical impedance spectroscopy based MEMS sensors for phthalates detection in water and juices	<b>Asif Iqbal Zia<sup>a</sup></b> , A.R. Mohd Syaifudin <sup>a</sup> , S.C. Mukhopadhyay <sup>a</sup> , P.L. Yu <sup>a</sup> , Al-Bahadly <sup>a</sup> , Chinthaka P. hinthaka <sup>b</sup> , Gooneratne <sup>b</sup> , Jurgen Kosel <sup>b</sup> , and Tai-Shan Liao <sup>c</sup> <sup>a</sup> School of Engineering and Advanced Technology, Massey University, Palmerston North, New Zealand <sup>b</sup> Sensing, Magnetism and Microsystems Group, King Abdullah University of Sc. and Tech. Saudi Arabia <sup>c</sup> Instrument Technology Research Centre, National Applied Research Laboratories, Hsinchu, Taiwan.	EMP-14-O	New Zealand
16:00-16:15	<b>Tea Break</b>			
<b>Venue: Main Conference Hall</b>				
<b>4<sup>th</sup> Session: Electronic Materials &amp; Processing-II: Chair: Dr. Ian Ferguson. Co-Chair: Dr. S. Tajammul Hussain</b>				
16:15-16:30	Fabrication of Ni/Ti/Al schottky contact to n-type 4H-SiC under various annealing conditions	<b>M. Yousuf Zaman</b> , S. Ferrero, D. Perrone, L. Scaltrito, Nadia Shahzad Department of Applied Science and Technology, Politecnico di Torino, Corso Duca degli Abruzzi 24, Torino, Italy.	EMP-16-O	Italy
16:30-16:45	Dependance of structural and ferromagnetic properties of epitaxial GeMnTe thin film on Mn content	<b>M. Hassan<sup>ab</sup></b> , G. Springholz <sup>a</sup> , R. T. Lechner <sup>a</sup> , R. Kirchschrager <sup>a</sup> and G. Bauer <sup>a</sup> <sup>a</sup> Institut für Halbleiter- und Festkörperphysik, Johannes Kepler Universität Linz, A-4040 Linz Austria <sup>b</sup> Department of Physics, University of the Punjab, Lahore-54590, Pakistan.	EMP-5-O	Pakistan
16:45-17:00	Thermal properties of metallic nano wire (a computational approach)	<b>M. Atif Sattar</b> , S. Mouzzam Ali, M. Raza-ur-Rehman, Fayyaz Hussain, M. Imran, M. Rashid and S. A Ahmad Department of Physics, The Islamia University of Bahawalpur, 63100, Bahawalpur, Pakistan	EMP-3-O	Pakistan
17:00-17:15	High efficiency interleaved bi-directional ZVS DC-DC converter	<b>M. Zafarullah Khan</b> , M. Mohsin Naveed and *D. M. Akbar Hussain Institute of Industrial Control Systems, P.O Box, 1398, Rawalpindi, Pakistan. *Department of Energy Technology, Aalborg University Denmark	EMP-22-O	Pakistan
17:15-17:30	Piezoelectric and pyroelectric properties of Sr-doped PZT (PSZT) with minor manganese additions	M. Adeel Aleem, Haq Nawaz, <b>M. Shuaib</b> and S. Qaisar Institute of Industrial Control Systems, P.O Box, 1398, Rawalpindi, Pakistan.	EMP-12-O	Pakistan
17:30-17:45	Field-emission characteristics from VLS synthesized wide band gap semiconductor nanostructures	<b>M. Hafeez<sup>a</sup></b> , S. Rehman <sup>a</sup> and A. S. Bhatti <sup>a</sup> T. Zhai <sup>b</sup> , Y. Bando <sup>b</sup> , and D. Golberg <sup>b</sup> <sup>a</sup> Department of Physics, Park Road Campus, COMSATS Institute of Information Technology, Islamabad. <sup>b</sup> MANA, National Institute of Materials Science (NIMS), Tsukuba, Japan.	EMP-2-O	Pakistan

**Day - 3: Thursday, October 11, 2012**

<b>1<sup>st</sup> Session: Thin Film-I</b>		<b>Chair: Dr. C. E. Sittner</b>	<b>Venue: Main Conference Hall</b>	
			<b>Co-Chair: Dr. Asghari Maqsood</b>	
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
09:00-09:45	Exploring molecular diffusion processes in organic thin film growth	<b>Christian Teichert</b> Institute of Physics, Montanuniversitaet Leoben, 8700 Leoben, Austria	Invited Talk TF-9-O	Austria
09:45-10:00	Dual band nano structured anti-reflection thin film coatings for infrared imaging	<b>Z. Iqbal<sup>b</sup></b> , M. H. Asghar <sup>a</sup> , M. Shoaeb <sup>b</sup> , S.T. Hussian <sup>a</sup> , Ismatullah <sup>b</sup> , N. Ahmed <sup>b</sup> <sup>a</sup> Nano Science and Catalysis Department, National Center for Physics, Quaid-i-Azam University Campus, Islamabad, <sup>b</sup> Federal Urdu University of Science and Technology, Islamabad, Pakistan	TF-22-O	Pakistan
10:00-10:15	Thermoelectric properties of GaN-based materials for high temperature applications	<b>M. Ajaz-un-Nabi<sup>a,b</sup></b> , A. Melton <sup>b</sup> , M. Asghar <sup>c</sup> , I. Ferguson <sup>b</sup> , N. Lu <sup>b</sup> <sup>a</sup> GC University, Faisalabad, Pakistan <sup>b</sup> Electrical and Computing Engineering, University of North Carolina at Charlotte, Charlotte, North Carolina, USA 28223 <sup>c</sup> The Islamia University of Bahawalpur, Pakistan	TF-8-O	Pakistan
10:15-10:30	Tm <sup>3+</sup> -doped LiYF <sub>4</sub> film grown by pulsed laser deposition in helium atmosphere	<b>M. Anwar-ul-Haq<sup>a</sup></b> , A. A. Khurram <sup>b</sup> , M. A. Kalyar <sup>a</sup> <sup>a</sup> Department of Physics, University of Sargodha, Sargodha, Pakistan <sup>b</sup> Experimental Physics Labs, National Centre for Physics, Islamabad, Pakistan	TF-13-O	Pakistan
10:30-10:45	Synthesis of textured TiO <sub>2</sub> thin films through doping and growth conditions	<b>A. Ali<sup>a</sup></b> , E. Yassitepe <sup>b</sup> , I. Ruzybayev <sup>c</sup> , A. S. Bhatti <sup>a</sup> , S. I. Shah <sup>b,c</sup> <sup>a</sup> Centre for Micro and Nano Devices(CMND) Department of Physics, COMSATS University of Technology, Islamabad, 44000, Pakistan <sup>b</sup> Department of Materials Science and Engineering, University of Delaware, Newark, Delaware 19808, USA <sup>c</sup> Department of Physics and Astronomy, University of Delaware, Newark, Delaware 19808, USA	TF-24-O	Pakistan
10:45-11:00	Finite element analysis of effect of bond coat thickness on mechanical properties of conventional and nanostructured zirconia based TBCs	<b>Musharaf Abbas<sup>a</sup></b> , M. R. Shahid <sup>b</sup> , Atiq-ur-Rehman <sup>c</sup> <sup>a</sup> Key Laboratory of Aerospace Materials & Performance (Ministry of Education), School of Materials Science and Engineering, Beihang University, No. 37 Xueyuan Road, Beijing 100191, China. <sup>b</sup> National University of Sciences and Technology, H-12, Islamabad 44000, Pakistan. <sup>c</sup> Department of Aeronautics and Astronautics, Institute of Space Technology, Islamabad-44000, Pakistan.	TF-2-O	China
11:00-11:15	<b>Tea Break</b>			
<b>2<sup>nd</sup> Session: Thin Film-II</b>		<b>Chair: Dr. Christian Teichert</b>	<b>Co-Chair: Dr. Zafar Iqbal</b>	
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
11:15-12:00	Thin film deposition on uncommon substrates: deposition and possible application of PVD coatings on granulates	<b>Christoph E. Sittner</b> Vienna University of Technology, Institute of Solid State Physics, Wiedner Hauptstrasse 8-10, A-1040 Vienna, Austria	Invited Talk TF-5-O	Austria
12:00-12:30	Science and technology of thin solid films	<b>Asghari Maqsood</b> Thermal Transport Laboratory, School of Chemical and Materials Engineering, National University of Sciences and Technology, Islamabad, Pakistan	Invited Talk TF-3-O	Pakistan
12:30-12:45	A review on solar cells: achievements and challenges	<b>Arshad Hussain<sup>a</sup></b> , Khalid Alamgir <sup>b</sup> , Ishrat Rahim <sup>a</sup> <sup>a</sup> Institute of Physics and Electronics, University of Peshawar, 25000, Pakistan <sup>b</sup> National institute of Vacuum Science and Technology, Islamabad, 44000, Pakistan	TF-29-O	Pakistan
12:45-13:00	Integration of multiferroic Bi <sub>1-x</sub> FeO <sub>3</sub>	<b>M. S. Awan<sup>a</sup></b> , A. S. Bhatti <sup>b</sup> , S. Qing <sup>c</sup> and C. K. Ong <sup>c</sup>	TF-1-O	Pakistan

