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RESERCH INTEREST:

Hierarchical Nanostructures; Lithium Sulfur Batteries; Carbon; Energy Storage; Heterogeneous Catalysis; Oxygen Reduction/Evolution Reaction and Organic electronics (OLEDs). **Details are given in Research Interest Statement.**

QUALIFICATION:

Qualified **CSIR (JRF)** (Dec. 2003) in CHEMICAL SCIENCE
Qualified **SLET** (Haryana) 2004 in CHEMICAL SCIENCE

EDUCATION AND RESEARCH EXPREANCE

Post-Doctoral Fellow (Chemistry) (2007-2008)
Stellenbosch University
Stellenbosch
Cape Town
SOUTH AFFRICA
Post-Doctoral Fellow (Chemistry) (2006-2007)
University of the Western Cape
Belville-7535
Cape Town
SOUTH AFFRICA
PhD (Chemistry) (2002-2006)
Jamia Millia Islamia
New Delhi-110025, INDIA
M. Sc. (Chemistry), (**2000-2002**)
D. J. College, Baraut, Baghput
C. C. S. University, Meerut, INDIA.

TEACHING EXPREANCE:
14 years teaching experience to undergraduate and post graduate students.
For details see the statement of teaching interest.

PERSONAL DETAILS:
Indian, Male, Married, Born on April 11, 1981.

INVITED REFREE FOR:
Industrial & Engineering Chemistry Research
Chemical Science
Energy and Environmental Science
ChemCatChem
Polymer Chemistry
RSC Advances
Catalysis Science & Technology
Nanoscale
Catalysis Today
Chemical Engineering Journal
And others

Attended National/International Seminars/Conferences:
25 national and International conferences.

📖 **PUBLICATIONs:**

Total no of publications:	**82**
Published	60
In press	*6*
Accepted:	*5*
Under production:	*12*

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Statement of Teaching Interests

As you know, knowledge is far more valuable when shared. Thus teaching is especially important as it imparts knowledge to others. I can still clearly remember that I started enjoying "teaching" at a young age. After I had learned something new, I was always itching to share my new discovery with my little companions. While growing up as a high school student, an undergraduate, a graduate, and even a post-doc, I have always admired those school teachers and university professors who excelled at conveying their knowledge unto me. My teaching experiences in college as a private tutor and in graduate school as a lab instructor have not only helped me to improve my teaching skills, but also have encouraged me to pursue a life-long career in teaching and research. Now that I am equipped with the knowledge of fundamental chemistry as well as research experience at the inorganic, polymer and materials science, I am eager for a teaching opportunity to share what I have learned and to inspire those young and fresh minds so often found in academia.

Teaching Experience

Lab instructor (2002-2004) for the general chemistry laboratory course at the Jamia Millia Islamia New Delhi:

This was my first time teaching college students, I was very excited, but at the same time a little nervous. Luckily, most of the students took to my teaching methods very fast as I was trying my best to extend their horizons based on my knowledge in my own research field. For example, when I was teaching them basic electrochemistry such as electroplating, I told them electroplating metals into "nano-sized templates" can produce metallic nanomaterials. This caused the students' curiosity to peak, because they had never expected that advanced nanotechnology can be related to a fundamental general chemistry course. The students' huge interest in my lab sessions definitely helped to encourage me. With thorough preparation for each lab session and constant thinking of how to improve my teaching methods, I became very skilled at instructing and the students made me feel as though I was one of the most liked lab instructors in the department.

Lecturer (2004-2006) for the Under Graduate Chemistry course at YMD college Affilated to Maharishi Dayananad University Rohatak (www.mdurohtak.ac.in/):

As a more experienced as a lecture, I realized that my responsibility should go beyond just sharing knowledge. There are other critical responsibilities such as helping students form habits of critical thinking and developing the ability to discover new things by themselves. One simple way of achieving these is to provide "inspiring hints", rather than direct answers, to their questions. I usually did this by responding to students' questions with helpful hints, just pointing them in the right direction rather than giving them the final answer. These hints would lead students to think through their problem and finally figure out the correct answer for themselves. This simple method teaches students how to approach problems, helps them understand the answers better, and more importantly, it builds up confidence in themselves to discover the solutions on their own.

