

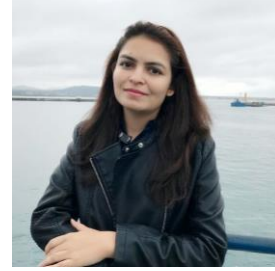
Dr. FAUZIA IQBAL

Assistant Professor

Department of Physics, University of the Punjab, Lahore, Pakistan

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RESEARCH INTERERSTS:

3D printing, Ceramics and polymer composites, 3D printing of Bone scaffolds, White LEDs, Phosphor-in-glass encapsulants, luminescent materials, Inorganic materials, energy storage materials

QUALIFICATIONS:

- **Ph.D.** Materials Science and Engineering (2017), Department of Materials Science and Engineering, Inha University, South Korea
- **Research Focus:** Evaluation of reliability and degradation of Phosphor-in-Glass (PiG) Encapsulants for High-Power white LEDs
- **M. Phil.** Solid State Physics (2009), Centre of Excellence in Solid State Physics, University of the Punjab, Lahore, Pakistan
- **Research Focus:** Carbon nanostructures, thermal chemical vapour deposition (CVD).
- **B.Sc. (Hons.)** Physics (2007), Department of Physics, University of the Punjab, Lahore, Pakistan

EXPERIENCE:

1. October 2019 to date

Department of Physics, University of the Punjab, Lahore, Pakistan
Position: Assistant Professor

2. January 2019 to October 2019

Department of Physics, University of the Punjab, Lahore, Pakistan
Position: Assistant Professor (IPFP)

3. April 2017 to March 2018

Engineering Ceramics Department, Korea Institute of Material science, South Korea.
Position: **Post Doc. Researcher**

Research Focus: 3D Printing of ceramic materials (Alumina, Zirconia and hydroxyapatite) using tape casting method with Digital light processing (DLP).

4. September 2009 to February 2013

Punjab Group of Colleges, Lahore, Pakistan
Position: Lecturer

5. June 2008 to June 2009

Department of Physics, University of the Punjab, Lahore, Pakistan

Position: HEC Internee under “support to scientific talent” program

SCHOLARSHIP, AWARDS AND RESEARCH ACTIVITIES:

- **Project: Concept paper approved-** “Sustainable Materials and 3D Printed Designs for Electrical Vehicle Electrodes” – PSF (Pakistan Science Foundation) Competitive Research Programme (CRP) (**8 million PKR, 1 year: 2023-2024**), **Principal Investigator**
- **Project:** “Development of Slurries for 3D Printing of Ceramic/Polymer Scaffolds for Bone Tissue Engineering” HEC-NRPU-2020, awarded by HEC (**14 million PKR-3 years: 2021-2024**)- working as **Principal Investigator**
- **Project:** “Solar-Light-Driven Simultaneous Hydrogen Generation and Water Purification by Synergetic Adsorption and Photocatalysis”, awarded by PSF (Pakistan Science Foundation) (**13.5 million PKR-3 Year**)- working as **Participant**
- **Project:** “Stereo lithography based 3D printing of piezoelectric bioactive glass with interconnected pores for bone regeneration application” 2022-2023, University of the Punjab, Lahore. **0.2 Million PKR-1 Year. Principal Investigator**
- **Project:** “Optimization of sintering parameters of 3D printed bone scaffolds” 2021-2022, University of the Punjab, Lahore. **0.5 Million-1 Year. Principal Investigator**
- “Fully funded Jungseok International Scholarship for Ph.D.”- awarded by Inha University, South Korea. (Feb 2013-Feb 2016)
- "Support to scientific talent" - awarded by Higher Education Commission (HEC), Pakistan. (June 2008-June 2009)
- Chief Organizer for PU international symposium on advanced energy storage materials (PU-AESM-2019), Department of Physics, University of the Punjab (4-6 Nov, 2019)
- **Advisory member and Conference Secretary:** First “International conference on Advances in Functional Materials” to be held in Feb 2023 (Department of Physics, PU Lahore)

PUBLICATIONS:

1. M.U.Tariq, D. Bahnemann, F. Idrees, S. Iqbal, **F. Iqbal**, F.K. Butt, J.R. Choi, M. Bilal. “Laser flash photolysis study of Nb₂O₅/g-C₃N₄ heterostructures as efficient photocatalyst for molecular H₂ evolution”. *Heliyon*. (2023).
2. F. Idrees, **F. Iqbal**, S. Iqbal, A. S. Shah, and H. Joan. "Photoelectrochemical properties for metal oxide carbon hybrid." (2021): 75.