	thin films on Si(100) substrate by pulsed laser deposition	<sup>a</sup> Institute of Industrial Control System, Rawalpindi, Pakistan <sup>b</sup> CMND, Department of Physics, CIIT, Islamabad, Pakistan <sup>c</sup> CSMM, Department of Physics, NUS, Singapore		
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
<b>3<sup>rd</sup> Session: Bio interface</b>		<b>Chair: Prof. Dr. Ian Ferguson</b>	<b>Co-Chair: Dr. Zafar Iqbal</b>	
14:00-14:30	Bioactive surfaces for antibody-antigen complex detection by atomic force microscopy	<b>Vincenzo Ierardi</b> <sup>ab</sup> , Francesca Ferrera <sup>c</sup> , Enrico Millo <sup>c,d</sup> , Gianluca Damonte <sup>c,d</sup> , Gilberto Filaci <sup>c,e</sup> , Ugo Valbusa <sup>a,b</sup> <sup>a</sup> Nanobiotechnologies, National Institute of Cancer Research (IST), Largo R. Benzi, 10, Genova, 16132, Italy <sup>b</sup> Nanomed lab, Physics Department, University of Genova, Via Dodecaneso, 33, Genova, 16146, Italy <sup>c</sup> Centre of Excellence for Biomedical Research, University of Genova, Viale Benedetto XV, 7 Genoa 16132, Italy <sup>d</sup> Department of Experimental Medicine, University of Genova, Viale Benedetto XV, 1, Genova 16132, Italy <sup>e</sup> Department of Internal Medicine, University of Genova, Viale Benedetto XV, 6, Genova 16132, Italy	Invited Talk SSE-6-O	Italy
14:30-15:00	Tailoring state-of-the-art peptide chemistry to design hydrogels for tissue engineering applications	<b>Avesha Mujeeb</b> Atta-ur-Rahman School of Applied Biosciences (ASAB-NUST) Islamabad, Pakistan	Invited Talk BI-10-O	Pakistan
15:00-15:15	Remediation of explosive-polluted soil in slurry phase by aerobic biostimulation	<b>Baoping Xin</b> , Mengyue Shen, Hina Aslam, Feng Wu Department of Environment and Energy, School of Chemical Engineering and Environment, Beijing Institute of Technology, Beijing 100081, P.R.China	BI-9-O	China
15:15-15:30	Determination of concentration of eleven macro and micro elements present in eleven hybrids of Millet (Pennisetum glaucum, or P. Americanum)	<b>Ghulam Qadir Shar</b> <sup>a</sup> , Liaquat Ali Shar <sup>a</sup> , Pirbho Mal Makhija <sup>b</sup> , Shamroz Bano Sahito <sup>a</sup> <sup>a</sup> Department of Chemistry, Shah Abdul Latif University, Khairpur, Pakistan <sup>b</sup> Ghulam Mohammad Mahar Medical College, Sukkur, Sindh, Pakistan	BI-6-O	Pakistan
15:30-15:45	Extraction of nano particles from hyacinth and effect of NP's on fermentation	<b>Bakhat Zada</b> <sup>a</sup> , S.A. Malik <sup>b</sup> , Syed Tajammul Hussain <sup>b</sup> , Tariq Mahmood <sup>b</sup> <sup>a</sup> Nano Sciences and Catalysis Division, National Centre for Physics, Quaid-i-Azam University, Islamabad 45320, Pakistan. <sup>b</sup> Department of Biochemistry, Faculty of Biological Sciences, Quaid-i-Azam University, Islamabad 45320, Pakistan.	BI-4-O	Pakistan
15:45-16:00	Synthesis and characterization of CNTs for biological applications	<b>S. Javeria Kazmi</b> , Arslan Shahzad, Muhammad Yasir, Shahid Mehmood and Arshad Bhatti Centre for Micro and Nano Devices (CMND), Department of Physics, COMSATS Institute of Information Technology, Islamabad 44000 Pakistan	BI-3-O	Pakistan
16:00-16:15	<b>Tea Break</b>			
16:15-16:30	The use of low-cost bio-sorbents for the removal of Cr (VI) from aqueous solution	<b>Aziz Ahmad</b> , Mohammad Ilyas National Centre of Excellence in Physical Chemistry University of Peshawar, Pakistan	BI-1-O	Pakistan
16:30-16:45	Design, modeling and simulation of MEMS-based silicon microneedles	<b>F. Amin</b> , S. Ahmed Advanced Electronics Laboratory, Faculty of Engineering & Technology, International Islamic University, Islamabad, Pakistan	BI-2-O	Pakistan
16:45-18:30	<b>Poster Session</b>  <b>Chair:</b> Dr. Christian Teichert <b>Members:</b> Dr. Asghari Maqsood Dr. Christoph. E. Sittner		<b>Venue: Main Lobby</b>	

**Day - 4: Friday, October 12, 2012**

<b>1<sup>st</sup> Session: Thin Film-III</b>			<b>Venue: Main Conference Hall</b>	
			<b>Co-Chair: Prof. Dr. A. H. Gomes</b>	
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
09:00-09:30	Modified titanium dioxide functional thin films for self-cleaning and photovoltaic applications	<b>Carlos J. Tavares</b> Centre of Physics, University of Minho, 4800-058 Guimaraes, Portugal	Invited Talk TF-7-O	Portugal
09:30-10:00	Desorption induced by electronic transitions from ionic crystals in three potentials classical, quasi-quantum and quantum description	<b>Leszek Markowski</b> Institute of Experimental Physics, University of Wrocław, pl. Maxa Borna 9, 50-204 Wrocław, Poland	Invited Talk TF-10-O	Poland
10:00-10:30	Pulsed Laser Deposition (PLD) of Semiconducting and Ferroelectric Thin Films	<b>R. Schwarz<sup>a</sup></b> , R. Ayouchi <sup>a</sup> , P. Sanguino <sup>b</sup> <sup>a</sup> Physics Department and ICEMS, Instituto Superior Técnico, P-1049-001 Lisbon, Portugal <sup>b</sup> Chemistry Department, Universidade Nova de Lisboa, P-2829-516 Caparica, Portugal	Invited Talk TF-34-O	Portugal
10:30-11:00	A non-iterative shirley-type background for XPS data peak-fitting	<b>A. H. Gomez</b> CINVESTAV-Unidad Queretaro. Queretaro, 76230 Mexico	Invited Talk TF-11-O	Mexico
11:00-11:15	<b>Tea Break</b>			
<b>2<sup>nd</sup> Session: Thin Film-IV</b>			<b>Venue: Main Conference Hall</b>	
			<b>Co-Chair: Dr. Leszek Markowski</b>	
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
11:15-11:45	Co-deposition of metal-polymer film using plasma	<b>Riaz Ahmad</b> Centre for Advance Studies in Physics (CASP), Government College University, Lahore	Invited Talk TF-6-O	Pakistan
11:45 -12:00	Effects of physical growth conditions on the structural and electrical properties of sputtered grown HfTiErO <sub>x</sub> thin films	<b>Murad Ali Khaskheli<sup>a</sup></b> , Ping Wu <sup>a</sup> , Ram Chand <sup>b</sup> , Xianfei Li <sup>a</sup> , Hui Wang <sup>a</sup> , Shiping Zhang <sup>a</sup> , Sen Chen <sup>a</sup> , Yili Pei <sup>a</sup> <sup>a</sup> School of Mathematics and Physics, University of Science and Technology Beijing, Beijing 100083, P. R. China <sup>b</sup> Department of Physics, Beijing Institute of Technology, Beijing 100081, P. R. China	TF-12-O	China
12:00-12:15	Synthesis and thermal decomposition for Tin (II) & Cd (II) dithiocarbamates: Molecular precursors for tin and cadmium sulphides	<b>Shafique Ahmed Arain</b> , Christopher Wilkins, Paul O' Brien The School of Chemistry and Material Science, The University of Manchester, Oxford Road, Manchester, M13 9PL, UK.	TF-31-O	UK
12:15-12:30	Mechanical characterization of chromium-doped titanium di-oxide thin film	<b>M. Khalid Alamgir<sup>a</sup></b> , Zahid Khan <sup>b</sup> , M. Shoaib <sup>b</sup> , M. Sajjad <sup>b</sup> , M. Sulaiman <sup>a</sup> <sup>a</sup> National Institute of Vacuum Science & Technology, NCP Complex, Islamabad, Pakistan <sup>b</sup> Kohat University of Science & Technology, Kohat	TF-30-O	Pakistan
12:30-13:00	Depth profiling material returned from the NASA genesis mission	<b>Bruce V. King</b> School of Mathematical and Physical Sciences, University of Newcastle, Callaghan 2308, Australia	Invited Talk SSE-5-O	Australia
<b>3<sup>rd</sup> Session: Surface Science and Engineering-I</b>			<b>Venue: Room # 204</b>	
			<b>Co-Chair: Dr. Orlando M.N.D. Teodoro</b>	
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
11:15-11:30	Mixture of chloroform and 2-butanol, a novel dispersing medium for the synthesis of completely soluble and highly thermally stable PANI-DBSA salts	<b>Salma Gul<sup>a</sup></b> , Anwar-ul-Haq Ali Shah <sup>b</sup> , Salma Bilal <sup>a</sup> <sup>a</sup> National Centre of Excellence in Physical Chemistry, University of Peshawar <sup>b</sup> Institute of Chemical Sciences, University of Peshawar	SSE-16-O	Pakistan
11:30-11:45	Nitriding of high carbon steel using active screen cage	<b>A. Saeed<sup>a</sup></b> , A.W.Khan <sup>a</sup> , M.Shafiq <sup>b</sup> , F.Jan <sup>b</sup> , M.Abrar <sup>c</sup> , M.Khalid <sup>a</sup> , M.Zakaullah <sup>b</sup> <sup>a</sup> Department of Physics, Gomal University, 29050, D. I.Khan, Pakistan <sup>b</sup> Department of Physics, Quaid-i-Azam University, 45320, Islamabad, Pakistan. <sup>c</sup> Institute of Physics and Electronics, University of Peshawar, 25120, Peshawar, Pakistan.	SSE-9-O	Pakistan