Instructor, 2007 – 2008, I served as a Pos.Doc fellow at University of Stellenbosch, South Africa, with the main responsibility of being research and an instructor in the undergraduate education program. I taught a broad range of students, including elementary school kids, high school students, homeschoolers, etc. Teaching students with

vastly different backgrounds was very challenging. I devoted plenty of time to tailoring my teaching approaches to fit each one of them, and it was well worth it. Serving at Stellenbosch was one of my most memorable teaching experiences. One activity that I enjoyed the most was an annual program called "Chemistry Fair" held in the Stellenbosch University. This program was designed with various spying-related activities (e.g., boot camp, spy activity stations, and materials analysis laboratories) for middle school students to accomplish. It was a fun way for them to learn how materials science, physics, and chemistry can be applied in spying missions. My interaction with the kids involved in this program was very enjoyable. I loved seeing their eyes sparkle with the thirst for knowledge, which was why I made up my mind to pursue a life-long career of teaching science.

Assistant/ Associate professor, 2008- Now, Department of Chemistry, King Saud University

Over the last eight years, my career as a science/engineering assistant professor and associate professor at the King Saud and my passion for teaching and learning has allowed me to interact with students of various nationalities like Saudi Arabia, Sudan, Pakistan, Sudan, Egypt, Jordan, Somalia and other countries. I have thoroughly enjoyed developing courses and curriculum that challenges the motivated student with a well-focused engineering/science career goal. Equally fulfilling has been to participate in programs that provide the unsure and unfocused student a little direction and encouragement to help them develop study habits, skills to manage time and think critically so that they can succeed in college and later on in life. Every second I invest in instilling confidence in the elementary school teacher appears worthwhile when I see an improvement in attitudes towards science teaching and learning in the classroom. As a teacher, I yearn to ensure that the quest for knowledge doesn’t go away for my students after graduation. **If my students leave class with eternal thirst for learning, I feel I have done my job.**

Teaching Interests

I would like to teach general chemistry for undergraduate, **General Chemistry (Chem 101)**, inorganic chemistry (**Transition metal chemistry Chem 321, Physical method in Inorganic Chemistry Chem 329, and Bioinorganic Chemistry Chem 426**) and organic chemistry (**Organic reaction mechanism**) for both undergraduate and graduate students.

Based on my own academic and research background and my careful study of the current course settings of the King Saud University, chemistry department, I would like to design two new courses: a **material science course** and an **electrochemistry course**. Both of them can be offered to graduate students or senior undergraduate students.

The first course would cover the various aspects of modern material science, such as the fundamental properties of materials, different classes of materials (e.g. inorganic materials, polymers, and semiconductors), material synthesis and material characterizations. In recent years, nanoscience and nanotechnology has become a special focus in many universities, therefore this topic will be a main focus of this course.

The second course would be important because electrochemistry not only serves as an essential approach to synthesizing various materials, but also lays the principles for modern electrochemical **energy storage systems, such as lithium ion batteries and supercapacitors.** This course would cover the fundamentals of electrochemistry (thermodynamics and kinetics) and applications of electrochemistry (**electrodeposition techniques, electrochemical analysis, and electrochemical energy storage**).

Teaching Philosophy

In my view, a great teacher is like a great artist who uses basic tools to transform raw materials into valuable assets of society. However, great artists may not have the best tools or best skills – they are recognized because of their passion and their unique perspective of the world. That is the difference between an artist and an artisan. Teaching is similar. Great teachers are not just ones who transmit information, teach skills, and help students earn the best grades. They are those who share their passion for knowledge and curiosity with their students, inspire the students' creativity, develop their critical thinking ability, and prepare them for the complex world they will face after stepping off campus. Based on my own experiences of being a student and an instructor, I think the following "principles" are the most noteworthy ones in good teaching:

First, passion is one of the most key ingredients of effective teaching. It leads to thorough preparation, a continuous desire to improve teaching skills, and an intense delight in watching students learn. How well the students can learn greatly depends on how passionate and how devoted a teacher is.

Second, teaching is not just a way to impart knowledge, but can also be used as a method to foster interest in the subject. Students are naturally curious. They are intrigued by the world around them. Teaching is far more effective when students are truly intrigued, because they will "actively" learn and seek new knowledge rather than feeling like they are being "forced" to learn by the teacher.

Third, a teacher should encourage critical thinking and should always strive to be respectful of different opinions. Students, on the other hand, should learn to think independently, not merely accept the teacher's opinions. A teacher should be prepared to

challenge and be challenged by the students as every student possesses unique perspectives, and they should be supportive when considering their different perspectives.

Fourth, each student deserves an education tailored to his or her strengths and needs. King Saud University's campus is hosts over thousands of international students. As a foreigner myself, I understand the difficulties and needs of students studying abroad. Their English abilities, cultural backgrounds and fundamental knowledge may vary greatly. It is my responsibilities to help them overcome these learning obstacles.

