



## **Resume of Dr. Jiban Podder, Ph.D, FRSC, FBAS**

### **Professor (Grade-I) (Retd)**

Department of Physics

Former Dean, Faculty of Science

Bangladesh University of Engineering and Technology

Dhaka-1000, Bangladesh

Phone: +880-2-9665613(Off), Fax: +880-2-58613046

Cell: 01552423766 (Cell)

**Email:** jpodder@phy.buet.ac.bd, jpodder59@gmail.com

[https://phy.buet.ac.bd/faculty\\_profile/8/dr-jiban-podder](https://phy.buet.ac.bd/faculty_profile/8/dr-jiban-podder)

[https://www.researchgate.net/profile/Jiban\\_Podder](https://www.researchgate.net/profile/Jiban_Podder)

[https://scholar.google.com/citations?user=vTBol\\_UAAAAJ&hl=en](https://scholar.google.com/citations?user=vTBol_UAAAAJ&hl=en)

---

### **Career Objective**

- ❖ To serve the Institution with utmost sincerity that offers challenges to accomplish missions and to apply both analytical and theoretical knowledge in practical arena for being an innovative and successful professional.

### **Professional Research Expertise**

- ❖ Nucleation and growth kinetics of organic, inorganic, semi-organic single crystals for nonlinear applications.
- ❖ Synthesis and characterization of transparent conducting metal oxide thin films for solar cells, gas sensors, energy storage and optoelectronic applications.
- ❖ Synthesis and characterization of carbon and carbonaceous materials, activated carbon, synthetic graphite, diamond like carbon materials, various types of coal, coal peat, and lignite, etc.
- ❖ Neutron radiography using TRIGA-Mark-II research reactor (3MW); preparation and characterization of gamma and neutrons shielding materials.

### **Academic Degree Obtained:**

- **Ph.D** (1995), Bangladesh University of Engineering and Technology (BUET) - Anna University (India) linkage program, Thesis title: **Precursor states for the graphitization of coal found in the northwestern zone of Bangladesh.**
- **M.Phil** (1986), Bangladesh University of Engineering and Technology, Thesis title: **The role of heteroatom on the carbonization and graphitization of poly-nuclear organic compounds.**
- **M.Sc.** (1981), in Physics, University of Dhaka, Bangladesh, Thesis title: **A. C conductivity and dielectric properties of jute fiber and lignin**, University of Dhaka, Bangladesh.
- **B.Sc.** (1980), Hon's in Physics, University of Dhaka, Bangladesh.
- **H.S.C.** (1977), Dhaka College, Dhaka, Bangladesh (Physics, Chemistry, Mathematics, Biology, Literature)
- **S.S.C.** (1975), Dhaka Board, Dhaka, Bangladesh (Physics, Chemistry, Mathematics, Biology, Literature)

### **Academic Contributions:**

- **Scientific Officer** (2<sup>nd</sup> June 1987 – 28<sup>th</sup> February 1989)

Reactor and Neutron Physics Division  
Atomic Energy Research Establishment, Savar, Dhaka

- **Lecturer** (1<sup>st</sup> March 1989 – 31 August 1992)  
Department of Physics  
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
- **Assistant Professor** (1<sup>st</sup> September 1992 – 2<sup>nd</sup> December 1998)  
Department of Physics  
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
- **Associate Professor** (3<sup>rd</sup> December 1998 – 2<sup>nd</sup> August 2002)  
Department of Physics  
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
- **Professor** (3<sup>rd</sup> August 2002- till today)  
Department of Physics, <http://www.buet.ac.bd/phy/>  
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
- **Visiting Professor** (June 2012 – September 2015)  
Department of Chemical and Biological Engineering  
University of Saskatchewan, Canada
- **Visiting Faculty** (September 2-21, 2019)  
The Bernal Institute  
University of Limerick, Ireland  
Under the Erasmus International Credit Mobility Program between BUET and University of Limerick.
- **Visiting Professor** (October 2021 – September 2022)  
Department of Chemical and Biological Engineering  
University of Saskatchewan, Canada (on Sabbatical)
- **Dean, Faculty of Science** (18<sup>th</sup> November, 2022 – 17<sup>th</sup> November, 2024)  
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
- **Vice Chancellor** (Acting) (1<sup>st</sup> September 2024 – 12<sup>th</sup> September 2024)  
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
- **Senior Researcher** (April 1, 2025 ~)  
Department of Chemical and Biological Engineering, University of Saskatchewan, Saskatoon, Canada

### **Training and Post-Doctoral Research**

- **January 1993 ~ June, 1993**  
'COSTED-DST-Anna University' joint training program on crystal growth  
Crystal Growth Center, Anna University, Madras, India
- **December 18 - 24, 1994**  
'SAARC Short Course on Technology Assessment & Technology Diffusion',  
Ministry of Science & Technology, Govt. of Bangladesh,  
Institute of Appropriate Technology-BUET, Dhaka.
- **February 6 - 15, 1995**  
'International School on Advanced Electronic Materials',  
Crystal Growth Center, Anna University, India.

- **October 7 - 10, 1998**  
International School on Powder Diffraction, Organized by the International Union of Crystallography, Indian Association for the Cultivation of Science, Kolkata
- **January 24 - February 4, 2000**  
'International School on Crystal Growth Methods and Processes',  
Crystal Growth Center, Anna University, India.
- **June 2000 ~ June, 2001**  
**Post doc fellow-under ICTP Fellowship**  
Crystal Growth Center, Anna University, Madras, India
- **October 13 – 16, 2002**  
'The Training Course for Potential Users of TRIGA Research Reactor Facility of BAEC', INST, AERE, Savar, Dhaka.
- **August 1 - 7, 2004**  
The 12th International Summer School on Crystal Growth (ISSCG-12), The German DGKK (Deutsche Gesellschaft für Kristallzüchtung und Kristallwachstum), Berlin, Germany.
- **August 2003 ~ August 2005**  
**Post doc fellow under JSPS Fellowship**  
Department of Electrical and Computer Engineering  
Nagoya Institute of Technology, Nagoya, Japan.
- **March 1 ~ April 7, 2011**  
Visiting Researcher  
Department of Physics and Engineering Physics,  
University of Saskatchewan, Saskatoon, Canada.
- **March 17–25, 2016**  
'Training Program on Electron Paramagnetic Resonance (EPR) Technique and Its Uses'  
Department of Geology, University of Saskatchewan, Canada

#### **Scientific Awards/Honors:**

- (i) 'BAAS-Award' 1991 for best research presentation.
- (ii) 'BAAS-Award' 1998 for best research presentation.
- (iii) Young Scientist Award by ICCG-13 & ICVGE-11, (2001), Japan.
- (iv) ICTP Fellowship (International Centre for Theoretical Physics), (2000) Italy.
- (v) COSTED-Anna University-DST, Govt. of India, Fellowship, 1993.
- (vi) JSPS (Japan Society for the Promotion of Science) Fellowship, (2003-2005), Japan.
- (vii) 'ICRAAS-2016' award by Indian Spectro Physics Association and St. Peters University, 2016, India
- (viii) 'Life Time Achievement Award' by AMET and Indian Spectro Physics Association, 2018, India.
- (ix) 'ISPA Veteran Scientist Award' by Periyar Maniammai Institute of Science and Technology and Indian Spectro Physics Association, 2025.

### **Professional Services in a Selection Board: Appointed by the Honorable Chancellor**

- **Member:** Selection Board of the Appointment of Associate Professor/Professor, Department of Physics, Dhaka University of Engineering and Technology (DUET) (2019 and onward).
- **Member:** Selection Board of the Appointment of Associate Professor/Professor, Department of Physics, Chittagong University of Engineering and Technology (CUET) (2019 and onward).
- **Member:** Selection Board of the Appointment of Lecturer/Assistant Professor, Department of Materials Science, Chittagong University of Engineering and Technology (CUET) (2022 and onward).
- **Member:** Selection Board of the Appointment of Lecturer/Assistant Professor, Department of Physics, Rajshahi University, Rajshahi (20018 and onward).
- **Member:** Selection Board of the Appointment of Associate Professor/ Professor, Department of Applied Physics and Electronic Engineering, Rajshahi University (2009 to 2016).
- **Member:** Selection Board of the Appointment of Associate Professor/ Professor, Department of Physics, Bangladesh Agricultural University, Mymensingh (2009 to 2016).
- **Member:** Selection Board of the Appointment of Associate Professor/ Professor, Department of Physics, Rajshahi University of Engineering & Technology (2009 to 2015).
- **Member:** Selection Board of the Appointment of Lecturer/Assistant Professor, Department of Physics, Khulna University of Engineering and Technology (2007-2010).
- **Member:** Selection Board of NSICT (National Science, Information & Communication Technology) fellowship, Ministry of Science & Technology (2008-2012), Govt. of Bangladesh.
- **Member:** Board of Post Graduate Studies, Department of Physics, KUET, Khulna (2019 to onward).
- **Member:** Inter-University Cultural Activities, on behalf of Bangladesh University of Engineering and Technology (2009-2010).
- **Member:** Board of Residence and Discipline, Bangladesh University of Engineering and Technology (2005-2007).
- **Member:** Academic Council of Bangladesh University of Engineering and Technology (1998 to 2024).