11:45-12:00	Surface adsorption study of saponified orange waste gel	<b>Engr. K. H. Mangi<sup>a</sup></b> , Engr. Y.H Mangi <sup>b</sup> , Dr. K. Qureshi <sup>c</sup> , Engr. S.Ishtiaque <sup>a</sup> <sup>a</sup> Chemical Engineering Department, University of Karachi <sup>b</sup> Environmental Engineering Department, Mehran University of Engineering and Technology, Jamshoro <sup>c</sup> Chemical Engineering Department, Mehran University of Engineering and Technology, Jamshoro	SSE-10-O	Pakistan
12:00-12:15	Synthesis and characterization of completely soluble and processable polypyrole salts	Mohammad Sohail <sup>a</sup> , Salma Bilal <sup>b</sup> , <b>Anwar-ul-Haq Ali Shah<sup>a</sup></b> <sup>a</sup> Institute of Chemical Sciences, University of Peshawar <sup>b</sup> National Centre of Excellence in Physical Chemistry, University of Peshawar	SSE-2-O	Pakistan
12:15-12:30	Secondary electron energy loss coincidence (e, 2e) spectroscopy on Al, Au, Ag, Cu and HOPG surfaces	<b>Rahila Khalid</b> , F. Salvat Pujol, and Wolfgang S. M. Werner Institute of Applied Physics, Vienna University of Technology, Wiedner Hauptstrasse 8-10/134, A-1040, Vienna, Austria	SSE-4-O	Austria
12:30-12:45	SiON overlayer metrology using angular and energy distributions of photoelectrons	<b>G.Tasneem<sup>a</sup></b> , C.Tomasik <sup>b</sup> , R.Mroczyński <sup>c</sup> , W.S.M. Werner <sup>a</sup> , W.Smekal <sup>d</sup> , C.J.Powell <sup>d</sup> <sup>a</sup> Institut für Angewandte Physik, Vienna University of Technology, Wiedner Hauptstrasse 8-10, A-1040 Vienna, Austria <sup>b</sup> Austrian Centre of Competence for Tribology, Viktor Kaplan-Straße 2, A-2700 Wiener Neustadt, Austria <sup>c</sup> Institute of Microelectronics and Optoelectronics, Warsaw University of Technology, Koszykowa, Poland <sup>d</sup> Surface and Microanalysis Science Division, National Institute of Standards and Technology, Gaithersburg, MD 20899-8370, USA	SSE-7-O	Austria
12:45-13:00	Pine nut shells: Efficient biosorbent for the sequestration of phthalates from aqueous media	<b>Umair A. Qureshi<sup>a</sup></b> , Amber R. Solangi <sup>a</sup> , Saima Q. Memon <sup>b</sup> , S.I.H. Taqvi <sup>c</sup> <sup>a</sup> National Center of Excellence in Analytical Chemistry, University of Sindh Jamshoro, Sindh- Pakistan <sup>b</sup> Institute of Advanced Research Studies in Chemical Sciences, University of Sindh Jamshoro, Sindh- Pakistan <sup>c</sup> Government Degree College, Hyderabad.	SSE-1-O	Pakistan
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
<b>Venue: Main Conference Hall</b>				
<b>4<sup>th</sup> Session: Vacuum Science &amp; Technology-I Chair: Dr. Carlos J. Tavares Co-Chair: Dr. Riaz Ahmad</b>				
14:00-14:45	Invited Talk	<b>Tatsuo Okano</b> Director, Tokyo-Bunkyo Schooling Center, The Open University of Japan, Japan	Invited Talk	Japan
14:45-15:15	Vacuum standards and metrology activities at the South South Korea Research Institute of Standards and Science (KRISS) in the Republic of South South Korea	<b>Seung Soo Hong<sup>a</sup></b> , Wakil Khan <sup>b</sup> <sup>a</sup> Division of Physical Metrology, South South Korea Research Institute of Standards and Science, Daejeon 305-600, South Korea <sup>b</sup> Pakistan Vacuum Society, GPO Box 1880, Islamabad, Pakistan	Invited Talk VST-6-O	South Korea
15:15-15:45	Aluminum ultrahigh vacuum system for the 3GeV TPS synchrotron light source	<b>G. Y. Hsiung<sup>a</sup></b> , C. C. Chang <sup>a</sup> , C. L. Chen <sup>a</sup> , C. M. Cheng <sup>a</sup> , C. K. Chan <sup>a</sup> , Y. C. Yang <sup>a</sup> , H. P. Hsueh <sup>a</sup> , S. N. Hsu <sup>a</sup> , and J. R. Chen <sup>a,b</sup> <sup>a</sup> National Synchrotron Radiation Research Center, 101 Hsin-Ann Road, Hsinchu 30076, Taiwan <sup>b</sup> Institute of Biomedical Engineering and Environmental Science, National TsingHua University, Hsinchu 30043, Taiwan	VST-7-O	Taiwan
15:45-16:00	Compensation of systematic error for various schemes measuring pumping speed of a vacuum pump	<b>Sang Ryul In</b> Fusion Engineering Center, South South Korea Atomic Energy Research Institute, Daejeon, South Korea	VST-4-O	South Korea
<b>Venue: Room # 204</b>				
<b>5<sup>th</sup> Session: Renewable Energy Technologies Chair: Dr. Bruce V. King Co-Chair: Dr. Junfa Zhu</b>				
14:00-14:30	The recovery of valuable heavy metals from spent batteries using	<b>Wenfeng Jiang</b> , Baoping Xin, Hina Aslam School of Chemical Engineering and Environment, Beijing	RET-5-O	China

	biotechnology	Institute of Technology, Beijing 100081,P.R.China		
14:30-15:00	Estimation of fuel higher heating value (HHV) using proximate analysis	<b>Saqib Nasir<sup>a</sup></b> , Shahid T. Sheikh <sup>a</sup> , Marc Marshall <sup>b</sup> <sup>a</sup> Coal Technology Section, Mineral Processing Research Centre, PCSIR Labs Complex, Lahore-54600, Pakistan <sup>b</sup> School of Chemistry, Monash University, PO Box 23, Clayton, Victoria-3800, Australia	RET-3-O	Pakistan
15:00-15:15	Production of environment friendly fuel at Attock Oil Refinery in pakistan	<b>Tahir Abbas<sup>a</sup></b> , Jamila Begum <sup>b</sup> , Muhammad Ullah <sup>c</sup> <sup>a</sup> A student of M. Phil Environmental Science Northern University Nowshera <sup>b</sup> Associate Professor, Department of Environment Science Northern University Nowshera Pakistan <sup>c</sup> Professor, Department of Environment Science Northern University Nowshera Pakistan	RET-6-O	Pakistan
15:15-15:30	Modern Improved and effective design of boundary layer turbine for robust control and efficient production of green energy	<b>M. Usman Saeed Khan</b> , Ehsan Ali, Irfan Maqsood, Haq Nawaz The Islamia University of Bahawalpur, Bahawalpur, Pakistan	RET-9-O	Pakistan
15:30-15:45	An optimal design of coreless direct-drive axial flux permanent magnet generator for wind turbine	<b>Daniyal Ahmed</b> , Aftab Ahmad and Hammad Shaukat <sup>a</sup> EED, University of Engineering and Technology, Taxila, Pakistan	RET-2-O	Pakistan
15:45-16:00	Wireless Electricity (Power) Transmission by Using Solar Based Power Sattellites	<b>Muhammad Maqsood<sup>a</sup></b> , Muhammad Nauman Nasir <sup>b</sup> <sup>a</sup> National Institute of Vacuum Science and Technology, NCP Complex, Islamabad, Pakistan. <sup>b</sup> University of Engineering and Technology, Taxila, Islamabad, Pakistan.	RET-15-O	Pakistan
16:00-16:15	<b>Tea Break</b>			

**Venue: Main Conference Hall**

**6<sup>th</sup> Session: Vacuum Science & Technologies-II Chair: Dr. Tatsuo Okano Co-Chair: Dr. Carlos Joes Tavares**

16:15-16:45	Nano-holes for vacuum applications	<b>Vincenzo Ierardia</b> , Giuseppe Firpoa, Ugo Valbusaa. NanoMed labs, Physics Department (DIFI), University of Genova, Largo R. Benzi, 10 – 16146 Genova, Italy.	Invited Talk VST-5-O	Italy
16:45-17:15	Hydrogen permeation and outgassing - investigation tools of materials for nuclear fusion and the extreme high vacuum	<b>Vincenc Nemanič</b> "Jožef Stefan" Institute, Jamova 39, 1000 Ljubjana, Slovenia	Invited Talk VST-3-O	Slovenia
17:15-17:45	Vacuum physics applied to the transport of gases through cork	<b>Orlando M.N.D. Teodoro</b> CeFITec, Department of Physics, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Campus de Caparica, P-2829-516 Caparica, Portugal	Invited Talk VST-13-O	Portugal
17:45-18:00	Design and development of primary orifice plate flowmeter	<b>M. Maqsood<sup>a</sup></b> , J. Ali <sup>a</sup> , A. Usman <sup>a</sup> and M. Farooq <sup>b</sup> <sup>a</sup> National Institute of Vacuum Science & Technology, NCP Complex, Shahdara Road, P.O.Box # 3125, Islamabad – Pakistan <sup>b</sup> Department of Physics, Garden Campus, Hazara University, Mansehra, Pakistan	VST-2-O	Pakistan