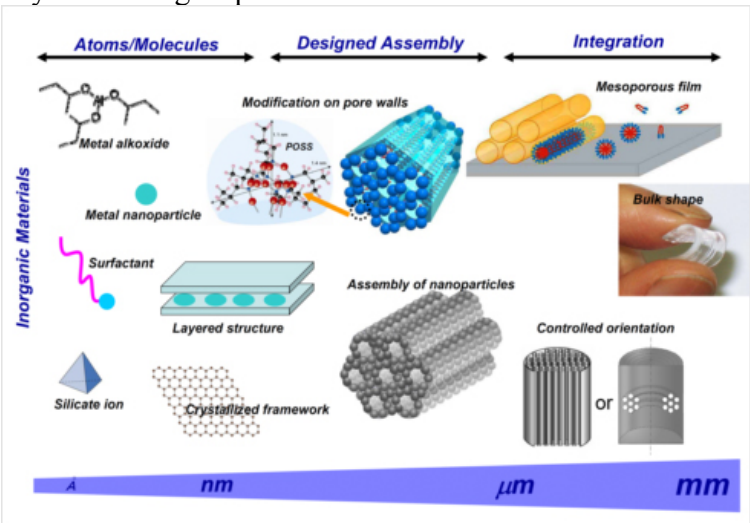
Finally, course materials should be presented in an interesting and interactive environment, which will make the student want to learn and retain more information. For this reason, I believe that using computer based technology such as multimedia, slides, and the Internet, is an effective way to complement traditional lectures, laboratory exercises and even exams. Nevertheless, readings combined with traditional lectures are still the foundation of the educational experience. **I believe that my experience to prepare new course syllabus, course specification and course report and can be used for department and college accreditation.**

My pursuit of higher education and being a scientist is partly due to several teachers who have inspired me and taught me necessary skills to achieve these goals. Now I would like to join their ranks and be a catalyst for others to fulfill their dreams. I believe my great passion for teaching, various past teaching experience, strong academic background and communication skills will make me an excellent teacher.

Statement of Research Interests

Overview of Research Plan

Nanotechnology Research in nanotechnology is undergoing a paradigm shift. A bottom-up or self-assembly approach is being investigated as an alternative to the current top-down approach. Most significantly, the shift from the exclusive use of lithography for device fabrication opens the field to not only novel fabrication schemes but the incorporation of diverse material systems. Combining organic and inorganic materials into self-assembled nano systems is a dynamic area of research. Technology coupled with creative thinking offers us the ability to invent and probe at the molecular or atomic level. The development and/or combination of new materials with/without the currently used materials such as silicon holds promise to yield innovative devices with increased functionality that will impact electronic, chemical and biomedical applications. The overall research goal is the design, synthesis and characterization of new materials with an emphasis on understanding the fundamental issues of structural assembly and growth that will enable the rational control of the material composition, micro/nano-structure, morphology, property and functionality. My research target is rational design of nanoporous metals with controlled compositions and morphologies, which is very attractive and challenging objective. I had synthesized novel inorganic nanoporous materials by utilizing various self-assembly processes of atoms/molecules. Especially, research on nanoporous materials, conducted mainly by using surfactant assemblies as templates, has been increasing rapidly. The specific features of regular pore arrangement, uniform pore size, and high surface area make these materials very promising for various applications. Especially, nanoporous “metals” with high electroconductivity have attracted particular interest for their very wide range of applications in such items as batteries, fuel cells, solar cells, chemical sensors, field emitters, and photonic devices. We are always interested in many scientific aspects ranging from fundamental chemistry to industrial-scale production. In addition, I am currently exploring new chemical and physical properties originated from the nanoporous structures with extensive collaborations with many research groups all over the world.