### **Foreign Country:**

- **Member:** Appointment as an external assessor for promotion/appointment of Associate Professor/Professor at the University of Malaya, Malaysia (June 2020 to June 2024).

### **Teaching as Adjunct Faculty:**

As guest faculty, teaching the basic Engineering Physics courses to few Private Universities located in Dhaka, Bangladesh at different periods.

- ✓ AIUB-American International University of Bangladesh
- ✓ North South University
- ✓ Military Institute of Science and Technology
- ✓ University of Asia Pacific
- ✓ Eastern University
- ✓ University of Information Technology and Sciences (UITS)
- ✓ South East University

### **Professional Voluntary Services:**

- Vice President: Bangladesh Crystallographic Association (2025-2026)
- Vice President: Bangladesh Physical Society (2018-2020)
- Secretary: Bangladesh Physical Society (2009-2011)
- Joint Secretary: Bangladesh Physical Society (2005-2007)
- Joint Secretary: Bangladesh Physical Society (1999-2001)
- President: Section-III, BAAS (2016-2020)

### **Administrative Position:**

- Dean, Faculty of Science, BUET (November 18, 2022 – November 17, 2024)
- Vice Chancellor (Acting) (1<sup>st</sup> September 2024 – 12<sup>th</sup> September 2024)
- Chairman: BUET Admission to the Undergraduate Program of the session 2023-2024
- Provost: Titumir Hall, BUET (23<sup>th</sup> March'2018 – September 25, 2021)
- Moderator-Satyen Bose Science Club-BUET, (July 2018 to December 2021).
- Director, Directorate of Student's Welfare, BUET (16<sup>th</sup> June-27<sup>th</sup> Sept'2010)
- Provost: Dr. M. A. Rashid Hall, BUET (23<sup>th</sup> March'2010 – 20<sup>th</sup> Feb'2011)
- Head, Department of Physics, BUET (3<sup>rd</sup> December 2005 ~ 2<sup>nd</sup> December 2007)
- Assistant Provost-Chattri Hall, BUET (September'2001~ Jan'2003)
- Assistant Provost-Shahid Smriti Hall, BUET (Sept'1998~May'2000)

### **Volunteering Services (as Member/Reviewer) for National/International Journals**

- Editor-in-Chief: The Bangladesh Journal of Scientific Research (2019 ~)
- Member: Editorial Board, Bangladesh Journal of Physics (2018 ~)
- Member: Editorial Board, Bangladesh Journal of Scientific Research (2007-2018)
- Associate Editor: International Journal of Macro and Nano Physics (2016~)

### **As Reviewer**

- ✓ Journal of Crystal Growth (Elsevier)
- ✓ Crystal Growth & Design (ACS Publications)
- ✓ Thin Solid Films (Elsevier)
- ✓ Optical Materials
- ✓ Physica B (Elsevier)
- ✓ Heliyon (Elsevier)
- ✓ Vacuum
- ✓ Materials Letters (Elsevier)
- ✓ Energy & Fuels (ACS Publications)
- ✓ Journal of Alloys and Compounds (Elsevier)
- ✓ Journal of Physics and Chemistry of Solids (Elsevier)
- ✓ Material Science & Engineering B (Elsevier)
- ✓ Indian Journal of Physics (Springer)

- ✓ Journal of Scientific Research (Bangladesh)
- ✓ Bangladesh Journal of Physics (Bangladesh)
- ✓ Journal of Engineering and Science

❖ **Extra Curriculum & Activities:**

**Participation in BTV Program - মহাবিশ্বের পথে পথে-Mohabissheer Pothe Pothe: for Popularizing Science.**

Giving scientific talk in TV and engaging in creative and artistic pursuits, singing Tagore Songs, devotional and patriotic songs, learning world geography, cultures and music.

- ✓ A talk on Big Bang and Artificial Big Bang Experiment carried out by CERN (24<sup>th</sup> February 2024)
- ✓ A talk on “Space-time singularity” on the birth centenary of Amal Kumar Roy Chowdhury (26<sup>th</sup> December, 2023)
- ✓ A talk on NASA’s various exploration programs for peaceful application in space science (17<sup>th</sup> September, 2020)
- ✓ A talk on ‘Natural Sub-Planet-Moon’ (25<sup>th</sup> August, 2020)
- ✓ ‘Ray Chaudhuri Equation on General Relativity’ (14<sup>th</sup> October, 2019)
- ✓ ‘Allotropes’ of Carbon and It’s Applications’ (15<sup>th</sup> July, 2019)
- ✓ ‘5<sup>th</sup> States of Matter’ (15<sup>th</sup> April, 2019)
- ✓ ‘Gravitational Waves’ (5<sup>th</sup> November 2018)
- ✓ ‘Neutron Radiography’ (5<sup>th</sup> September 2018)
- ✓ ‘Natural Fusion Energy’ (8<sup>th</sup> August 2018)
- ✓ ‘Reason of Lightning and Thundering’ (22<sup>nd</sup> May 2018)
- ✓ ‘Lightning Safety’ (June 12<sup>th</sup> 2017)
- ✓ ‘Evolution of Nuclear Reactors’ (April 20<sup>th</sup> 2017)

**Projects and Grants**

Research projects are granted by the Bangladesh University of Engineering and Technology, University Grants Commission of Bangladesh and Ministry of Science and Technology, Government of Bangladesh.

- Title of the Project: Construction of a Gas Sensitivity Measurement Setup and Testing Gas Sensitivity of Metal Oxide Nanostructured Thin Films, Grant from the Bangladesh University of Engineering and Technology-2020 as **Principal Investigator**.
- Title of the Project: 2<sup>nd</sup> phase: ‘Synthesis, characterization and fabrication of nanostructured thin films-based gas sensor for environmental applications’ (MOST/2020-2021)-as **Principal Investigator**.
- Title of the Project: 1st phase: ‘Synthesis, characterization and fabrication of nanostructured thin films-based gas sensor for environmental applications’ (MOST/2019-2020)-as **Principal Investigator**.
- Title of the Project: 2<sup>nd</sup> phase: ‘Set-up of a spin coating system for multifunction nanostructured thin film for high efficiency solar cells and gas sensor applications’ (MOST/2018-2019)-as **Principal Investigator**.

- Title of the Project: 1<sup>st</sup> phase: ‘Set-up of a spin coating system for multifunction nanostructured thin film for high efficiency solar cells and gas sensor applications’ (MOST/2017-2018)-as **Principal Investigator**.
- Title of the Project: ‘Role of Transition Metal Doping on the Structural, Optical, Electrical and Magnetic Properties of CuO Nano-particles’ (UGC/2017-2018)-as **Principal Investigator**.
- Title of the Project: ‘Up-gradation of the spray pyrolysis deposition unit and electrical measurement set up for synthesis and characterization of semiconductor thin films for photo-voltaic applications’ (MOST/2009-2010)-as **Principal Investigator**.