**Day - 5: Saturday, October 13, 2012**

1 <sup>st</sup> Session: Plasma Science & Technology			Venue: Main Conference Hall	
Chair: Dr. Tatsuo Okano			Co-Chair: Dr. Muhammad Riaz	
Time	Topic	Authors/Affiliations	Paper No.	Country
09:00-09:45	Plasma-nano process for design and synthesis of functional films for emerging industries	<b>Jeon G. Han</b> Center for Advanced Plasma Surface Technology NU-SKKU Joint Institute for Plasma-Nano Materials Sungkyunkwan University, 300 Chunchun-dong Jangan-gu, Suwon, South Korea 440-746	Invited Talk PST-11-O	South Korea
09:45-10:15	Characterization of Hydrogen peroxide plasma by optical emission spectroscopy and sterilization of pathogens	<b>M. Zakaullah<sup>a</sup></b> , A.A.Khan <sup>b</sup> , M.Abrar <sup>c</sup> , A.W.Khan <sup>b</sup> , A.Saeed <sup>b</sup> , Javed Dasti <sup>d</sup> , Asma Khan <sup>d</sup> , N.Zeb <sup>d</sup> , M. Zaka-ul-Islam <sup>e</sup> <sup>a</sup> Department of Physics, Quaid-i-Azam University, 45230 Islamabad, Pakistan <sup>b</sup> Dept. of Physics, Gomal University, D. I. Khan, Pakistan <sup>c</sup> Institute of Physics and Electronics, University of Peshawar, 25120 Peshawar, Pakistan <sup>d</sup> Department of Micro-Biology, Quaid-i-Azam University, 45230 Islamabad, Pakistan <sup>e</sup> Plasmant Department of Chemistry, University of Antwerp Campus DrieEkin, 2610 Wilrijk Antwerp, Belgium	Invited Talk SCPST – 1	Pakistan
10:15-10:45	Selective excitation in analytical glow discharges: The effect of additional gases (helium or small amounts of molecular gas) in an argon plasma	<b>Sohail Mushtaq</b> , Edward B.M. Steers London Metropolitan University, 166-220 Holloway Road, London, N7 8DB, UK,	PST-10-O	UK
10:45-11:00	Implantation of Nitrogen Ions on Aluminium in plasma focus environment	<b>Muhammad Shafiq</b> Plasma Physics Laboratory, Department of Physics, Quaid-i-Azam University, Islamabad	Invited Talk SCPST – 3	Pakistan
11:00-11:15	<b>Tea Break</b>			
11:15-11:45	Effect of deposition parameters on the structural, morphological and mechanical properties of nano-layers of composite materials deposited by plasma focus device	<b>Ijaz Ahmad Khan</b> Thin Films Deposition Lab, Department of Physics, GC University, Faisalabad, Pakistan	Invited Talk SCPST – 2	Pakistan
11:45-12:00	Optical spectroscopic investigation of glow –like discharges in RF operated non-thermal atmospheric pressure plasma jets	<b>Qurat-ul-Ain</b> , J. Laimer, and H. Störi Institute of Applied Physics, Vienna University of Technology, Wiedner Hauptstraße 8-10, 1040 Wien, Austria	PST-2-O	Austria
12:00-12:15	Electron heating mechanisms in inductively coupled plasma	<b>M. Zaka-ul-Islam<sup>a</sup></b> , T. Gans <sup>b</sup> , W.G. Graham <sup>a</sup> , K. Niemi <sup>b</sup> , and D. O'Connell <sup>b</sup> <sup>a</sup> Centre for Plasma Physics, Queens University Belfast, Belfast BT7 1NN, UK <sup>b</sup> York Plasma Institute, Department of Physics, University of York, York YO10 5DD, UK	PST-1-O	UK
12:15-12:30	Effect of Ar/Nitrogen RF generated coupled plasma on the surface properties of carbon nanotubes	<b>G. U. Farwa<sup>a</sup></b> , M. Abrar <sup>b</sup> , Z. Iqbal <sup>c</sup> , M. R. Khan <sup>b</sup> , S. T. Hussain <sup>c</sup> , M. Zakaullah <sup>a</sup> <sup>a</sup> Department of Physics, Quaid-i-Azam University, 45230 Islamabad, Pakistan <sup>b</sup> Institute of Physics and Electronics, University of Peshawar, 25120 Peshawar, Pakistan <sup>c</sup> Nano Science and Catalysis Division, National Centre for Physics, Islamabad	PST-5-O	Pakistan
12:30-12:45	Computation and modeling of ionospheric plasma pressure for F <sub>2</sub> layer at Pakistan air space	<b>M Ayub Khan Yousuf Zai<sup>a</sup></b> and Khusro Mian <sup>b</sup> <sup>a</sup> Solar-Terrestrial and Atmospheric Research Center, Department of Applied Physics, University of Karachi <sup>b</sup> Institute of Space and Planetary Astrophysics (ISPA) University of Karachi, Pakistan	PST-8-O	Pakistan
12:45-13:00	LASER induced micro particle detachment from polymeric materials	<b>S. Arif</b> , O. Armbruster, W. Kautek University of Vienna, Department of Physical Chemistry, A-1090 Vienna, Austria	PST-7-O	Austria
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
14:00-17:00	<b>Closing and Award Distribution Ceremony</b>			

## IUVSTA – Technical Short Courses (TSC)

<b>DATE</b>	<b>TITLE</b>	<b>VENUE</b>
October 10-11, 2012	Modern Trends in Vacuum Technology	Room # 204
October 10, 2012	Chemical Cleaning Techniques for Vacuum Systems	Room # 205
October 11-12, 2012	Vacuum Techniques in Renewable Energy Technologies	Room # 205
October 11, 2012	Techniques for Surface Analysis	Room # 207

Wednesday, October 10, 2012

<b>Day-1</b>		<b>Venue: Room # 204</b>		
<b>Title: Modern Trends in Vacuum Technology</b>		<b>Coordinator: Mr. Munir Ahmed</b>		
<b>Chair: Mr. Amin Sabir</b>				
<b>Time</b>	<b>Topic</b>	<b>Authors /Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
09:00-09:45	Basic vacuum physics	<b>Ihtzaz Qamar</b> Pakistan Vacuum Society, Islamabad	SCVST-16	Pakistan
09:45-10:15	Vacuum techniques and its applications especially in Pakistan	<b>M. Shoaib</b> , M. Maqsood, K. Alamgir and H. M. Akram National institute of Vacuum Science and Technology, Islamabad, Pakistan	SCVST-2	Pakistan
10:15-11:00	Generation of rough & medium vacuum by using mechanical vacuum pumps	<b>Munir Ahmed</b> Pakistan Vacuum Society, Islamabad	SCVST-3	Pakistan
11:00-11:15	<b>Tea Break</b>			
11:15-12:00	High vacuum generation by turbo, ion & cryogenic pumps	<b>Muhammad Maqsood</b> National Institute of Vacuum Science and Technology (NINVASt), Quaid-i-Azam University Campus, Shahdara Road, PO Box# 3125, Islamabad	SCVST-13	Pakistan
12:00-12:30	Principle & working of sorption & titanium sublimation pump	<b>Suleman Qaiser</b> National Institute of Vacuum Science and Technology (NINVASt), Quaid-i-Azam University Campus, Shahdara Road, PO Box# 3125, Islamabad	SCVST-15	Pakistan
12:30-13:00	Generation of high vacuum by using entrainment pumps	<b>Saleem Iqbal</b> National Institute of Vacuum Science and Technology (NINVASt), Quaid-i-Azam University Campus, Shahdara Road, PO Box# 3125, Islamabad	SCVST-12	Pakistan
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
14:00-14:45	Vacuum system design general considerations	<b>Talib Husain</b> Pakistan Vacuum Society, Islamabad	SCVST-5	Pakistan
14:45-15:15	Design & development of vacuum valves	<b>Saif Ahmed Gondal</b> Pakistan Vacuum Society, Islamabad	SCVST-9	Pakistan
15:15-16:00	Vacuum seals	<b>Riaz Ahmed</b> Pakistan Vacuum Society, Islamabad	SCVST-17	Pakistan
16:00-16:15	<b>Tea Break</b>			
16:15-17:30	Practical demonstration ( stripping of vacuum pumps) rotary & diffusion	<b>M. Sarwar, Saleem Iqbal</b> National Institute of Vacuum Science and Technology (NINVASt), Quaid-i-Azam University Campus, Shahdara Road, PO Box# 3125, Islamabad	SCVST-19	Pakistan
17:30-18:00	<b>Discussion</b>			

Thursday, October 11, 2012

<b>Day-2</b>		<b>Venue: Room # 204</b>		
<b>Title: Modern Trends in Vacuum Technology</b>		<b>Coordinator: Mr. Munir Ahmed</b>		
<b>Chair: Mr. Amin Sabir</b>				
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
09:00-09:40	Gauges for low & medium vacuum measurements	<b>H. M. Akram</b> National Institute of Vacuum Science and Technology (NINVAST), Quaid-i-Azam University Campus, Shahdara Road, PO Box# 3125, Islamabad	SCVST-11	Pakistan
09:40-10:20	The Study of High & Ultra-High Vacuum Gauges	<b>Muhammad Asif</b> Institute of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan.	SCVST-18	Pakistan
10:20-11:00	Standardization for vacuum metrology & calibration techniques	<b>Wakeel Khan</b> Pakistan Vacuum Society, Islamabad	SCVST-1	Pakistan
11:00-11:15	<b>Tea Break</b>			
11:15-12:00	Leak detection methods	<b>Tariq Sattar</b> National Institute of Vacuum Science and Technology (NINVAST), Quaid-i-Azam University Campus, Shahdara Road, PO Box# 3125, Islamabad	SCVST-14	Pakistan
12:00-12:30	Vacuum pumps fluids & temporary leak sealants	<b>A. B. Soomro</b> National Institute of Vacuum Science and Technology (NINVAST), Quaid-i-Azam University Campus, Shahdara Road, PO Box# 3125, Islamabad	SCVST-7	Pakistan
12:30-13:00	Chemical cleaning techniques for vacuum systems & components	<b>A. G. Yahya</b> Institute of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan.	SCVST-8	Pakistan
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
14:00-14:40	Out gassing from vacuum systems and its reduction	<b>Talib Hussain</b> Pakistan Vacuum Society, Islamabad	SCVST-6	Pakistan
14:40-15:20	Fabrication of vacuum system	<b>Muhammad Yousaf Gondal</b> Pakistan Vacuum Society, Islamabad	SCVST-10	Pakistan
15:20-16:00	Importance of electronics in vacuum technology	<b>Musharaf Ahmad</b> Pakistan Vacuum Society, Islamabad	SCVST-4	Pakistan
16:00-16:15	<b>Tea</b>			
16:15-17:15	Practical demonstration	<b>Yousaf Zia</b> , Mr. Zulfiqar Ali Pakistan Vacuum Society, Islamabad	SCVST-20	Pakistan
17:15-18:00	<b>Knowledge review &amp; Certificate distribution</b>	<b>M. Amin Sabir</b> Pakistan Vacuum Society, Islamabad		Pakistan