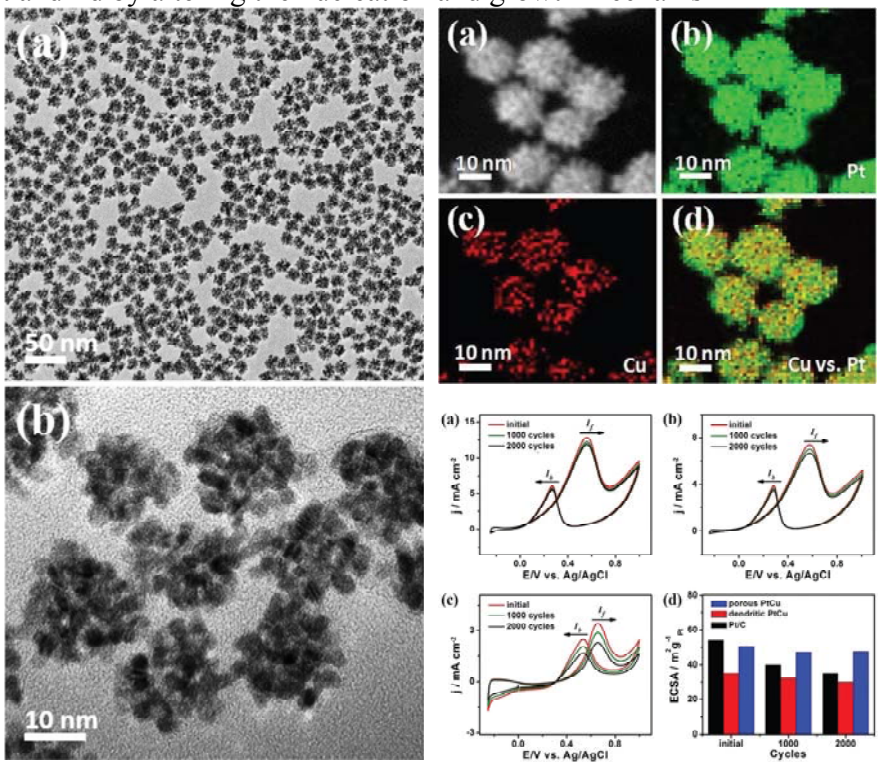


Current and Future research Interest

(1) Electrocatalytic Energy Storage and Conversion:

(a) Metal nanoparticles and nanocomposites as Electro catalyst:

Controlling the size and structural morphology of noble metal nanoparticles on carbon supports is an interesting area of electrocatalytic research. Controlled structures are essential for achieving efficient catalytic activity to promote oxidation and reduction reactions in fuel cells. Currently, we are working on shape controlled platinum and palladium catalyst synthesis via electrochemical deposition technique. Pt and Pd catalysts with three dimensional dendritic and flower morphology were obtained using cyclic voltammetry and constant voltage techniques directly on carbon based supports such as carbon black, carbon nanotubes, wood apple shell carbon and graphene. Pt and Pd dendrites/flowers synthesized by the electrochemical methodology is free of template or surfactant, which also showed increased surface area and displayed increased electrocatalytic activity towards methanol/formic acid oxidation and oxygen reduction reaction in comparison to conventional Pt or Pd deposit. Electrodeposition with controlled coverage is also being carried out on carbon coated carbon paper generally used as gas diffusion layer in fuel cells. The prime interest is to control the morphology of Pt and Pd by altering the nucleation and growth mechanism.



Tansir Ahamad, et al., *One-step synthesis of porous bimetallic PtCu nanocrystals with high electrocatalytic activity for methanol oxidation reaction.* Nanoscale, 2015. **7**(40): p. 16860-16866.

Tansir Ahamad, et al., *One-step solution-phase synthesis of bimetallic PtCo nanodendrites with high electrocatalytic activity for oxygen reduction reaction.* Journal of Electroanalytical Chemistry, 2016(In Press).

(b) Metal-free Catalysts for High Performance Oxygen Reduction

Oxygen reduction reaction (ORR) is the key process in many applications such as low-temperature fuel cells, lithium-air batteries and oxygen detectors, etc. However, the high price and sluggish kinetics of the currently available Pt based catalysts has made these energy conversion devices hard for commercialization or industrialization. Increasing studies have been conducted on the exploration of metal-free catalyst which is expected to be cheap, stable and comparably active as Pt for ORR.