### Conducted Conference:

- **Conference Co-Chair:** 9<sup>th</sup> Conference of Bangladesh Crystallographic Association, ‘Crystallography: Bridging fundamental materials and technological innovations’, 10-11 January 2025, University of Dhaka, Bangladesh.
- **Organizing Chair:** 1<sup>st</sup> National Conference on Advances in Science and Technology, Theme: Science for Sustainability, Organized by the Faculty of Science, Bangladesh University of Bangladesh and Technology, December 7-8, 2023.
- **Organizing Co-Chair:** 'Two days International Virtual Conference on Advanced Functional Nanomaterial's and Their Applications' (ICAFNTA-2020), jointly organized by the Universitas Islam Indonesia, University of Malaya and Bangladesh University of Bangladesh and Technology, July 9-10, 2020.
- **Organizing Secretary:** 'International Conference on Physics of Today, BUET, Dhaka, by Bangladesh Physical Society, 15-17 March 2012.
- **Organizing Secretary:** 'National Conference on Physics for Development, BUET, Dhaka, by Bangladesh Physical Society, 10-11 Feb. 2011.
- **Organizing Chair:** National Conference cum Workshop on Material Science & Technology, On the Occasion of Celebrating 60 years of Engineering Education in Bangladesh, BUET, 2 - 4 Dec. 2007.
- **Organizing Joint Secretary:** Annual Conference: Physics Education and Employment, Organized by Bangladesh Physical Society, BUET, Dhaka, May 04-05, 2007.
- **Organizing Secretary:** Workshop on Physics for Overall Development, Organized by Bangladesh Physical Society, BUET, Dhaka, 31 Jan, 2003.
- **Organizing Secretary:** Workshop on Medical Physics in Radiotherapy and Nuclear Medicine, Organized by the Department of Physics, BUET, Dhaka, Dec. 5 - 10, 1999.
- **Organizing Joint Secretary:** Workshop on Medical Physics in Cancer Diagnosis and Therapy, Organized by DGMP-BUET-Delta medical Center Ltd, Department of Physics, Bangladesh University of Engineering and Technology, Dhaka, November 3-9, 1997.
- **Membership of Learned Bodies / Academic Societies**
  - (i) Fellow, Royal Society of Chemistry (**FRSC**), UK
  - (ii) Fellow, Bangladesh Academy of Sciences (**FBAS-100**)
  - (iii) Fellow, Bangladesh Physical Society (**F-0068**)
  - (iv) Life Member, Bangladesh Association for Advancement of Science (BAAS), **LM-796**
  - (v) Life member, Indian Association for Crystal Growth (**L-265**)
  - (vi) Life Member, Bangladesh Association of Scientists & Scientific Professions (**L-338**)

(Vii) **Life Member**, Bangladesh Crystallographic Association (**L-84**)

❖ **Thesis Supervision (Ph.D) and Degree Conferred:**

1. “Growth of Some Non-linear Optical Single Crystals from Aqueous Solutions and Characterization for Opto-electronic Applications”, **Shahan Ara Begum**, R-04031407P, **2009**.
2. “Growth and Characterization of Organic and Semi-organic Non-linear Optical Single Crystals: **Ferdousi Akhter**”, R-10061406 F, **2011**.
3. “Growth of Tiglycine Sulphate Crystal Doped with Alkali and Transition Metal Ions and Study of their Different Physical and Optical Properties”, **Farhana Khanum**, R-1007140P, **2012**.
4. “Synthesis and Characterization of Mg and Al Doped Fe<sub>2</sub>O<sub>3</sub> Thin Films for Gas Sensing Application”, **Mehnaz Sharmin**, R-1015144002P, **2019**.
5. “Synthesis of spray pyrolysed transition and rare earth metal oxides (Co<sub>3</sub>O<sub>4</sub>, MnO<sub>2</sub>, WO<sub>3</sub>, CeO<sub>2</sub>) thin films and their characterization”, **Muslima Zahan**, R-1015144003F, **2021**.
6. “Growth and characterization of amino acid based organic and semi organic single crystals for nonlinear optical applications”, **Md. Anisur Rahman**, R-0418144002P, **2024**.

❖ **M.Phil. Thesis Supervision**

1. “Structural Studies of Barapukuria Coal by Infrared Spectroscopy”, **Sarfuddin Ahmed Tarek**, R-93683F, **1997**.
2. ‘Growth and Characterization of Single Crystals of KDP Doped with KCl from Aqueous Solution’, **Md. Khairul Hassan Bhuiyan**, R-92681F, **1998**.
3. ‘Growth and Characterization of Single Crystals of KDP Doped with K<sub>2</sub>CrO<sub>4</sub> from Aqueous Solution of Different pH Values’, **Ms. Mehrun Nahar**, R-9414009F, **1999**.
4. ‘A Study of Electrical Properties of Permian Gondwana Coal of Barapukuria of North-Western Bangladesh’, **Sunirmal Majumder**, R-931420F, **2000**.
5. ‘Growth of ADP, KDP and ADP-KDP Mixed Crystals from Aqueous Solution by the Slow Evaporation Method’, **Ms. Tuhin Akther**, R-9414021F, **2000**.
6. ‘Studies on the Growth of Thiourea (H<sub>2</sub>NCSNH<sub>2</sub>) Single Crystals from Low Temperature Solutions and Its Characterization’, **Shahan Ara Begum**, R-040014004P, **2003**.
7. ‘Influence of Impurities on the Growth Kinetics of Epsomite from Low Temperature Aqueous Solutions’, **Sayed Ferdous**, 040414011P, **2007**.
8. ‘Studies on the Nucleation of Ammonium and Potassium Oxalate Single Crystal for Non-linear Optical Applications’, **Farhana Khanum**, R-040414024P, **2007**.
9. ‘Development of a Spray Pyrolysis System and Characterization of Deposited II-VI Semiconductor Thin Films (CdO)’, **Md. Maidul Islam**, R-0405545P, **2007**.
10. ‘A Study on the Distribution of Trace Elements in Barapukuria Coal by Neutron Activation Analysis and Its Impact on the Environment’, **Mohammad Amirul Islam**, R-040314035P, **2008**.
11. Structural, Optical and Electrical Properties of ZnO and Zn<sub>1-x</sub>Cd<sub>x</sub>O Thin Films Deposited by Spray Pyrolysis Technique, **Muhammad Rakibul Islam**, R-100614002P, **2009**.



12. Effect of Additives on the Metastable Zone Width and Growth Kinetics of Some Nonlinear Optical Crystals, **Md. Anisur Rahman**, R-100614004F, **2009**.
13. Synthesis and Characterization of Tin Oxide and Cu Doped Tin Oxide Thin Films by Spray Pyrolysis, **Sonjit Sen Roy**, R-100714022F, **2009**.
14. Structural, Optical and Electrical Properties of Pb Doped CdS Thin Films Deposited by Spray Pyrolysis Technique, **Ranojit Kumar Dutta**, R-100614003F, **2009**.
15. Preparation and Characterization of II-VI Semiconductor Thin Films by Spray Pyrolysis, **Kamal Uddin Azad**, R-100614031F, **2010**.
16. Investigations of the Electrical, Optical and Mechanical Properties of Alkaline Doped Triethylamine Sulphide Single Crystals, **Harinarayan Das**, R-100714008F, **2011**.
17. Characterization of CoS and  $\text{Co}_{1-x}\text{Cd}_x\text{S}$  Thin Films Deposited by Spray Pyrolysis Technique, **Tamjida Rahman Luna**, R-100614027F, **2011**.
18. Structural, Optical and Electrical Properties of Cobalt Doped Zinc Oxide Thin Films Prepared by Spray Pyrolysis, **Mahjabin Taskin**, R-0409143013F, **2011**.
19. Synthesis and Characterization of Spray Pyrolysed Al-doped CdS Thin Films, **Abul Hasnat Rubel**, R-100614012F, **2011**.
20. Structural, Optical and Electrical Characterization of Indium Doped ZnS Thin Films by Spray Pyrolysis, **Fahmida Rahman**, R-100614023P, **2011**.
21. An Investigation of Radioactivity Level in Heavy Minerals of Cox's Bazaar Beach Sand by Neutron Activation Analysis, **Mohammad Abdur Rouf**, R-100614029F, **2012**.
22. Study of Structural, Optical and Electrical Properties of  $\text{Zn}_{1-x}\text{Mn}_x\text{O}$  Thin Films by Pyrolysis Technique, **Md. Khorshed Alam**, R-1009143001F, **2012**.
23. Synthesis and Characterization of  $\text{Zn}_{1-x}\text{Mn}_x\text{O}$  Thin Films Deposited by Spray Pyrolysis Technique, **Mst. Muslima Zahan**, R-1009143017F, **2012.P**
24. Characterization of Structural, Optical and Electrical Properties of Pure and Al doped ZnO Thin Films Prepared by Spray Pyrolysis, **Jewel Kumer Saha**, R-0409143001F, **2012**.
25. Characterization of Structural, Optical and Electrical Properties of Ni Doped ZnO Thin Films, **Sonjoy Chandra Das**, R-1009143002F, **2012**.
26. Synthesis and Characterization of Copper Doped Zinc Oxide Thin Films Deposited by Spray Pyrolysis Technique, **Maksuda Akhter**, R-1009143008F, **2012**.
27. Structural, Electrical and Optical Characterization of Fe and Zn Doped  $\text{TiO}_2$  Thin Films Prepared by Spray Pyrolysis Technique, **Tapash Chandra Paul**, R-0416143003P, **2018**.
28. Structural, Morphological and Opto-electrical Characterization of Manganese and Cobalt Doped CuO Thin Films, **Rabeya Rahman**, R-1014143021F, **2019**.
29. Role of Ag and Fe Doping on the Band Gap Tuning of  $\text{BaTiO}_3$  Thin Films Deposited by Spray Pyrolysis, **Dulal Ganguly**, R-1017143002F, **2021**.