Thursday, October 11, 2012

<b>Day-1</b>			<b>Venue: Room # 205</b>	
<b>Title: Vacuum Techniques in Renewable Energy Technologies</b>				
<b>Chair: Dr. Parvez Akhter</b>			<b>Coordinator: Dr. Talib Hussain</b>	
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
09:00-10:00	Renewable energy development in Pakistan - An historical review	<b>Parvez Akhter</b> Department of Physics, Air University, Islamabad	SECRET-1	Pakistan
10:00-11:00	Efforts to make cost effective solar water heater - A step to rely on renewable energy	<b>Faheem Khokhar</b> Institute of Environmental Sciences & Engineering (IESE), NUST, Islamabad, Pakistan	SECRET-2	Pakistan
11:00-11:15	<b>Tea Break</b>			
11:15-12:05	Biotechnology can contribute to modify lignin contents and simplify biomass to fuel conversion	<b>Muhammad Arshad</b> Institute of Environmental Sciences & Engineering (IESE), School of Civil & Environmental Engineering, National University of Sciences & Technology (NUST), Sector H-12, Islamabad	SECRET-3	Pakistan
12:05-13:00	A dual action solar water heater- its design and analysis	<b>Irshad Ahmed</b> , Zafar Ullah Koreshi Mechatronics Department, Air University, Islamabad	SECRET-4	Pakistan
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			
14:00-14:40	The upcoming trends in advancing solar cells: A review	<b>Khalid Alamgir<sup>a</sup></b> , *Ishrat Rahim <sup>a,b</sup> , Arshad Hussain <sup>a,b</sup> , Mutabar Shah <sup>b</sup> <sup>a</sup> National Institute of Vacuum Science and Technology, Islamabad, Pakistan <sup>b</sup> Institute of Physics and Electronics, University of Peshawar, Pakistan	SECRET-9	Pakistan
14:40-15:20	Prospects for electricity generation using wind energy in Pakistan	<b>M. I. Kayani</b> , P. Akhter, S. Z. Ilyas Department of Physics, Allama Iqbal Open University, Islamabad	SECRET-6	Pakistan
15:20-16:00	Renewable Energy Technologies	<b>Professor Zulekha</b> Institute of Petroleum and Natural Gas Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh Pakistan	SECRET-7	Pakistan
16:00-16:15	<b>Tea Break</b>			
16:15-16:55	Energy conservation in developing countries using green building idea	<b>Akram Rashid<sup>a</sup></b> , Dr. Ijaz Mansoor Qureshi <sup>b</sup> <sup>a</sup> Department of Electrical Engineering Air University Islamabad, Pakistan <sup>b</sup> Department of Electrical Engineering Air University Islamabad, Pakistan	SECRET-8	Pakistan

**Day-2: Friday, October 12, 2012**

Title: <b>Vacuum Techniques in Renewable Energy Technologies</b>				Venue: Room # 205	
Chair: Dr. Parvez Akhter			Coordinator: Dr. Talib Hussain		
Time	Topic	Authors/Affiliations	Paper No.	Country	
09:00-10:00	Design, Construction and Evaluation of Solarized Airlift Tubular Photobioreactor	Muhammad Zubair <sup>a</sup> , <b>Mohammad Bilal Khan</b> <sup>b</sup> , Ali Bahadur <sup>a</sup> <sup>a</sup> School Of Chemical and Materials Engineering, National University of Sciences and Technology, Sector H-12, Islamabad, Pakistan <sup>b</sup> Centre for Energy Systems, USAID Centre for Advanced Studies, National University of Sciences and Technology, Sector H-12, Islamabad, Pakistan	SECRET-13	Pakistan	
10:00-11:00	Potential of Biogas Production from Municipal Food Waste of Pakistan - A Cost Effective Way of Managing Energy Crisis	<b>M. Anwar Baig</b> , Naila Azhar Institute of Environmental Sciences and Engineering National University of Sciences and Technology, H-12 Sector Islamabad, 44000, Pakistan	SECRET-5	Pakistan	
11:00-11:15	<b>Tea Break</b>				
11:15-12:05	Renewable Energy Options for A 1000 Acre Agriculture Farm	<b>M.G. Doggar</b> Agriculture Engineering (Field), Department of Agriculture, Lahore, Pakistan	SECRET-10	Pakistan	
12:05-13:00	Community Based Self Sufficient Renewable Energy System – A Case Study	<b>S. Akber</b> , P. Akhter Department of Physics, Allama Iqbal Open University, Islamabad, Pakistan	SECRET-12	Pakistan	
13:00-14:00	<b>Lunch &amp; Prayer Break</b>				
14:00-14:40	Electrical and Optical Characterization of organic Photovoltaic Devices	<b>S. K. Shah</b> <sup>a,b,c</sup> , J. Khan <sup>c</sup> , M. Abbas <sup>b</sup> , P. Akhter <sup>c</sup> , J. I saggu <sup>c</sup> , L. Hirsch <sup>b</sup> , Gunnella R <sup>a</sup> <sup>a</sup> School of Science and Technology, Physics Division, University of Camerino, Via Madonna delle Carceri 9 , 62032 Camerino <sup>b</sup> Laboratoire IMS, Universite Bordeaux1, UMR 5218 CNRS, ENSCBP, 16 Avenue Pey-Berland, 33607 Pessac Cedex, France <sup>c</sup> Department of Physics, International Islamic University H-10, 44000 Islamabad, Pakistan	SECRET-14	Pakistan	
14:40-15:20	Potential and status of renewable energy technologies in Pakistan	<b>Dr. Afzal Hussain</b> Pakistan Council of Renewable Energy Technologies, No. 25, H-9, Islamabad, Pakistan	SECRET-15	Pakistan	
15:20-16:00	Discussion				
16:00-16:15	<b>Tea Break</b>				



**Thursday, October 11, 2012**

<b>Venue: Room # 207</b>				
Title: <b>Techniques for Surface Analysis</b>		Coordinator: Mr. Muhammad Shafiq		
Chair: Prof. Dr. Fazal A. Khalid				
<b>Time</b>	<b>Topic</b>	<b>Authors/Affiliations</b>	<b>Paper No.</b>	<b>Country</b>
09:00-10:00	XPS and STM techniques for surface coverage and structural study	<b><u>Fazal A. Khalid</u></b> GIK Institute of Science and Technology, Swabi, Pakistan	SCTSA – 1	Pakistan
10:00-11:00	X-ray absorption fine structures (XAFS)	<b><u>Shahid Ali</u></b> Institute of Physics & Electronics, University of Peshawar, Peshawar, Pakistan.	SCTSA – 2	Pakistan
11:00-11:15	<b>Tea Break</b>			
11:15-12:00	Spectroscopic techniques for surface characterization	<b><u>M. Sabieh Anwer</u></b> School of science and engineering, LUMS, Lahore, Pakistan	SCTSA – 3	Pakistan
12:00-13:00	Nano porous and nano composite characterization by SEM and TEM	<b><u>Muhammad Mujahid</u></b> School of chemical and material engineering, , NUST, H-12 Campus, Islamabad	SCTSA – 4	Pakistan
13:00-14:00	<b>Lunch &amp; Prayer Break</b>			

Wednesday, October 10, 2012

Title: <b>Chemical Cleaning Techniques for Vacuum Systems</b>				Venue: Room # 205	
Chair: Mr. Rashid Ahmad Alvi			Coordinator: Mr. Riaz Ahmad		
Time	Topic	Authors/Affiliations	Paper No.	Country	
09:00-10:00	The role of sealing materials and their finishing requirements in vacuum technology	<b><u>Mr. Riaz Ahmad</u></b> Institute of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan	SCCC-9	Pakistan	
10:00-11:00	Chemical surface finishing of vacuum components and systems	<b><u>A. G Yahya</u></b> Institute of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan	SCCC-4	Pakistan	
11:00-11:15	<b>Tea Break</b>				
11:15-12:10	Development of gas sensor for industrial applications using thin film of nano scale ceramic oxide	<b><u>S. Muzammil Hussain</u></b> Institute of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan	SCCC-1	Pakistan	
12:10-13:00	Introduction to fluids used in vacuum technology	<b><u>Muhammad Shafique</u></b> Pakistan Vacuum Society, Islamabad	SCCC-8	Pakistan	
13:00-14:00	<b>Lunch &amp; Prayer Break</b>				
14:00-14:40	Achievements in vacuum coatings	<b><u>Muhammad Amir Arian</u></b> Institute of Industrial Control System, P. O. Box. 1398, Islamabad, Pakistan	SCCC-5	Pakistan	
14:40-15:20	Role of vacuum technology in development of nano-science and technology	<b><u>Shahid Nisar Ahmad</u></b> National Center for Physics, Quaid-i-Azam University, Islamabad, Pakistan	SCCC-6	Pakistan	
15:20-16:00	Non-metallic materials for vacuum applications and their surface finishing	<b><u>Habib Ahmad</u></b> , A.G Yahya, Riaz Ahmad Institute of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan.	SCCC-3	Pakistan	
16:00-16:15	<b>Tea Break</b>				
16:15-16:45	Cleaning of ultrahigh vacuum (UHV) components	<b><u>Sadaf Saeed</u></b> Institute of Industrial Control System, P. O. Box. 1398, Islamabad, Pakistan	SCCC-7	Pakistan	
16:45-17:30	Waste disposal practices in chemical surface finishing facilities	<b><u>Naveed farooq</u></b> Institute of Industrial Control System (IICS) P. O. Box 1398 Rawalpindi, Pakistan	SCCC-2	Pakistan	

**Technical Program**  
6<sup>th</sup> Vacuum and Surface Sciences Conference of Asia and Australia

**Poster Session**  
Day - 3: Thursday, October 11, 2012

Venue: Main Lobby, Pak-China Friendship Centre.