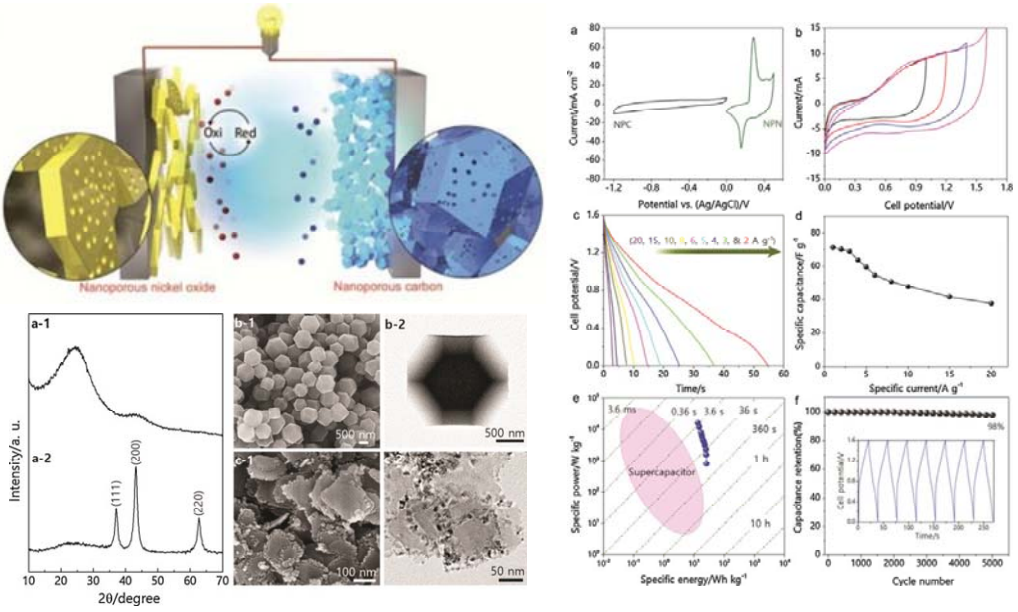
According to the quantum theory simulation, carbon frameworks decorated with heteroatoms can provide non uniform electron distribution, which can help adsorb O2 and reduce them into OOH- or OH- electrochemically. Inspired by this, we have done a series of works focused on the novel porous carbons decorated with multiple heteroatoms (N-S, or N-B) or other metal-free active materials (graphite carbon nitride, g-C_3N_4) as catalyst for ORR. The resultant materials show very good catalytic performance for ORR and they also possess outstanding long-term durability and complete tolerance to fuel cross-over effect. All these excellent features make our materials promising candidates in the next generation energy devices. These works shed light on further research on the design, synthesis and evaluation of metal-free catalyst for the energy conversion and storage.

In addition to metal-free catalyst, non-precious metals are also introduced into the nitrogen doped reduced graphene oxide (N-rGO) to achieve higher catalytic performance. The N-rGO has some advantages among nitrogen doped carbon for its easy synthesis, perfect conductivity, high surface area etc. Non-precious metal oxides such as Co, Cu, Mn and Ag are introduced to the N-rGO. Both spectroscopic and electrochemical evidences have proved the interaction between the metal and nitrogen atoms which promotes ORR performance greatly.

(c) **Carbon and Metal Nanoparticles Based Materials for Electrochemical supercapacitors**

Electrochemical supercapacitors (ES) are urgently needed as components in many advanced power systems requiring high power density. A new wave of interest in electrochemical supercapacitors is related to the development of electric and fuel cell vehicles. ES allow significant energy savings and optimize operation of engines, batteries and fuel cells. Buses and cars need efficient energy storage devices, which accumulate braking energy to be reused in the next acceleration phase. Energy storage mechanisms of electrochemical supercapacitors include double layer capacitance arising from the charge separation at an electrode/electrolyte interface and pseudo capacitance arising from reversible Faradaic reactions. My research has been focused on the development of electrode materials, which have high specific capacitance in various electrolytes. To realize a high capacitance, electrode materials are fabricated in a three-dimensional

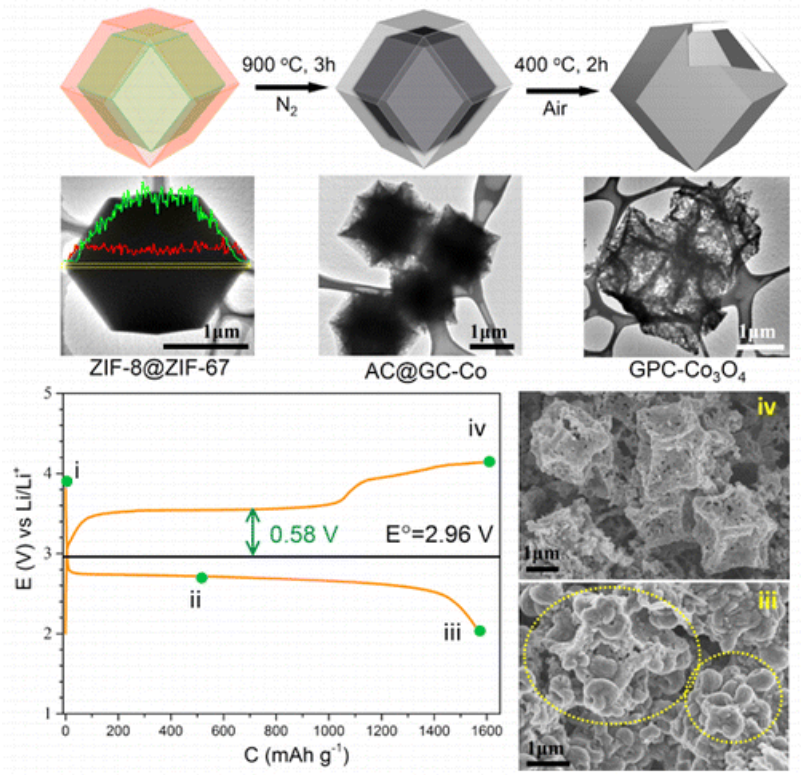
matrix form to achieve a high surface area. Novel electrochemical technologies are currently under development for the fabrication of nanostructured oxides and nanocomposites for applications in supercapacitors and hybrid supercapacitor-battery devices. An advanced testing facility is used for the investigation of power-energy characteristics and charge storage mechanisms.