30. Synthesis and characterization of structural, optical and electrical properties of chromium and nickel doped titanium dioxide thin films, Roll No.: 1018143006 P, Session: October-2018, **Abdul Ahad**, R-1018143006P, **2022**.

❖ **M.Sc. Thesis Supervision**

1. Preparation and Characterization of CuS Thin Films Deposited by Spray Pyrolysis Method, **Srabony Sardar (NU)**, **2007**.
2. Crystallization and Structural, Thermal and Optical Characterization of Zinc Sulphate Single Crystals Grown from Isothermal Evaporation Method, **Jewel Kumar Saha (SUST)**, **2008**.
3. Preparation and Characterization of ZnS Thin Films Deposited by Spray Pyrolysis Method, **Nupur Jahan Mukta (NU)**, **2008**.
4. Structural and Optical Properties of MnO<sub>2</sub> Thin Films Prepared by Spray Pyrolysis Method, **Shawly Nazneen (CU)**, **2009**.
5. Structural and Optical Properties of CdS Thin Films Deposited by Spray Pyrolysis, **Jyotirmoy Malakar (CU)**, **2010**.
6. Synthesis, Structural and Optical Characterization of Magnesium Doped Zinc Oxide Thin Films Deposited by Spray Pyrolysis Technique, **Mitali Biswas (DU)**, **2011**.
7. Study of Structural, Optical and Electrical Properties of Undoped and Manganese Doped Copper Oxide Thin Films by Spray Pyrolysis Method, **Priyanka Datta (DU)**, **2017**.
8. Synthesis and Characterization of Boron Doped Bismuth Oxide Thin Film by Spray Pyrolysis for a Fuel Cell Application, **Bidhan Chandra Dev (BUET)**, **2017**.
9. A Study on the Effect of the Fe Doping on SnO<sub>2</sub> Nanoparticles Prepared by Spray Pyrolysis Technique for Gas Sensing Applications, **Md. Majibul Haque Babu (BUET)**, **2017**.
10. Study of Structural, Optical and Electrical Properties of Spray Deposited Undoped and Zinc (Zn) Doped Bismuth Oxide (Bi<sub>2</sub>O<sub>3</sub>) Thin Films, **Fateen Basharat (DU)**, **2018**.
11. Effect of Impurities on the Crystallization of Epsomite Single Crystals Grown by Natural Evaporation Technique, **Farhana Afrose Sonia (DU)**, **2018**.
12. Study of Structural, Optical and Electrical Properties of Undoped and Zinc (Zn) Doped Titanium Dioxide (TiO<sub>2</sub>) Thin Films by Spray Pyrolysis Method, **Faria Anjum (DU)**, **2018**.
13. Synthesis and Characterization of ZnO/SnO<sub>2</sub> Nanocomposite via a Two-step Spray Pyrolysis Route, **Walia Binte Tarique (BUET)**, **2019**.
14. The Role of Aluminum, Cobalt co-doping on the Band Gap Turning of TiO<sub>2</sub> Thin Films Deposited by Spray Pyrolysis, **Md Nurul Islam (BUET)**, **2019**.
15. Investigation of Structural, Electrical and Optical Properties of Calcium Substituted Barium Titanate Thin Films for Application in Hard Tissue Engineering, **Abdul Barik (BUET)**, **2021**.
16. Synthesis of Vertically Aligned CdSeS Nanorods on NiO Coated ITO–ZnO Layered Superstructures for Electrically Pumped LED Applications, Roll No.: 0417142505 F, Session: April-2017, **Nandita Biswas (BUET)**, **2021**.
17. Effect of Lithium Ion on the Structural, Morphological, Optical and Electron Transport Properties of TiO<sub>2</sub> Thin Films Synthesized by Spray Pyrolysis, **Protima Rani, (BUET)**, **2021**.

18. Investigation of surface microstructural, optical and photocatalytic activity of tungsten doped titanium dioxide thin films deposited by spray pyrolysis, Roll No.: 0419142515 F, Session: April-2019, **Tusar Saha, (BUET), 2021.**
19. Investigation of silver doping on structural, optical and electrical properties of spray deposited tungsten trioxide thin films, Roll No.: 0419142517 F, Session: April-2019, **Md. Arifuzaman (BUET), 2021.**
20. Electrochemical performance of Manganese doped cobalt Oxide thin films deposited by spray pyrolysis, Roll No: 0422142509, April-2022, **Mahidul Islam Suman, (BUET), 2024.**

❖ **List of Publications:**

**Books/Book Chapter:**

1. Book: Metal Oxides for Optoelectronics and Optics-Based Medical Applications, Editors: Suresh Sagadevan, **Jiban Podder**, Faruq Mohammad, 1st Edition-June 1, 2022, Copyright © 2022 Elsevier, Paperback ISBN: 9780323858243.
2. Applied Engineering Physics: Electricity and Magnetism, **Dr. Jiban Podder**, Published by New Progati Prokashani, Dhaka, Bangladesh, May 2017, ISBN: 978-984-92386-4-5.
3. ‘রূপপুর ও পরমাণু বিশ্বে বাংলাদেশ’ রুশো তাহের সম্পাদিত বইয়ের একটি অধ্যায়: "নিউক্লিয়ার রিয়াক্টরের বিবর্তন ও শান্তিপূর্ণ ব্যবহার"  
**Book Chapters:** Photocatalysis: Perspective, Mechanism & Applications, Published by Nova Science Publishers, USA.
4. Md. Rakibul Hasan, Zaria Zaman Chowdhury, Suresh Sagadevan, Rahman Faizur Rafique, Wan Jefry Basiron, Md. Abdul Khaleque, **Jiban Podder**, ‘A Brief Overview on Physio-Chemical Aspects of TiO<sub>2</sub> & its Nano-carbon Composites for Enhanced Photocatalytic Activity’, **Nova Science Publishers, Inc, NY 11788 USA, (2019), pp. 269-290.**
5. Suresh Sagadevan, K. Pradeev Raj, Zaira Zaman Chowdhury, Mohd. Rafie Bin Johan, Fauziah Abdul Aziz, Preeti Singh, J. Anita Lett, and **Jiban Podder**, Article, ‘Controlled Chemical Synthesis of Nanomaterials-A fundamental necessity for photocatalysis’, **Nova Science Publishers, Inc., NY 11788 USA, (2019), pp. 141-158.**
6. Patra, Biswa R., Pattnaik, Falguni, **Podder, Jiban**, Nanda, Sonil, Dalai, Ajay K. “Advances in pyrolysis and co-pyrolysis technologies for biomass conversion to solid and liquid biofuels” (book chapter), In Biomass to Bioenergy, **Elsevier (2024)**, Pages **109-126**, 10.1016/B978-0-443-15377-8.00005-9.

**Major Publications in Peer Reviewed Journals**

[2025]

1. Md Anisur Rahman, **Jiban Podder**, “Structural, optical and electrical characterization of L-alanine doped KDP crystal for NLO application: An experimental and quantum computational study”, **Physica B**, **715 (2025)** 417543, <https://doi.org/10.1016/j.physb.2025.417543>
2. Rabeya Rahaman, Mehnaz Sharmin and **Jiban Podder**, “The effect of cobalt doping on the structure and properties of copper oxide thin films: Evolution in surface morphology, p to n-type carrier transition and enhancement optoelectronic behavior”, **International Journal of Modern Physics B**,

(2025) 2550145 (18 pages), World Scientific Publishing Company, DOI: 10.1142/S0217979225501450.

3. Selina Akter Lucky, Mehnaz Sharmin, Harinarayan Das, and **Jiban Podder**, “Evolution in Morphological Features, Enhancement of Optical Transparency and Band Gap Broadening in Manganese Doped Nickel Oxide Thin Films for Optoelectronics Applications”, **Thin Solid Films**, 816 (2025)140651, <https://doi.org/10.1016/j.tsf.2025.140651>
4. Tusar Saha, Selina Akter Lucky, Mehnaz Sharmin, **Jiban Podder**, “ZnO and CuO/ZnO Nanostructured Thin Films via Thermal Spray Pyrolysis for Ethanol Sensing at Room Temperature: A Cost-Effective Approach”, *Physica B*, 2025 (Under Review).
5. **Jiban Podder**, Madhu Agarwal, Ajay K. Dalai, “Advances in transition metal oxide electrodes for high-performance supercapacitors: structure design, mechanisms, and future perspectives”, *Journal of Energy Storage*, 2025 (Under Review).
6. **Jiban Podder**, Madhu Agarwal, Ajay K. Dalai, “Sustainable Electrode Materials from Biomass: A Comprehensive Review for Energy Storage Applications”, *Sustainable Energy and Fuels*, 2025 (Under Review).
7. **Jiban Podder**, Ajay K. Dalai, “Carbon based adsorbents in CO<sub>2</sub> adsorption”, *Advanced Materials for CO<sub>2</sub> Adsorption*, Book Chapter-8, RSC, 2025 (Accepted).