Head: Dr. Christian Teichert  
Members: Dr. Asghari Maqsood  
Dr. C. E. Sittner

**Time: 16:15 - 18:30 Hrs**

<b>Surface Science and Engineering (SSE)</b>				
S. No	Paper No	Title	Author, Affiliations	Country
1.	SSE-3-P	CFD Analysis of Heat Transfer within a Bottom Heated Vertical Concentric Cylindrical Enclosure	<b>Asif Hussain Malik<sup>a</sup></b> , Ajmal Shah <sup>b</sup> and Shahab Khushnood <sup>a</sup> <sup>a</sup> Department of Mechanical Engineering, University of Engineering and Technology, Taxila, Pakistan <sup>b</sup> Department of Nuclear Engineering, Pakistan Institute of Engineering and Applied Sciences, Nilore, Islamabad, Pakistan	Pakistan
2.	SSE-8-P	Effects of Fibre Surface Treatments on Properties of Hemp Fibre Composites	<b>Asim Shahzad</b> Materials Research Centre, College of Engineering, Swansea University, SwanseaSA2 8PP, UK	UK
3.	SSE-11-P	Sorption Behavior of fungus P. Ostreatus towards Manganese in Aqueous Solution	<b>Afsar Khan</b> , Salah-ud-Din, Abdul Naeem, Zahid Ali Ghazi National center of excellence in physical chemistry university of Peshawar.	Pakistan
4.	SSE-12-P	Plasma Modification of Surface Nonwoven by Composite Metallic Layers	<b>Joanna Koprowska<sup>a</sup></b> , Błażej Wiśniewski <sup>a</sup> , Kazimierz Reszka <sup>b</sup> , Ewa Dobruchowska <sup>b</sup> <sup>a</sup> Textile Research Institute B92-103 Łódź, ul. Brzezinska 5/15 <sup>b</sup> Koszalin University of Technology, Institute of Mechatronics, Nanotechnology and Vacuum Technique 75-453 Koszalin, ul Śniadeckich	Poland
5.	SSE-13-P	Characterization of Flaws in Ferromagnetic Materials by Barkhausen Noise and Eddy Current Surface Mapping Technique	<b>Abdul Razaq</b> , Asif Hameed NINVAST, Islamabad	Pakistan
6.	SSE-14-P	Formulation, mechanism of action and applications of preservatives	<b>Afzal Shah*</b> and Attia Bano Department of Chemistry, Quaid-i-Azam University, 45320, Islamabad, Pakistan	Pakistan

7.	SSE-15-P	Mineralogical, Petro-graphic and Geochemical Characterization of White and Coloured Marbles from Selected Areas of Khyber Pakhtunkhwa (Pakistan)	<b>Fahad Muhammad</b> <sup>a,b</sup> , Yaseen Iqbal <sup>b</sup> , Rick Ubi <sup>c</sup> <sup>a</sup> Department of Earth Sciences, University of Cambridge, Downing Street, Cambridge CB2 3EQ, United Kingdom <sup>b</sup> Material Research Laboratories (MRL), Institute of Physics and Electronics, University of Peshawar 25120, Pakistan <sup>c</sup> College of Engineering, Boise State University, 1910 University Dr. Boise, ID 83725, Idaho, USA	UK
8.	SSE-17-P	Influence of Gold Promoter on Fischer Tropsch Synthesis Over CO/Al <sub>2</sub> O <sub>3</sub> Catalysts	<b>Nisar Ahmad</b> <sup>a</sup> , Syed Tajammul Hussain <sup>b</sup> , Bakhtiar Muhammad <sup>a</sup> <sup>a</sup> Hazant University Mansehra, Pakistan <sup>b</sup> National Center for Physics, QAU Campus, Islamabad, Pakistan	Pakistan
9.	SSE-18-P	Laser Surface Hardening of Groove Edges	<b>A. Hussain</b> , A. H. Hamdani, R. Akhter, M. Aslam Pakistan Institute of Lasers & Optics, P.O.Box 505, Rawalpindi, Pakistan	Pakistan
10.	SSE-19-P	Effect of Austenizing Temperature on High Carbon Steel and its Characterization by Eddy Current Non-destructive Technique	<b>S. H. Khan</b> , A. Nusair Khan, K. Mahmood Institute of Industrial Control Systems, Rawalpindi, Pakistan	Pakistan
11.	SSE-20-P	Thermal and Mineralogical Characterization of a Pottery Specimen from Harappa	<b>Saheeb Ahmed Kayani</b> Department of Mechanical Engineering, College of Electrical and Mechanical Engineering, National University of Sciences & Technology (NUST), H-12, Islamabad, Pakistan	Pakistan
<b>Electronic Materials &amp; Processing (EMP)</b>				
12.	EMP-1-P	Ab-Initio Calculations for Electronic Properties of Pt and Pd	<b>Shabbir Ahmed</b> , M. A. Choudhry Department of Physics, The Islamia University of Bahawalpur, Bahawalpur 63120, Pakistan	Pakistan
13.	EMP-7-P	The effect on dielectric, electric and thermal properties of polydimethylsiloxane polymer with the reinforcement of functionalized multiwalled carbon nanotubes	<b>Sadia Sagor</b> , Nadeem Iqbal, Asghari Maqsood Thermal Transport Lab (TTL), School of Chemical and Materials Engineering (SCME), National University of Sciences & Technology (NUST), H-12, Islamabad, Pakistan	Pakistan
14.	EMP-10-P	EITA with Kerr Nonlinearity Subluminal to Superluminal Propagation	<b>Bakht Amin Bacha</b> <sup>a</sup> , Taj Munir <sup>b</sup> , Iftikhar Ahmad <sup>c</sup> <sup>a</sup> Hazara University, Pakistan <sup>b</sup> Department of mathematics air university, Islamabad, Pakistan <sup>c</sup> Malakand University, Pakistan.	Pakistan
15.	EMP-11-P	Superluminal Propagation in Five Level System, Kerr Field Enhanced Superluminality at Low Absorption	<b>Bakht Amin Bacha</b> <sup>a</sup> , Taj Munir <sup>b</sup> , Iftikhar Ahmad <sup>c</sup> <sup>a</sup> Hazara University, Mansehra <sup>b</sup> Department of mathematics air university, Islamabad, Pakistan. <sup>c</sup> Malakand University, Pakistan	Pakistan
16.	EMP-15-P	Electrical characterization of hydrothermally grown n-type ZnO with palladium Schottky contacts on Zn-polar and O-polar faces	<b>M. Hussain</b> <sup>a</sup> , M. Asghar <sup>b</sup> , M. Iqbal <sup>a</sup> and G. Murtaza Rai <sup>c</sup> <sup>a</sup> Centre for High Energy Physics, University of the Punjab, Lahore-54590, Pakistan <sup>b</sup> Department of Physics, Islamia University of Bahawalpur, Pakistan <sup>c</sup> Department of Physics, University of the Punjab, Lahore-54590, Pakistan	Pakistan
17.	EMP-18-P	Synchrotron Based Photoemission Studies of (Ga, Mn) As	<b>I. Ulfat</b> <sup>a,b,c</sup> , P. Pal <sup>c</sup> , J. Sadowski <sup>c</sup> , L. Ilver <sup>b</sup> , J. Kanski <sup>b</sup> <sup>a</sup> Department of Physics, University Of Karachi, Karachi-75270, Pakistan <sup>b</sup> department of Applied Physics, Chalmers University, Se-41296, Gooteborg, Sweden <sup>c</sup> Swedish National Facility For Synchrotron Radiation (Max-Lab), Se-2210, Sweden	Pakistan