Tansir Ahamad, et al., *Fabrication of Asymmetric Supercapacitors Based on Coordination Polymer Derived Nanoporous Materials.* Electrochimica Acta, 2015. 183: p. 84-99.

(d) Advanced Materials for Lithium-ion Batteries

Lithium-ion batteries (LIBs) as the state-of-the-art commercialized energy storage and conversion device have widely powered various electronics such as cellphones, laptops and digital cameras, etc. However, conventional LIBs fail to meet the ever-increasing demands for high energy, high power and long life-span, especially as the power sources for plug-in hybrid and electric vehicles. The key to develop the next generation of high-performance LIBs is to seek advanced electrode materials. Hence, one of our research focuses is the design and synthesis of advanced nanocomposites by tailoring their electronic structure, composition, morphology and architecture. So far, we have designed and successfully synthesized a series of nanocomposites based on transition metal oxides and carbon materials with remarkably improved specific capacity, rate capability and cycling stability, for example, ordered mesoporous core/shell Co_3O_4/C nanocomposite.

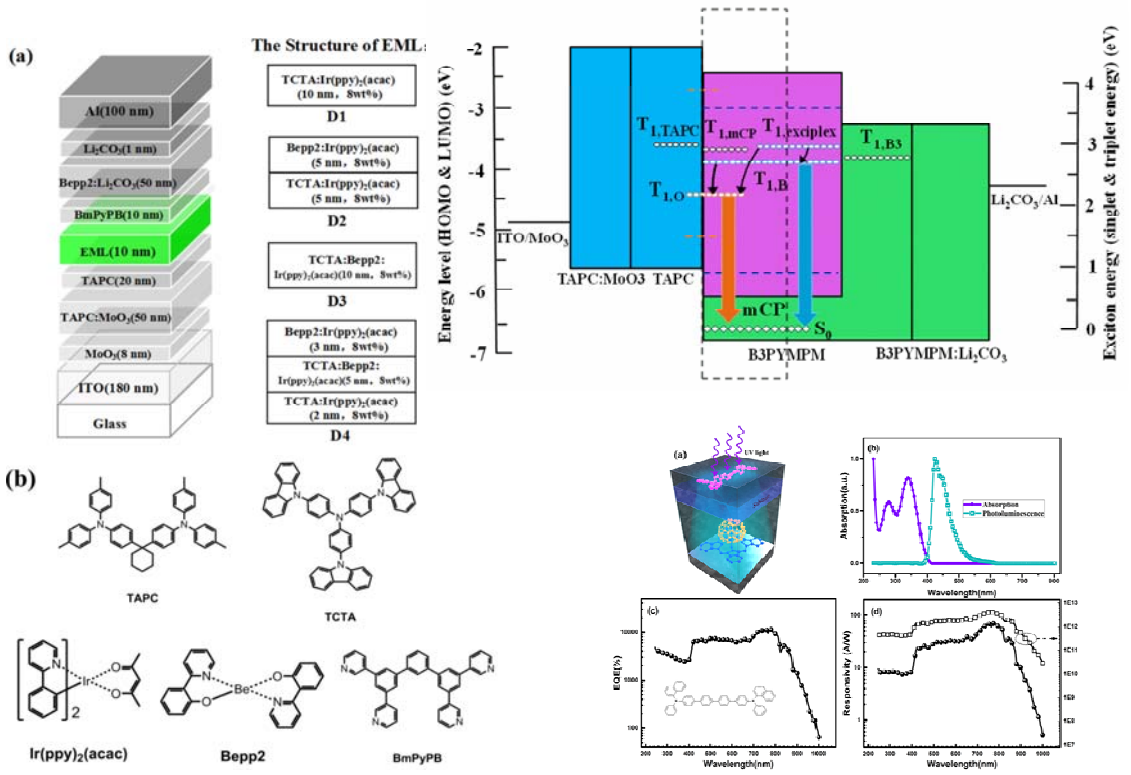


Tansir Ahamad etal. Cage-Type Highly Graphitic Porous Carbon–Co_3O_4 Polyhedron as the Cathode of Lithium–Oxygen Batteries, *ACS Appl. Mater. Interfaces*, Article ASAP, **DOI:** 10.1021/acsami.5b11252