#### [2024]

8. Md. Anisur Rahman, **Jiban Podder**, Harinarayan Das, “Growth of L-asparagine monohydrate doped potassium dihydrogen phosphate semi-organic crystals and its structural, thermal and optical properties”, **Optical Materials** 152 (2024) 115491, <https://doi.org/10.1016/j.optmat.2024.115491>
9. Abdul Ahad, **Jiban Podder**, Tusar Saha, Hari Narayan Das, “Effect of Chromium Doping on the Band Gap Tuning of Titanium Dioxide Thin Films for Solar Cell Applications”, **Heliyon**, 10 (2024) e23096, <https://doi.org/10.1016/j.heliyon.2023.e23096>.
10. Md. Arifuzzaman, Tusar Saha, **Jiban Podder**, Fahad-Al-Bin, Hari Narayan Das, “Effect of silver doping on the band gap tuning of tungsten oxide thin films for optoelectronic applications”, **Heliyon**, 10 (2024) e27761, <https://doi.org/10.1016/j.heliyon.2024.e27761>.
11. Md. Anisur Rahman, **Jiban Podder**, “Growth of L-asparagine monohydrate organic single crystals: an experimental and DFT computational approach for nonlinear optical applications”, **Heliyon** 10 (2024) e39842

#### [2023]

12. **Jiban Podder**, Biswa R. Patra, Falguni Pattnaik, Sonil Nanda, Ajay K. Dalai, A Review of Carbon Capture and Valorization Technologies, **Energies** 2023, 16, 2589, 9. <https://doi.org/10.3390/en16062589>.
13. Biswa R. Patra, Falguni Pattnaik, **Jiban Podder**, Sonil Nanda, Ajay K. Dalai, ‘New approaches in pyrolysis technology and reactor design for biomass conversion to solid and liquid biofuels’, **Biomass to Bioenergy: Modern Technological Strategies for Bio refineries**" Editors: Sonil Nanda, Ajay Dalai, Elsevier, (2023), Paperback ISBN: 9780443153778
14. Priyanka Datta, Mehnaz Sharmin, **Jiban Podder**, Shamima Choudhury, “Enhancement of the surface morphology, structural, optical, and electrical properties of CuO thin films by Mn doping via spray

pyrolysis deposition”, Journal of Optoelectronics and Advanced Materials (JOAM), **Vol. 25, No. 9-10, September – October 2023, p. 508 – 516.**

15. Md. Anisur Rahman, **Jiban Podder**, Harinarayan Das, “Growth, structural, thermal, and optical characteristics of pure and L asparagine monohydrate doped Magnesium sulphate heptahydrate semiorganic crystals”, **Heliyon**, 9 (2023) e22322. <https://doi.org/10.1016/j.heliyon.2023.e22322>
16. Abdul Ahad, **Jiban Podder**, Faria Rahman, Hari Narayan Das, “Effect of Nickel Doping on the Structural, Optical and Electrical Properties of Titanium Dioxide Thin Films for Sensing Devices”, **Results in Optics**, 13 (2023) 100579, <https://doi.org/10.1016/j.rio.2023.100579>.
17. Mehnaz Sharmin, **Jiban Podder**, Khandker Saadat Hossain, “Substrate temperature dependence on surface morphology and structure of N-type Fe<sub>2</sub>O<sub>3</sub> thin films with enhanced transparency”, **Bangladesh Journal of Physics**, Vol 30, pp 13-22, June-December, 2023.

[2022]

18. R. Rahaman, M. Sharmin, **J. Podder**, “Band gap tuning and p to n-type transition in Mn doped CuO nanostructured thin films”, **Journal of Semiconductors**, (2022) 43, 012801 doi: 10.1088/1674-4926/43/1/012801.
19. Muslima Zahan, **Jiban Podder**, “Synthesis and Characterizations of Cu Doped Co<sub>3</sub>O<sub>4</sub> Nanostructured Thin Films Using Spray Pyrolysis for Glucose Sensor Applications”, **Biointerface Research in Applied Chemistry**, Volume 12, Issue 5, 2022, 6321 - 6335.
20. Alivia Mukherjee, Biswa R. Patra, **Jiban Podder** and Ajay K. Dalai, “Eco-friendly synthesis of biochar from lignocellulosic biomass for diverse industrial applications: Effect of pyrolysis conditions on the physiochemical properties of biochar”, **Frontiers in Materials**, section Carbon-Based Materials., **June 2022**, Volume 9, Article 870184, doi: 10.3389/fmats.2022.870184.
21. **Podder, J.**, Mukherjee, A., Dalai, A. K. (2022). Eco-friendly synthesis of porous activated carbon from agro-food waste for sustainable energy harvesting sources. **Academia Letters**, **January 2022**, Article 4696, page 1-9, <https://doi.org/10.20935/AL4696>.
22. **Jiban Podder**, “Single crystals: The science behind its beauty, power and energy”, BUET-Physics Bulletin, Issue No. 1, **January 2022**.
23. Tapash Chandra Paul, **Jiban Podder**, Lincoln Paik, “Effect of Fe doping on the microstructure, optical and dispersion energy characteristics of TiO<sub>2</sub> thin films prepared via spray pyrolysis technique”, **Results in Optics** 8 (2022) 100235.
24. M. Hadi, N. Islam, **J. Podder**, “Indirect to direct band gap transition through order to disorder transformation of Cs<sub>2</sub>AgBiBr<sub>6</sub> via creating anti-site defect for optoelectronic and photovoltaic applications”, **RSC Advances**, **2022**, 12, 15461.
25. Md. Nurul Islam, **Jiban Podder**, “Indirect-to-direct band gap transition in lead free double halide perovskites Cs<sub>2</sub>AgBiCl<sub>6</sub> through induced pressure: A computational approach for optoelectronic and photovoltaic applications”, **Heliyon**, 8 (2022) e10032.
26. Tusar Saha, Md. Majibul Haque Babu, Md. Arifuzzaman, **Jiban Podder**, “A new potential Lead-free Cs<sub>2</sub>AgAsCl<sub>6</sub> perovskite for next generation H<sub>2</sub> and O<sub>2</sub> evolutions: Insight from DFT study”, **Physical Chemistry Chemical Physics**, **2022**, DOI: 10.1039/d2cp03152c.
27. Tusar Saha, **Jiban Podder**, Md Rakibul Islam, Hari Narayan Das, ‘Effect of tungsten doping on the microstructure, optical and photocatalytic activity of titanium dioxide thin films deposited by spray pyrolysis’ **Optical Materials** 133 (2022) 113065.

28. Suresh Sagadevan, Anita Lett, Is Fatimah, Suriati Paiman, **Jiban Podder**, Mohd. Rafie Johan, Integrated optoelectronics (waveguides including metal oxide glasses), "**Metal Oxides for Optoelectronics and Optics-Based Medical Applications**", Elsevier Science, 2022.
29. Syed Muhammad Al Amin, Sanzida Rahman, **Jiban Podder**, Fahmida Gulshan, Investigation of structural and optical properties of pure and Cr-doped  $\text{ZrO}_2$  thin film synthesized by spray pyrolysis, AIP conference proceedings, International Conference on Mechanical, Manufacturing and Process Engineering (ICMMPE-2022), 25-27 June 2022, Paper ID: 5600, pp 178-181.