3. B. Nawaz, G. Ali, M.O. Ullah, **F. Iqbal**, F.J. Iftikhar, S. Mehboob, A.U. Rehman, and S. M. Abbas, "Co₂Ge₄O₄ nanocomposites with reduced graphene oxide and carbon nanotubes as high-performance anodes for Na-ion batteries", *RSC Advances*, 11(21), 13004-13013 (2021).
4. K.T. Kubra, A. Javaid, R. Sharif, G. Ali, **F. Iqbal**, A. Salman, F. Shaheen, A. Butt, and F. J. Iftikhar, "Facile synthesis and electrochemical study of a ternary hybrid PANI/GNP/MnO₂ as supercapacitor electrode material", *Journal of Materials Science: Materials in Electronics*, 31(15), 12455-12466 (2020).
5. **F. Iqbal**, S. Kim and H. Kim, "Degradation of phosphor-in-glass encapsulants with various phosphor types for high power LEDs," *Opt. Mater.* 72, 323–329 (2017).
6. S. Kim, **F. Iqbal** and H. Kim, "Relationship between phosphor properties and chromaticity of phosphor-in-glass," *Appl. Opt.* 56(34), 9477–9483 (2017).
7. **F. Iqbal**, S. Kim, Y. Kim, H. Yie and H. Kim, "Effect of alkali metal oxides on reliability and degradation of phosphor-in-glass encapsulants for white LEDs," *Ceram. Int.* 42, 10393–10398 (2016).
8. Y. Kim, S. Kim, **F. Iqbal**, H. Yie and H. Kim, "Effect Transmittance on Luminous Properties of Phosphor-in-Glass for LED Packaging," *Opt. Express.* 23 [3], A43-50 (2014).
9. J. Seo, S. Kim, Y. Kim, **F. Iqbal** and H. Kim, "Effect of glass refractive index on light extraction efficiency of Light-Emitting Diodes," *J. Am. Ceram. Soc.* 97 [9], 2789-2793 (2014).
10. **F. Iqbal**, S. Naseem, S. Riaz, A. Sadiqa, "A study of deposition, characterization and growth conditions of Carbon nanostructures on stainless steel (201)," *Nanoscience & Nanotechnology-Asia.* 34, 96-103 (2013).
11. A. A. Sadiqa, B. S. Naseem, **F. Iqbal** "Fabrication possibilities of metal source/drain schottky FETs using wet chemical etching technique on p-type (100) Silicon," *J. Electron Devices.* 17, 1406-1411 (2013).

CONFERENCES:

- **Course: British Council-Higher Education Commission, Capacity Building Course for Principal Investigators.** Lahore, Pakistan. 9-13 May 2022.
- **Dr. Fauzia Iqbal (Invited speaker)**, "The Potential and Future of SLA Based 3D Printed Ceramic-Polymer Composites for Bone Scaffolds", 3rd International Conference on Chemical and Allied Sciences for Sustainable Development (CASSD-2022)" organized by The Women University Multan. (28-30 November 2022)
- **7th Asian Science Editors' Conference and Workshop 2022** Malaysia. Held virtually on July 12, 2022

- Dr.Fauzia Iqbal (Invited speaker), “Importance and Potential of Ceramic 3D Printing”, 2nd International Physics Conference on “Emerging Trends in Material Science & Technology” organized by Department of Physics, Lahore Garrison University, Lahore. (April 5th-6th, 2021)
- Dr.Fauzia Iqbal (Invited speaker), “The Factors Affecting the Luminaire Reliability of Phosphor-in-Glass (PiG) Encapsulants for High Power Light Emitting Diodes (LED’s)”, 3rd International Conference on “Advances in theoretical & Applied Physics” organized by Department of Physics, Government College Women University Faisalabad. (February 24th - 26th, 2021)
- Dr.Fauzia Iqbal (Invited speaker), “ Analysis of Thermal Aging and Humidity Effects on Phosphor-in-Glass (PiG) Encapsulants for High Power LEDs”, 2nd Symposium on “Advanced Materials” organized by Department of Physics, Lahore Garrison University, Lahore. (February 28th - 29th, 2020)
- Fauzia Iqbal and Hyungsun Kim, Reliability of phosphor in glass encapsulants with various phosphors in glass matrix for white LEDs, Yosu, The Material Research Society of Korea (18-20 May 2016), (**Oral presentation**)
- Fauzia Iqbal and Hyungsun Kim, Reliability of phosphor in glass encapsulants for white LEDs, Nagaoka, JK Ceramics32, Japan (18-21Nov.2015), (**Oral presentation**)
- Fauzia Iqbal and Hyungsun Kim, Degradation of phosphor in glass encapsulants with different alkali metal oxides for white LEDs, Jeju, IUMRS-ICAM2015 (25-29 Oct. 2015), (**poster presentation**)
- Fauzia Iqbal, Sunil, Kim, Hoyong Yie and Hyungsun Kim, Effect of alkali metal oxides on reliability of phosphor in glass encapsulants for white LEDs, Gumi, The Material Research Society of Korea (14-15 May 2015), (**Oral presentation**)
- Fauzia Iqbal, Sunil Kim, Yurian Kim and Hyungsun Kim, Effect of humidity on transmittance and porosity of glass used as encapsulants for white LEDs, Changwon, The Material Research Society of Korea (14-16 May 2014), (**Poster presentation**)
- 37th International Nathiagali Summer College on Physics and Contemporary needs: Accelerator Physics and applications (25th June-7th July, 2012), (Participant)
- Workshop on Application of Nano Technology (WANT-2010) organized by National Centre for Physics and Quaid-i-Azam University, Islamabad, (31st May-4th June, 2010), (Poster)
- National Research Conference organized by University of South Asia, Lahore (29-30th June, 2007), (Oral)

COMPUTER SKILLS:

- Programing languages (C and C++), MATLAB, Origin, Imaging analyzing software

INSTRUMENTS HANDLED:

DLP 3D printer, SEM-EDX, XRD, PSA, Hot stage Microscopy, TG-DTA, DSC, FTIR, Integrating Sphere, Photoluminescence Spectrometer

SERVICE ACTIVITIES:

1. Member, Departmental Advisory Committee (Department of Physics)
2. Member, Quality Enhancement Cell QEC (Physics)
3. Member, Quality Assurance Committee QAC (Physics)
4. Member, Co, Curricular Activities Committee
5. Member Scholarship Committee
6. Member five-year plan preparation
7. In-charge Electrode Fabrication and Additive Manufacturing Lab
8. Assistance, Modern Physics Lab
9. In charge, Research Publications, Media/ Social media

STUDENTS SUPERVISED:

- Currently, **Two Ph.D.** students and **three M. Phil.** students are working against HEC-NRPU Project 14051.
- **Three M. Phil.** students have completed **M.Phil.** against HEC-NRPU Project 14051.

MEMBERSHIP:

- Council of Asian Science Editors (CASE)
- Member external affairs committee at CASE