(2) Energy-Saving Research Shines Light on OLEDs:

Considerable research is currently focused on the development of new light emitting device technologies for flat panel displays. One technology that shows promise involves organic light emitting diodes (OLEDs). These devices are built form a variety of different molecular and polymeric materials, which serve as electron and hole carriers, sites of recombination and luminescent zones. Our research on OLEDs addresses a number of issues, including the mechanism of electroluminescence, the stability of and lifetimes of OLEDs, and the identification of new materials and device architectures for OLEDs. We have spent a great deal of time focusing on the color tuning of these devices, which has led to a deep understanding of the mechanism of electroluminescence as well as a range of interesting photophysical studies of organometallic Ir and Pt complexes. With the use of both fluorescent and phosphorescent dopants we have tuned the OLED color from blue to red with high efficiency. Our best devices emit with nearly 100% efficiency (photons/electrons), exceeding the best efficiencies reported for conventional LEDs. We have recently turned our attention from the emission process in OLEDs to the carrier injection and conduction issues related to these devices. In this research we are trying to determine what parameters are the most important for optimizing these processes in organic devices. The knowledge we gain here will be instrumental in developing better OLEDs as well other devices such as solar cells, transistors, memories, etc.. It is important to stress that while our work often involves the fabrication and testing of

devices, our principal interest is in understanding the underlying chemical and photophysical properties of the materials. The devices are typically used to study these properties, but achieving high device efficiency or lifetime is not a goal in itself. The real goal is to understand how the molecular properties affect the bulk properties of the materials.



Tansir Ahamad etal., Achieving Extreme Utilization of Excitons by an Efficient Sandwich-Type Emissive Layer Architecture for Reduced Efficiency Roll-Off and Improved Operational Stability in Organic Light-Emitting Diodes, *ACS Appl. Mater. Interfaces*, Just Accepted Manuscript, **DOI:** 10.1021/acsami.5b10532

Tansir Ahamad etal., Simple-Structured Phosphorescent White Organic Light-Emitting Diodes with High Power Efficiency and Low Efficiency Roll-off. *Advance materials*, Submitted.

List of Scientific Papers Published/Communicated in International Journals

[1] **T. Ahamad,** V. Kumar, N. Nishat, Synthesis, characterization and antimicrobial activity of transition metal chelated thiourea-formaldehyde resin, Polymer International 55(12) (2006) 1398-1406.

[2] N. Nishat, S. Ahmad, **T. Ahamad**, Synthesis, characterization, and antimicrobial studies of newly developed metal-chelated epoxy resins, J Appl Polym Sci 101(3) (2006) 1347-1355.

[3] N. Nishat, S. Ahmad, Rahisuddin, **T. Ahamad**, Synthesis and characterization of antibacterial polychelates of urea-formaldehyde resin with Cr(III), Mn(II), Fe(III), Co(II), Ni(II), Cu(II), and Zn(II) metal ions, J Appl Polym Sci 100(2) (2006) 928-936.

[4] **T. Ahamad**, V. Kumar, S. Parveen, N. Nishat, In vitro antibacterial and antifungal assay of poly-(ethylene oxamide-N,N′-diacetate) and its polymer-metal complexes, Appl Organomet Chem 21(12) (2007) 1013-1021.

[5] N. Nishat, M.M. Haq, **T. Ahamad**, V. Kumar, Synthesis, spectral and antimicrobial studies of a novel macrocyclic ligand containing a piperazine moiety and its binuclear metal complexes, J Coord Chem 60(1) (2007) 85-96.

[6] **T. Ahamad**, V. Kumar, S. Parveen, N. Nishat, Synthesis, characterization and anti-microbial activity of poly(ethylene oxamide-N,N′-disuccinate) and its polymer metal complexes, J Coord Chem 61(9) (2008) 1423-1436.