[2021]

30. M. N. Islam, **J. Podder** and M. L. Ali, The effect of metal substitution in  $\text{CsSnI}_3$  perovskites with enhanced optoelectronic and photovoltaic properties, **RSC Adv.**, 2021, 11, 39553.
31. M. H. Babu, **J. Podder**, "Bond length controlling opto-structural properties of Mn doped CuO thin films: An experimental and theoretical study", **Materials Science in Semiconductor Processing**, 129 (2021) 105798.
32. Majibul Haque Babu, **Jiban Podder**, Rabeya Rahman Tofa, Md. Lokman Ali, 'Non-magnetic semiconductor to half metallic ferromagnetic properties of Co doped CuO thin films fabricated via thermal spray pyrolysis', **Surfaces and Interfaces**, 25 (2021) 101269.
33. Join Uddin; Mehnaz Sharmin; Mohammed Nasim Hasan; **Jiban Podder**, 'Influence of Ni doping on the structure and properties of CuO thin films: Columnar morphology, band gap widening and enhancement in resistivity', **Optical Materials**, 2021. 119 (2021) 111388.
34. Md. Sajib Hossain, Md. Majibul Haque Babu, Tusar Saha, Md. Sazzad Hossain, **Jiban Podder**, Md. Shohel Rana, Md. Abdul Barik, Protima Rani, Pressure induced semiconductor to metal phase transition in  $\text{CsSnBr}_3$  perovskite, **AIP Advances** 11, 055024 (2021); doi: 10.1063/5.0048979.
35. M.N. Islam, **J. Podder**, T. Saha, and P. Roy, "Semiconductor to metallic transition under induced pressure in  $\text{Cs}_2\text{AgBiBr}_6$  double halide perovskite: A theoretical DFT study for photovoltaic and optoelectronic applications, **RSC advances**, 2021, 11, 24001.
36. Priyanka Datta, Mehnaz Sharmin, **Jiban Podder**, Shamima Choudhury, 'Effect of substrate temperature on the morphological, structural, optical and electrical properties of CuO thin films synthesized by spray pyrolysis technique', **Journal of Optoelectronics and Advanced Materials** Vol. 23, No. 1-2, January–February 2021, pp. 35-42.
37. Md. Khorshed Alam, Mehnaz Sharmin and **Jiban Podder**, Band gap tuning in ZnO thin films and enhanced n-type properties through Mn doping synthesized by a simple spray pyrolysis, **International Journal of Modern Physics, B, Vol. 35, No. 11, 2150155 2021**, <https://doi.org/10.1142/S0217979221501551>.
38. Suresh Sagadevan, Mohd RafieJohan, A. R. Marlinda, Omid Akbarzadeh, Karuppasamy Pandian, M. M. Shahid, Faruq Mohammad, **Jiban Podder**, Chapter one - Background of energy storage, **Advances in Supercapacitor and Supercapattery- An Innovation Toward Energy Storage Devices**, 2021, Elsevier Publishers, Pages 1-26, <https://doi.org/10.1016/B978-0-12-819897-1.00003-3>.
39. Suresh Sagadevan, A. R. Marlinda, Zaira Zaman Chowdhury, Yasmin Binti Abdul Wahab, Nor Aliya Hamizi, M. M. Shahid, Faruq Mohammad, **Jiban Podder**, Mohd Rafie Johan, Chapter two-Fundamental electrochemical energy storage systems, **Advances in Supercapacitor and Supercapattery-An Innovation Toward Energy Storage Devices**, 2021, Elsevier Publishers, Pages 27-43 <https://doi.org/10.1016/B978-0-12-819897-1.00001-X>.

40. Archana Rajendran, Suresh Sagadevan, J.Anita Lett, Gobi Saravanan Kaliaraj, Is Fatimah, Faruq Mohammad, Hamad A. Al-Lohedan, Solhe F. Alshahateet, **Jiban Podder**, Synthesis, growth, supramolecularity and antibacterial efficacy of 3,4-dimethoxybenzoic acid single crystals, **Chemical Physics Letters** **764** (2021) 138269.
41. Sagadevan Suresh, Getu Kassegn Weldegebriale; Md Rokon ud Dowla Biswas; Won Chun Oh; Solhe F. Alshahateet; Is Fatimah; Faruq Mohammad; **Jiban Podder**; Mohd Rafie Johan, "Enhanced gas sensing and photocatalytic activity of reduced graphene oxide (rGO)-loaded TiO<sub>2</sub> nanoparticles", **Chemical Physics Letters**, **780** (2021) 138897.
42. Md. Majibul Haque Babu, Tusar Saha, **Jiban Podder**, Protima Roy, Abdul Barik, and Enamul Haque, "Electronic structure transition of Cubic CsSnCl<sub>3</sub> under pressure: Effect of rPBE and PBEsol functionals and GW method", **Heliyon**, **7** (2021) e07796. DOI: <https://doi.org/10.1016/j.heliyon.2021.e07796>.

[2020]

43. M. Zahan, **J. Podder**, 'Role of Fe doping on structural and electrical properties of MnO<sub>2</sub> nanostructured thin films for glucose sensing performance', **Materials Science in Semiconductor Processing**, **117** (2020) 105109. <https://doi.org/10.1016/j.mssp.2020.105109>.
44. Muslima Zahan, **Jiban Podder**, "Structural, Optical and Electrical Properties of Cu: MnO<sub>2</sub> Nanostructured Thin Films for Glucose Sensitivity Measurements", **S N Applied Sciences**, (2020) **2:385** | <https://doi.org/10.1007/s42452-020-2191-8>.
45. M. H. Babu, **J. Podder**, B. C. Dev, M. Sharmin, 'p to n-type transition with wide blue shift optical band gap of spray synthesized Cd doped CuO thin films for optoelectronic device applications', **Surfaces and Interfaces**, Article number, **100459**, 2020, 10.1016/j.surfin.2020.100459.
46. M. Vidhya, P. Raja, R. Archana, K Sadayandi, Suresh Sagadevan, S. Gunasekaran, **Jiban Podder**, Faruq Mohammad, Hamad A. Al-Lohedan, Won Chun Oh, "Comparison of sunlight-driven photocatalytic activity of semiconductor metal oxides of tin oxide and cadmium oxide nanoparticles", **Optik-International Journal for Light and Electron Optics**, **217** (2020) 164878 <https://doi.org/10.1016/j.ijleo.2020.164878>.
47. M.Muthukumaran, G. Dhinakaran, K.Venkatachalam, Suresh Sagadevan, S. Gunasekaran, **Jiban Podder**, Faruq Mohammad, M. M. Shahid, Won Chun Oh, "Green synthesis of cuprous oxide nanoparticles for environmental remediation and enhanced visible-light photocatalytic activity", **Optik-International Journal for Light and Electron Optics**, **214** (2020) 164849, <http://doi.org/10.1016/j.ijleo.2020.164849>.
48. R. Archana, S. Sudhahar, Suresh Sagadevan, Faruq Mohammad, **Jiban Podder**, "Synthesis, growth and physicochemical characterization of 8-hydroxyquinolinium 3, 4 dimethoxybenzoate, a novel organic nonlinear optical crystal", **Applied Physics A**, 2020. 126:188, <https://doi.org/10.1007/s00339-020-3366-2>.
49. A. Subashini, K. Rajarajan, Suresh Sagadevan, Preeti Singh, **Jiban Podder**, Faruq Mohammad, "Enhanced properties of cadmium mercury thiocyanate bis (N-methyl formamide): A promising non-linear optical crystal", **Chinese Journal of Physics**, **67** (2020) 52–62. <https://doi.org/10.1016/j.cjph.2019.12.017>.
50. Tapash Chandra Paul, **JibanPodder**, Majibul Haque Babu, "Optical constants and dispersion energy parameters of Zn-doped TiO<sub>2</sub> thin films prepared by spray pyrolysis technique", **Surfaces and Interfaces**, Available online 3 October 2020, 100725, <https://doi.org/10.1016/j.surfin.2020.100725>.

51. M. N. Islam, **J. Podder**, K. S. Hossain and S. Sagadevan, “Band gap tuning of p-type Al-doped TiO<sub>2</sub> thin films for gas sensing applications”, **Thin Solid Films**, Available online 2 October 2020, 138382, <https://doi.org/10.1016/j.tsf.2020.138382>.
52. M. N. Islam, **J. Podder**, “The role of Al and Co co-doping on the band gap tuning of TiO<sub>2</sub> thin films for applications in photovoltaic and optoelectronic devices”, **Materials Science in Semiconductor Processing**, Volume 121, January 2021, 105419, 2020. <https://doi.org/10.1016/j.mssp.2020.105419>.
53. Archana Rajendran, S. Sudhahar, K. Sadayandi, M. Vidhya, Suresh Sagadevan, Faruq Mohammad, **Jiban Podder**, “Investigation of the optical, photoluminescence, and dielectric properties of P-Toluidinium picrate single crystals”, **Chinese Journal of Physics**, 67 (2020) 283–292, <https://doi.org/10.1016/j.cjph.2020.07.010>.
54. Tapash Chandra Paul, Majibul Haque Babu, **Jiban Podder**, Bidhan Chandra Dev, Sapan Kumar Sen, Surovi Islam, “Influence of Fe<sup>3+</sup> ions doping on TiO<sub>2</sub> thin films for optoelectronic applications: defect generation, d-d transition and band gap tuning”, **Physica B**, 27 November 2020, 412618). <https://doi.org/10.1016/j.physb.2020.412618>.
55. Muslima Jahan, **Jiban Podder**, “Fe Doped MnO<sub>2</sub> Nanostructured Thin Films: Synthesis and Characterization for Bio Sensor Applications”, **Bangladesh Journal of Physics**, Vol. 27, Issue 1, pp. 1-10, 2020, DOI: <https://doi.org/10.3329/bjphy.v27i1.49722>.
56. M. A. Rahman and **J. Podder**, “Enhanced metastable zone width and optical properties of KCl doped ZnSO<sub>4</sub>·7H<sub>2</sub>O crystal grown by isothermal evaporation technique”, **The Bangladesh Journal of Scientific Research**, Vol. 34, 2020.