18.	EMP-20-P	Electrical characterization, Au/ZnO/Si Schottky contact	M Asghar <sup>a</sup> , <b>K Mahmood</b> <sup>a</sup> and M A Hasan <sup>b</sup> <sup>a</sup> Department of Physics, The Islamia University of Bahawalpur, Pakistan <sup>b</sup> Department of Electrical and Computer Engineering, UNC-Charlotte, NC, USA	Pakistan
19.	EMP-21-P	Growth and interface properties of Au Schottky contact on ZnO grown by molecular beam epitaxy	<b>M Asghar</b> <sup>a</sup> , K Mahmood <sup>a</sup> and M A Hasan <sup>b</sup> <sup>a</sup> Department of Physics, The Islamia University of Bahawalpur, Pakistan <sup>b</sup> Department of Electrical and Computer Engineering, UNC-Charlotte, NC, USA	Pakistan
<b>Nanometer Structures (NS)</b>				
20.	NS-3-P	Frequency Dependent Dielectric Measurements of Cd Doped Mn-Zn Nano Ferrites Prepared by Sol Gel and Co-Precipitation Methods	<b>Humaira Anwar</b> , Asghari Maqsood Thermal Transport Laboratory, School of Chemical and Materials Engineering (SCME), National University of Sciences and Technology, H-12, Islamabad	Pakistan
21.	NS-4-P	Field-Assisted Diffusion Mechanism of Metal Nanoparticles in Silicate Glasses	<b>S. Ali</b> <sup>a</sup> , F. Gonella <sup>b</sup> , E. Cattaruzza <sup>b</sup> , A. Quaranta <sup>c</sup> , A. Samreen <sup>d</sup> <sup>a</sup> Department of Physics, Abdul Wali Khan University, 23200 Mardan, Pakistan <sup>b</sup> Physical Chemistry Deptt, Università Ca' Foscari, Dorsoduro 2137, Venezia I-30123, Italy <sup>c</sup> Materials Engineering Deptt, Università di Trento, via Mesiano 77, 38050 Povo (TN), Italy <sup>d</sup> Department of Physics, Kohat University of Science and Technology, 26000 Kohat, Pakistan	Pakistan
22.	NS-8-P	Study of Carbon Nanotubes based Polydimethylsiloxane Composite Films	<b>M. I. Shahzad</b> <sup>a</sup> , M. Giorcelli <sup>a</sup> , N. Shahzad <sup>a,b</sup> , M. Castellino <sup>a</sup> , A. Tagliaferro <sup>a</sup> <sup>a</sup> Department of Applied Science and Technology, Polytechnic of Turin, Turin-10129, Italy. <sup>b</sup> Center for Space Human Robotics, Italian Institute of Technology, Turin-10129, Italy.	Italy
23.	NS-10-P	Rare Earth Influence on Structural, Gigahertz Dielectrical and Magnetic Studies of Cobalt Ferrites	<b>Erum Pervaiz</b> , I.H.Gul Thermal Transport Laboratory (TTL), School of Chemical and Materials Engineering (SCME), National University of Sciences and Technology (NUST), H-12 Islamabad	Pakistan
24.	NS-12-P	Nanotechnology in Treatment of diseases	<b>M. Afzal</b> , Aalia Nazir, M. Naeem Anjum, S.A. Buzdar Department of Physics, The Islamia University of Bahawalpur	Pakistan
25.	NS-15-P	Gold Nanoparticles for Cancer Care: Past, Present, and Future	<b>Muhammad Naeem Anjum</b> <sup>a</sup> , Muhammad Farooq Warsi <sup>b</sup> , Muhammad Afzal <sup>a</sup> <sup>a</sup> Department of Physics, The Islamia University of Bahawalpur. <sup>b</sup> Department of Chemistry, The Islamia University of Bahawalpur.	Pakistan
26.	NS-16-P	Gold – Polyaniline Nanocomposites Synthesis, Characterisation and Applications	<b>Aaliya Minhaz</b> , Dr Anwar-Ul-Haq and Dr M. Shakirullah Institute of chemical sciences, university of peshawar	Pakistan
27.	NS-19-P	To sStudy sStructured surface under catalytically and eEnvironmentally rRelevant condition using a newly constructed ambient pressure X-ray photoelectron spectroscopy end station	<b>Naila jabeen</b> NS & Catalysis Div. NCP, Islamabad-44000-Pakistan	Pakistan
28.	NS-24-P	Synthesis & Investigation of Photoluminescence Properties of MgAl <sub>2</sub> O <sub>4</sub> : TM Nano Material Synthesis By Sol-Gel Method	Dr. Tajammul Hussain <sup>a</sup> , <b>Dr. Bushra Ismail</b> <sup>a</sup> , Dr. Aurangzeb <sup>b</sup> , Kiran Kanwal <sup>a,b</sup> <sup>a</sup> National center of Physics, NS & CD. Islamabad 44000, Pakistan <sup>b</sup> Federal Urdu University of Arts, Science and Technology, Islamabad, Pakistan.	Pakistan

29.	NS-26-P	Future's Algal Biofuels and Nanotechnology	<b>Syed Tajammul Hussain</b> , Tariq Mahmood Nano Sciences and Catalysis Division, National Center for Physics, Quaid-i-Azam University, Islamabad 45320, Pakistan.	Pakistan
30.	NS-27-P	Modified Sol-Gel Synthesis of Fe <sub>2</sub> O <sub>3</sub> Nanoparticles	<b>S. Akbar</b> <sup>a</sup> , S. K. Hasanain <sup>a</sup> , Nasia Azmat <sup>b</sup> , and M. Nadeem <sup>c</sup> <sup>a</sup> Department of Physics, Quaid-I-Azam University Islamabad, Pakistan. <sup>b</sup> Department of Chemistry, Quaid-I-Azam University Islamabad, Pakistan. <sup>c</sup> Pakistan Institute of Nuclear Sciences and Technology, Nilore, Islamabad, Pakistan.	Pakistan
31.	NS-28-P	Low Temperature Deposition of Silver Sulfide Thin Films by AACVD for Gas Sensor Application	Syed Tajammul Hussain <sup>a</sup> , <b>Shahzad Abu Bakar</b> <sup>ab</sup> , BiBi Saima <sup>c</sup> , Bakhtiar Muhammad <sup>c</sup> <sup>a</sup> National Centre for Physics, Quaid-i-azam University, Islamabad, Pakistan <sup>b</sup> Department of Chemistry, Quaid-e-azam University Islamabad, Pakistan <sup>c</sup> Department of chemistry, Hazara University, Mansehra, Pakistan	Pakistan
32.	NS-29-P	Crucial Role of Catalyst In The Growth And Self Doping In Vapor-Liquid-Solid Mechanism	<b>S. Rehman</b> , M. Hafeez, A. S. Bhatti Center for Micro and Nano Devices (CMND), Department of Physics, COMSATS Institute of Information Technology, Islamabad, 44000, Pakistan	Pakistan
33.	NS-31-P	Novel Approach to Synthesize And Tune 3D Crystals Of ZnO	<b>Arslan Shehzad</b> , S. Rehman, M. Hafeez, A. S. Bhatti Centre for Micro and Nano Devices (CMND), Department of Physics, COMSATS Institute of Information Technology, Islamabad, 44000, Pakistan	Pakistan
34.	NS-34-P	Significance of Oxygen's Role in Mn catalyzed ZnS Nanostructures	<b>Uzma Nosheen</b> , Arslan Shehzad, Shania Rehman, Muhammad Hafeez, Arshad Bhatti Center for Micro and Nano Devices (CMND), Department of Physics, COMSATS Institute of Information Technology, Islamabad, 44000, Pakistan	Pakistan
35.	NS-35-P	Study of Different Properties of Carbon Nanotube/Phenolic Nanocomposites	<b>Sadaf Saeed</b> <sup>b</sup> , Saira Hakeem <sup>b</sup> , Rashid Ahmed Alvi <sup>b</sup> , Shahid Nisar Ahmad <sup>a</sup> <sup>a</sup> National Center for Physics, QAU, Islamabad, Pakistan <sup>b</sup> Institute of Industrial Control System, P.O. Box 1398, Islamabad, Pakistan	Pakistan
36.	NS-36-P	Study of Surface Anisotropy in Ag <sub>60</sub> Cu <sub>40</sub> Alloy at Nanoscale	<b>Fayyaz Hussain</b> , Muhammad Imran, Muhammad Rashid, Muhammad Shakil, S.A. Ahmad Department of Physics Simulation Lab, The Islamia University of Bahawalpur 63100, Pakistan	Pakistan
<b>Thin Film (TF)</b>				
37.	TF-4-P	Study of Thin Film Formation on Ag <sub>60</sub> Cu <sub>40</sub> Random Alloy at Nanoscale	<b>Fayyaz Hussain</b> , Muhammad Imran, Muhammad Rashid and S.A. Ahmad Department of Physics Simulation lab, The Islamia University of Bahawalpur Pakistan 63100	Pakistan
38.	TF-14-P	Production and Characterization of CNT/Ni and CNT/Cu Self Standing Composite Coatings by Electrodeposition	<b>M.R. Abdul Karim</b> <sup>a</sup> , M. Pavese <sup>a</sup> , E.P. Ambrosio <sup>b</sup> , P. Fino <sup>a</sup> , D. Ugues <sup>a</sup> , S. Biamino <sup>a</sup> , C. Badini <sup>a</sup> <sup>a</sup> Dipartimento Scienza Applicata e Tecnologia, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Torino, Italy <sup>b</sup> Center for Space Human Robotics @ PoliTO, Italian Institute of Technology, Corso Trento 21, 10129 Torino	Italy
39.	TF-17-P	A Controlled Atmosphere Tube Furnace was Designed for Thermal CVD	<b>Muhammad Rashid</b> , J. A. Bhatti, Fayyaz Hussain, Muhammad Imran, K. A. Chaudhary and S.A. Ahmad Department of Physics, The Islamia University of Bahawalpur Pakistan 63100	Pakistan