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[11] S. Parveen, T. Ahamad, A. Malik, N. Nishat, Antimicrobial activity of aniline-formaldehyde resin modified by adding piperazine moiety and its metal polychelates, Polym Advan Technol 19(12) (2008) 1779-1786.
[12] S. Parveen, T. Ahamad, N. Nishat, New anti-bacterial polychelates: Synthesis, characterization, and anti-bacterial activities of thiosemicarbazide-formaldehyde resin and its polymer-metal complexes, Appl Organomet Chem 22(2) (2008) 70-77.
[13] T. Ahamad, V. Kumar, N. Nishat, New class of anti-microbial agents: Synthesis, characterization, and anti-microbial activities of metal chelated polyurea, Journal of Biomedical Materials Research - Part A 88(2) (2009) 288-294.
[14] V. Kumar, T. Ahamad, N. Nishat, Some O,O′,O″,O‴-di/tetra aryldithioimidophonate transition metal complexes derived from catechol and bisphenol-A as antibacterial and antifungal agents, European Journal of Medicinal Chemistry 44(2) (2009) 785-793.
[15] N. Nishat, S. Parveen, S. Dhyani, Asma, T. Ahamad, Synthesis, characterization, and thermal and antimicrobial studies of newly developed transition metal-polychelates derived from polymeric Schiff base, J Appl Polym Sci 113(3) (2009) 1671-1679.
[16] T. Ahamad, S.M. Alshehri, S.F. Mapolie, Synthesis characterization of polyamide metallodendrimers and their catalytic activities in ethylene oligomerization, Catalysis Letters 138(3-4) (2010) 171-179.
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[18] S.M. Alshehri, T. Ahamad, New thermal and microbial resistant metal-containing epoxy polymers, Bioinorganic Chemistry and Applications 2010 (2010).
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[20] N. Nishat, A. Malik, S. Parveen, T. Ahamad, S.M. Alshehri, P.K. Singh, Coordination polymer: Synthesis, spectral characterization and thermal behaviour of starch-urea based biodegradable polymer and its polymer metal complexes, Bioinorganic Chemistry and Applications 2010 (2010).
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their catalytic activities in ethylene oligomerization, Polymer International 61(11) (2012) 1640-1647.
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[24] T. Ahamad, S.M. Alshehri, Thermal degradation and evolved gas analysis of thioureaformaldehyde resin (TFR) during pyrolysis and combustion, Journal of Thermal Analysis and Calorimetry 109(2) (2012) 1039-1047.
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[26] T. Ahamad, S.F. Mapolie, S.M. Alshehri, Synthesis and characterization of polyamide metallodendrimers and their anti-bacterial and anti-tumor activities, Medicinal Chemistry Research 21(8) (2012) 2023-2031.
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[29] T. Ahamad, S.M. Alshehri, Physiochemical characterization and antimicrobial evaluation of phenylthiourea-formaldehyde polymer (PTF) based polymeric ligand and its polymer metal complexes, Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy 108 (2013) 26-31.
[30] T. Ahamad, S.M. Alshehri, Thermal degradation and evolved gas analysis of epoxy (DGEBA)/novolac resin blends (ENB) during pyrolysis and combustion, Journal of Thermal Analysis and Calorimetry 111(1) (2013) 445-451.
[31] S.M. Alshehri, T. Ahamad, Thermal degradation and evolved gas analysis of N,N′-bis(2 hydroxyethyl) linseed amide (BHLA) during pyrolysis and combustion, Journal of Thermal Analysis and Calorimetry 114(3) (2013) 1029-1037.

[32] S.M. Alshehri, A. Al-Fawaz, T. Ahamad, Thermal kinetic parameters and evolved gas analysis (TG-FTIR-MS) for thiourea-formaldehyde based polymer metal complexes, Journal of Analytical and Applied Pyrolysis 101 (2013) 215-221.
[33] T. Ahamad, S.M. Alshehri, Thermal degradation and evolved gas analysis: A polymeric blend of urea formaldehyde (UF) and epoxy (DGEBA) resin, Arabian Journal of Chemistry 7(6) (2014) 1140-1147.
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Patents :

1. Tansir Ahamad, Saad M. Alshehri, Method of Fabricating Macroporous Carbon Capsules from Pollen Grains, U.S. Patent Application No.: 14/884,722 Filed: October 15, 2015
2. Tansir Ahamad, Saad M. Alshehri, Method for Removing Organic Dye from Wastewater, U.S. Patent Application No.: 14/637,366, Filed: March 03, 2015
3. S. M. Alshehri, Tansir Ahamad Phosphazene-Formaldehyde Polymers and their Polymer Metal Complexes, US20130184405.
4. S. M. Alshehri, Tansir Ahamad Synthesis of Phosphazene formaldehyde resin and their application for removal of heavy metal from industrial waste water. EP2598445A1.
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6. S. M. Alshehri, Mu. Naushad, T. Ahamad, Z. A. Alothman, A. Aldalbahi, Method for removing organic dye from waste water. (Docket No. 32315.79).