[2019]

57. M. N. Islam, M. A. Hadi , and **J. Podder**, ‘Influence of Ni doping in a lead-halide and a lead-free halide perovskites for optoelectronic applications’, **AIP Advances** 9, 125321 (2019); <https://doi.org/10.1063/1.5132985>.
58. Tapash Chandra Paul, **Jiban Podder**, “Synthesis and characterization of Zn incorporated TiO<sub>2</sub> thin films impact of crystallite size on X-ray line broadening and band gap tuning”, **Applied Physics A**, 152 (12), November 2019, DOI: 10.1007/s00339-019-3112-9.
59. Mehnaz Sharmin, **Jiban Podder**, “Band Gap Tuning, n-type to p-type Transition and Ferrimagnetic Properties of Mg Doped  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> Nanostructured Thin Films”, **Journal of Alloys and Compounds**, <https://doi.org/10.1016/j.jallcom.2019.152850>, 2019.
60. Bidhan Chandra Dev, Majibul Haque Babu, **Jiban Podder**, Suresh Sagadevan, Abdullah Zubair, “Low temperature synthesis of  $\alpha$ - and  $\beta$ -phase Bi<sub>2</sub>O<sub>3</sub> thin film via B doping: tailoring optical band gap and n- to p-type Bi<sub>2</sub>O<sub>3</sub>”, **J of Materials Science: Materials in Electronics**, August 2019, Vol. 30, Issue 16, pp 15670–15682, <https://doi.org/10.1007/s10854-019-01950-5>.
61. P. Suchitra, A. Kala, Suresh Sagadevan, V. Bharathi Devi and **Jiban Podder**, Synthesis and characterisation of bis (2 methyl-8-hydroxyquinoline) zinc nanoparticles for organic light emitting diode applications, **Molecular Simulation**, 45(2019)1-7. <https://doi.org/10.1080/08927022.2019.1594418>, ISSN: 0892-7022 (Print) 1029-0435 (Online).
62. Muslima Zahan, **Jiban Podder**, ‘Surface morphology, optical properties and Urbach tail of spray deposited Co<sub>3</sub>O<sub>4</sub> thin films’, **J of Materials Science: Materials in Electronics**, 2019, 30:4259–4269. <https://doi.org/10.1007/s10854-019-00717-2>.
63. Sapan Kumar Sen, Tapash Chandra Paul, M.S. Manir, Supria Dutta, M.S. Hossain, **Jiban Podder**, “Effect of Fe-doping and post annealing temperature on the structural and optical properties of MoO<sub>3</sub> nanosheets”, **J of Materials Science: Materials in Electronics**, 2019. DOI: 10.1007/s10854-019-01805-z.



64. Majibul Haque Babu, Bidhan Chandra Dev, **Jiban Podder**, “Texture coefficient and band gap tailoring of Fe-doped SnO<sub>2</sub> nanoparticles via thermal spray pyrolysis”, **Rare Metals**, (2022) 41(4):1332–1341, <https://doi.org/10.1007/s12598-019-01278-3>.
65. Muhammad R. Islam, Mukhlasur Rahman, S.F.U. Farhad, **J. Podder**, “Structural, optical and photocatalysis properties of sol–gel deposited Al-doped ZnO thin films”, **Surfaces and Interfaces**, 16 (2019) 120–126.
66. Mehnaz Sharmin and **Jiban Podder**, “Influence of Al Doping on the Structure and Properties of Fe<sub>2</sub>O<sub>3</sub> Thin Films: High Transparency, Wide Band Gap, Ferromagnetic Behavior”, **Semicond. Sci. Technol.**, 2019, <https://doi.org/10.1088/1361-6641/ab2790>.
67. Venilla Selvaraj, Suresh Sagadevan, Lakshmipathy Muthukrishnan, Mohd. Rafie Johan, **Jiban Podder**, “Eco-friendly approach in synthesis of silver nanoparticles and evaluation of optical, surface morphological and antimicrobial properties”, **Journal of Nanostructure in Chemistry**, (2019) 9:153–162, <https://doi.org/10.1007/s40097-019-0306-9>. (ISI-Indexed).
68. Suresh Sagadevan, Zaira Zaman Chowdhury, Mohd. Rafie Bin Johan, Fauziah Abdul Aziz, L. Selva Roselin, **Jiban Podder**, J. Anita Lette, and Rosilda Selvin, Cu-Doped SnO<sub>2</sub> Nanoparticles: Synthesis and Properties, **J. Nanosci. Nanotechnol.** 19, 7139–7148 (2019).

#### [2018]

69. Suresh Sagadevan, K. Pradeev raj, Fauziah Abdul Aziz, Zaira Zaman Chowdhury, Mohd. Rafie Bin Johand, and **Jiban Podder**, Structure, Properties, Photocatalytic and Antibacterial activity and Applications of Zinc Oxide Nanoparticles-an Overview, **Journal of Nanobioscience**, Vol. 12, 457-468, 2018.
70. M. Zahan, M R Islam and **J Podder**, ‘Influence of annealing temperature on tuning the band gap of Mn-doped ZnS thin films deposited by spray pyrolysis technique’, **Indian J Phys** <https://doi.org/10.1007/s12648-018-1325-y>, 2018.
71. B. Majibul Haque, D. Bidhan Chandra, **P. Jiban**, I. Nurul, Z. Abdullah, “Influence of Fe<sup>2+</sup>/Fe<sup>3+</sup> ions in tuning the optical band gap of SnO nanoparticles synthesized by TSP method: Surface morphology, structural and optical studies”, **Materials Science in Semiconductor Processing** 89, 223–233 (2018).
72. Suresh Sagadevan, Zaira Zaman Chowdhury, Md Enamul Hoque and **Jiban Podder**, Chemically stabilized reduced graphene oxide/zirconia nanocomposite: synthesis and characterization, **Mater. Res. Express** 4 (2018), 115031.

#### [2017]

73. **J. Podder**, Lin, J., Sun, W., Botis, S. M., Tse, J., Chen, N., Hu, Y., Li, D. & Seaman, J., and Y. Pan, "Iodate in Calcite and Vaterite: Insights from Synchrotron X-ray Absorption Spectroscopy and First Principles Calculation", **Geochimica et Cosmochimica Acta**, 198, 218-228, 2017.
74. R. Khan, M. A. Rouf, S. Das, U. Tamim, K. Naher, **J. Podder**, S. M. Hossain, Spatial and multi-layered assessment of heavy metals in the sand of Cox’s-Bazar beach of Bangladesh, **Regional Studies in Marine Science**, 16, 171-180, 2017, Elsevier.
75. Subashini, K. Rajarajan, Suresh Sagadevan, Preeti Singh, **Jiban Podder**, “Preparation and characterization of a bis thiourea sodium iodide (BTSI) A potential NLO crystal”, **J Therm Anal Calorim**, DOI 10.1007/s10973-017-6829-8, 17 November, 2017.

76. Suresh Sagadevan, Isha Das, Preeti Singh, **Jiban Podder**, Synthesis of tungsten carbide nanoparticles by hydrothermal method and its Characterization, **J. Mater. Sci. Mater. Electron**, **28**(1), 1136-1141, **2017, Springer US**.
77. S. Sagadevan, K. Pal, Z. Z. Chowdhury, **J. Podder**, CBD progression of Ti-doped ZnO thin film spectroscopic characterizations, **J. Mater. Sci. Mater. Electron**, **28** (21), 16554-16560, **2017, Springer US**.
78. S. Sagadevan, **J. Podder**, I Das, Synthesis and Characterization of CuInSe<sub>2</sub> Nanoparticles by Hydrothermal Method, **Recent Trends in Materials Science and Applications**, **189**, 89-98, **2017, Springer**.
79. S. Sagadevan, **J. Podder**, I. Das, Synthesis and Characterization of Cobalt Ferrite (CoFe<sub>2</sub>O<sub>4</sub>) Nanoparticles Prepared by Hydrothermal Method, **Recent Trends in Materials Science and Applications**, 145-152, **2017, Springer**.