40.	TF-18-P	Surface Functionalization of Textiles by Sputter Coating	<b>Joanna Koprowska</b> <sup>a</sup> , Błażej Wiśniewski <sup>a</sup> , Jan Ziaja <sup>b</sup> , Arkadiusz Szwegier <sup>a</sup> <sup>a</sup> Textile Research Institute, 92-103 Łódź, ul. Brzezinska 5/15 <sup>b</sup> Wrocław University of Technology, Institute of Electrical Engineering Fundamentals (I7), 50-370 Wrocław, Wybrzeże Wyspińskiego 27	Poland
41.	TF-19-P	Optoelectronic Properties of Sn <sub>2</sub> Sb <sub>2</sub> S <sub>5</sub> Thin Films Deposited By Thermal Evaporation Techniques	<b>Nisar Ali</b> <sup>a,b</sup> , S.T Hussain <sup>a</sup> , M.A Iqbal <sup>b</sup> <sup>a</sup> National Centre for Physics Islamabad <sup>b</sup> University of the Punjab, Lahore	Pakistan
42.	TF-20-P	Investigation of Failure Mechanism of Thermal Barrier Coatings (TBCS)	<b>M. R. Shahid</b> <sup>a</sup> , Musharaf Abbas <sup>b</sup> <sup>a</sup> National University of Sciences and Technology, H-12, Islamabad 44000, Pakistan. <sup>b</sup> School of Materials Science and Engineering, Beijing University of Aeronautics and Astronautics No. 37, Xueyuan Road, Beijing, 100191, China.	China
43.	TF-23-P	Role Of Oxygen Vacancies In Structural And Optical Properties Of ZnO Sputtered Thin Films	<b>Madiha Sabeen</b> , Awais Ali, FaisalNasim, ShabanaAfsar, AbdurRehman Malik, and ArshadBhatti Centre for Micro and Nano Devices (CMND), Department of Physics, COMSATS Institute of Information Technology, Islamabad, 44000, Pakistan	Pakistan
44.	TF-26-P	Dependence of Vickers Micro-hardness on Applied Load for Chromium-Doped Titanium Dioxide Thin Film	<b>Zahid khan</b> , M. Shoaib, M. Khalid Alamgir, M. Sulaiman National Institute of Vacuum Science & Technology, NCP Complex, Islamabad, Pakistan	Pakistan
45.	TF-27-P	Tailoring the Energy Band Gap of Transition Metal Doped TiO <sub>2</sub> Thin Film	<b>M. Shoaib</b> , M. Khalid Alamgir, M. Sulaiman National Institute of Vacuum Science & Technology, NCP Complex, Islamabad, Pakistan	Pakistan
46.	TF-28-P	Structural Analysis of Chromium doped TiO <sub>2</sub> Thin Film Deposited Using Cathodic Arc Deposition Technique	<b>M. Khalid Alamgir</b> <sup>a</sup> , Khalid Hameed <sup>b</sup> , M.Sajjad <sup>b</sup> , M. Sulaiman <sup>a</sup> <sup>a</sup> National Institute of Vacuum Science & Technology, NCP Complex, Islamabad, Pakistan <sup>b</sup> Kohat University of Science & Technology, Kohat	Pakistan
47.	TF-32-P	Enhancement of Superconductivity of TlBa <sub>2</sub> Ca <sub>3</sub> Cu <sub>4</sub> O <sub>12.5</sub> Superconductors by Be Doping	<b>Nawazish A. Khan</b> , M. Shamraiz Materials Science Laboratory, Department of Physics, Quaid-i-Azam University, Islamabad, Pakistan-45320	Pakistan
48.	TF-33-P	Design and Development of Laser Eye Protection Filter	<b>K. Ahmed</b> , A. N. Khan, A. Rauf, A. Gul and M. Aslam Institute of Industrial Control System, G. P. O Box -1398, Rawalpindi, Pakistan	Pakistan
<b>Vacuum Science and Technology (VST)</b>				
49.	VST-1-P	A comparative study of pumping speed measuring techniques for medium range vacuum Pump	<b>M. N. Azam</b> , M. Maqsood and A. Usman National Institute of Vacuum Science & Technology, Islamabad, Pakistan	Pakistan
50.	VST-9-P	Indigenous production of perfluoropolyethers	<b>A. B. Soomro</b> , Lutf-ur-Rehman, Nayyar Akram National Institute of Vacuum Science and Technology (NINVASt), P. O. Box 3125, Islamabad	Pakistan
51.	VST-10-P	Indigenous Synthesis of Non-adhesive Housing Sealant	<b>Lutf-ur-Rehman</b> , NayyarAkram and A. B.Soomro National Institute of Vacuum Science and Technology (NINVASt), P.O. Box 3125 Islamabad	Pakistan
52.	VST-11-P	Efficiency Enhancement of Rotary Oil Vacuum Pumps in Corrosive Gas Environment	<b>Muhammad Islam Chohan</b> Institute of Industrial Control Systems, Rawalpindi-Pakistan	Pakistan
53.	VST-12-P	Ultra-high vacuum using Viton O-rings	<b>M. Shoaib</b> , M. Y. Gondal, M.Maqsood and H. M. Akram National Institute of Vacuum Science and Technology	Pakistan
54.	VST-14-P	The use of the ejectors and the production of oils in the vacuum distillation at the refinery of Arzew- Algeria	<b>Menouar Hanafi</b> Department of Chemistry, Faculty of Sciences, The University of Science and Technology of Oran, Algeria	Algeria

<b>Plasma Science &amp; Technology (PST)</b>				
55.	PST-3-P	Climbing Arc Assisted Processing of Hydro Carbon Materials	<b>Muhammad Asim Shahzad</b> , Muhammad Rashid, Javaid Ahsan Bhatti and K. A. Chaudhary Department of Physics, The Islamia University of Bahawalpur Pakistan 63100	Pakistan
56.	PST-4-P	Characterization of Inductively Coupled Ar-N <sub>2</sub> Plasma Using Langmuir Probe and Optical Emission Spectroscopy	<b>M. Abrar</b> <sup>a</sup> , A. W. Khan <sup>b</sup> , A. Qayyum <sup>c</sup> , M. Zakauallah <sup>d</sup> <sup>a</sup> Institute of Physics and Electronics, University of Peshawar, 25120 Peshawar, Pakistan <sup>b</sup> Department of Physics, Gomal University, 29050 D. I. Khan, Pakistan <sup>c</sup> National Tokamak Fusion Program, P. O. Box. 3329 Islamabad, Pakistan <sup>d</sup> Department of Physics, Quaid-i-Azam University, 45230 Islamabad, Pakistan	Pakistan
57.	PST-6-P	Laser Induced Breakdown Spectroscopy (LIBS) as a Rapid Tool for Material Analysis	<b>T. Hussain</b> <sup>a</sup> , M. A. Gondal <sup>b</sup> <sup>a</sup> National institute of vacuum science and Technology (NINVAST), P.O. Box 3125, Islamabad <sup>b</sup> Laser Research Laboratory, Physics Department, King Fahd University of Petroleum & Minerals (KFUPM), Box 5047, Dhahran 31261, Saudi Arabia	Pakistan
58.	PST-9-P	Laser Etching Rates of Sapphire Glass using Metal Targets	<b>A. H. Hamdan</b> <sup>a</sup> , A. Nasir <sup>b</sup> , S. Sarwar <sup>b</sup> , A. Ansar <sup>a</sup> , R. Akhter <sup>a</sup> , M. Aslam <sup>a</sup> <sup>a</sup> Pakistan Institute of Lasers and Optics, P.O.Box 505, Rawalpindi <sup>b</sup> Department of Electrical Engineering, International Islamic University, Islamabad	Pakistan
<b>Bio interface (BI)</b>				
59.	BI-5-P	Effect of Indole Acetic Acid (IAA) on Fruit Drop and Fruit Quality of Date Palm Cultivars	<b>Saeed Ahmed</b> and Muhammad Sajid Faculty of crop production, Department of Horticulture, KP Agricultural university Peshawar, Pakistan.	Pakistan
60.	BI-7-P	Dynamic Corneal Surface Mapping with Electronic Speckle Pattern Interferometry	<b>S. Iqbal</b> <sup>a</sup> , M. M. S Gualini <sup>b</sup> <sup>a</sup> Institute of Industrial Control Systems Rawalpindi <sup>b</sup> Polytechnic Di Torino, Turin, Italy	Pakistan
61.	BI-8-P	Influence of MWCNT's on Denaturation and Structural Orientation of Human Hemoglobin	<b>M. Sulaiman</b> <sup>a</sup> , T. Z. Rizvi <sup>b</sup> , M. K. Alamgir <sup>+</sup> and S.T. Hussain <sup>c</sup> <sup>a</sup> National Institute of Vacuum Science and Technology (NINVAST), National Centre for Physics (NCP) Islamabad, Pakistan <sup>b</sup> Department of Physics, Quaid-i-Azam University, Islamabad, Pakistan <sup>c</sup> Nano Science and Catalysis Division (NS&CD), National Centre for Physics, Islamabad, Pakistan	Pakistan
<b>Renewable Energy Technologies (RET)</b>				
62.	RET-1-P	To Investigate the Surface Properties for Increasing Efficiency of Solar Water Heater	<b>Abdul Hai</b> , Qurrat-ul-Ain Chemical Engineering Department University of Engineering & Technology, Peshawar	Pakistan
63.	RET-7-P	The Electricity Generation Potential in Sugar Mills of KPK	<b>Atiq Ur Rehman</b> , Azzam Ul Asar University of Engineering and Technology Peshawar	Pakistan
64.	RET-8-P	Proposed Applications with Implementation Techniques of the Upcoming Renewable Energy Resource, The Tesla Turbine	<b>Irfan Maqsood</b> , M. Shahjamaal, Muhammad Javed, M. Usman Saeed Khan The Islamia University of Bahawalpur	Pakistan



65.	RET-10-P	Correlation of Meteorological Parameters and Remotely Sensed Normalized Difference Vegetation Index (NDVI) With Cotton Leaf Curl Virus in Multan	<b><u>Azeema Ahmad</u></b> , Asma Akhtar, Bushra Khalid, Ahmad Shamim Department of Environmental Sciences, International Islamic University, Islamabad, Pakistan	Pakistan
66.	RET-11-P	Numerical Climate Modeling and Verification of Selected Areas of Pakistan for Heat Waves Using Ensemble Prediction System	<b><u>S. Amna</u></b> , N. Samreen, B. Khalid, A. Shamim Department of Environmental Sciences, International Islamic University, Islamabad, Pakistan	Pakistan
67.	RET-12-P	Hyperspectral Image Classification Using Support Vector Machine	<b><u>Mr. Tauqir Moughal</u></b> Beijing Normal University, Beijing, China	China
68.	RET-13-P	Carbon Dioxide Sequestration for the Production of Methanol	<b><u>Anam Asif</u></b> University of Engineering and Technology, Lahore	Pakistan
69.	RET-14-P	Comparative Analysis of Mapping Burned Areas from Landsat TM Images	<b><u>Abeer Mazhar</u></b> Peking University, Beijing, China	China