#### [2016]

80. M. Biswas, M. Sharmin, C. Das, S. Choudhury and **J. Podder**, "Structural and Optical Characterization of Magnesium Doped Zinc Oxide Thin Films Deposited by Spray Pyrolysis", **Dhaka Univ. J. Sci.**, 64(1), 37-42, **2016**.
81. Suresh Sagadevan, **Jiban Podder**, "Investigation on Structural, Surface Morphological and Dielectric Properties of Zn Doped SnO<sub>2</sub> Nanoparticles", **Materials Research**, **19**(2), 420-425, **2016**, DOI:http://dx.doi.org/10.1590/1980-5373-MR-2015-0657.
82. Suresh Sagadevan, **Jiban Podder**, and Isha Das, "Structural, morphological, optical and electrical properties of PbSe thin films grown by chemical bath deposition", **Adv. Mater. Lett.** **7**(5), 410-413, **2016**. DOI: 10.5185/amlett.2016.5949.
83. Suresh Sagadevan, **Jiban Podder**, and Isha Das, "Synthesis and characterization of CoWO<sub>4</sub> nanoparticles via chemical precipitation technique", **J. Mater Sci. Mater. Electron**, **27**(9), 9885-9890, **2016**, DOI: 10.1007/s 10854-016-5057-5, **Springer US**.
84. Suresh Sagadevan, **Jiban Podder**, Isha Das, "Hydrothermal Synthesis of Zirconium Oxide Nano Particles and Its Characterization", **J. Mater. Sci. Mater. Electron**, **27**(6), 5622-5627, **2016, Springer US**.
85. Suresh Sagadevan, Isha Das and **Jiban Podder**, "Synthesis of lead titanate nanoparticles via sol-gel technique and its characterization", **J. Mater Sci. Mater. Electron**, **27**(12), 13016-13021, **2016**, DOI: 10.1007/s 10854-016-5442-0, **Springer US**.
86. J. K. Saha, and **J. Podder**, "Effect of aluminum doping on the structural and optical properties of ZnO thin films synthesized by spray pyrolysis technique", **Jagannath University Journal of Science**, ISSN 2224-1698 , Vol 5, NO. I, pp-31-41, **2016**.

#### [2015]

87. Suresh Sagadevan and **Jiban Podder**, "Investigation of Structural, SEM, TEM and Dielectric Properties of BaTiO<sub>3</sub> nanoparticles", **Journal of Nano-and Electronic Physics**, Vol. 7, No. 4, 4pp., **2015**.
88. Suresh Sagadevan and **Jiban Podder**, "Optical and electrical properties of nanocrystalline SnO<sub>2</sub> thin films synthesized by chemical bath deposition method", **Soft Nanoscience Letters**, Vol. 5, pp. 55-64, **2015**.

89. A. H. Rubel and **J. Podder**, "Optical properties of spray pyrolysis CDS:Al thin films", **J. Bangladesh Academy of Sciences**, Vol.39, No.1, pp. 25-30, **2015**.
  90. Suresh Sagadevan and **Jiban Podder**, " Investigations on structural, optical, morphological and electrical properties of nickel oxide nanoparticles", **International Journal of Nanoparticles**, Vol. 8(Nos. 3/4), pp.289 - 301, **2015**.
  91. **Podder J.**, Ritwik Basu, Richard W. Evitts, Robert W. Besant, "Surface morphology and microstructural characterization of KCl crystals grown in halite-sylvite solutions by back scattered diffraction techniques", **Surface Review and Letters**, Vol. 22, No. 1 (**2015**), (9 pages) DOI: 10.1142/S0218625X15500122.
  92. S. S. Roy, A. H Bhuiyan, **J. Podder**, Optical and Electrical Properties of Copper Oxide Thin Films Synthesized by Spray Pyrolysis Technique, **Sensors & Transducers**, Vol. 191, Issue 8, August 2015, pp. 21-27.
  93. M. A. Rahman, M. M. Rahman, **J. Podder**, Investigation on the structure, optical constants and growth aspects of EDTA doped ADP crystals for optoelectronics applications, **Bangladesh Journal of Physics**, **17**, 23-30, **2015**.
- [2014]**
94. Mahjabin Taskin, **Jiban Podder**, "Structural, Optical and Electrical Properties of Pure and Co-Doped ZnO Nano Fiber Thin Films Prepared by Spray Pyrolysis", **App. Sci. Report**. 2 (3), **2014**: 107-113, DOI: 10.15192/PSCP.ASR.2014.2.3.107113.
  95. **Podder J.**, Shaoyu. G., Richard W. Evitts, Robert W. Besant and D. Matthews, "Synthesis of carnallite crystal from KCl-MgCl<sub>2</sub> solutions and its characterization", **Int. J. Mater. Res.**, Vol. 105 (3), page 308-313, **2014**, DOI:10.3139/146.111013.
  96. **Podder J.**, Richard W. Evitts, Robert W. Besant, "Effect of lead chloride on the growth and surface properties of potassium chloride crystals from aqueous solutions", **Surface Review and Letters**, Vol. 21, No.3 (**2014**) 1450044 (8 pages).
  97. M. Kamruzzaman, Kamal Uddin Azad, **Jiban Podder**, "Synthesis and characterization of Zn<sub>1-x</sub>Cd<sub>x</sub>S thin films prepared by the spray pyrolysis Technique", **Asian J. Applied Sciences**, 7(7):607-620, **2014**.

**[2013]**

98. F. Rahman, **J. Podder**, and M. Ichimura, "Structural, optical and electrical characterization of spray pyrolysed Indium sulfide thin films", **Surface Review and Letters**, Vol. 20, No. 2, (**2013**) 1350014 (7 pages).
99. S. M. Salaken, E. Farzana and **J. Podder**, "Effect of Fe-doping on the structural and optical properties of ZnO thin films by spray pyrolysis", **J. of Semiconductor**, Vol. 34, No. 7, **2013**.
100. S. C. Das, R. J. Green, **J. Podder**, T. Z. Regier, G. S. Chang and A. Moewes, "Band gap tuning in ZnO through Ni doping via spray pyrolysis", **J. Physical Chemistry C**, 117, 12745-12753, **2013**.
101. F. Rahman, M. Zahan, and **J. Podder**, "Synthesis of nanocrystalline ZnS thin films via spray pyrolysis for optoelectronic devices", **Sensors & Transducers**, Vol. 149, No.2, pp. 54-59, February **2013**.
102. A. H. Rubel and **J. Podder**, "Optical and electrical characteristics of pure CdS thin films for different thickness", **J. Bangladesh Academy of Sciences**, Vol. 37, No. 1, 33-41, **2013**.
103. M. Hossain, S.A. Begum, and **J. Podder**, "Growth, structural, thermal and optical properties of Mg<sup>2+</sup>- Co<sup>2+</sup> doped potassium acid phthalate crystals", **J. Bangladesh Academy of Sciences**, Vol. 37, No.2, pp.167-172, **2013**.

104. K. Senthil, S. Kalainathan, A. Rubankumar, V. Ramkumar, and **J. Podder**, "2-[(E)-2-(4-Methoxyphenyl) ethenyl]-1-methylpyridinium iodine, **Acta Crystallographica E**, E69, o1848, **2013**.
105. H. N. Das and **J. Podder**, "Studies on growth and characteristics of triglycine sulphate (TGS) crystals doped with potassium chloride", '**J. Optoelectronics and Advanced Materials**', Vol. 15, No. 7-8, pp. 1142-1146, **2013**.
106. R. K. Balachandar, S. Kalainathan, P. G. Aravindan, Shibu M. Eappen and **J. Podder**, "4-[2-(4-Ethoxyphenyl) ethenyl]-1-methylpyridinium naphthalene-2-sulfonate, **Acta Crystallographica E**, E69, o722, **2013**.
107. R. K. Balachandar, S. Kalainathan, Shibu M. Eappen and **J. Podder**, "4-Methyl-N-[4-(dimethyl amino) benzylidene] aniline", **Acta Crystallographica E**, E69, o905, **2013**.
108. R. K. Balachandar, S. Kalainathan, Shibu M. Eappen and **J. Podder**, "4-Fluoro-N-[(1E)-(3, 4, 5-tri methoxy phenyl) methylene] aniline", **Acta Crystallographica E**, E69, o1234, **2013**.

**[2012]**

109. **J. Podder** and M. R. Islam, "Deposition of nano fiber ZnO and  $Zn_{1-x}Cd_xO$  thin films grown by a simple spray pyrolysis and characterization for optoelectronic application", **Advanced Materials Research**, Vol. 545, pp 100-104, **2012**.
110. M. Kamruzzaman, R. Dutta, and **J. Podder**, "Synthesis and characterization of as-deposited  $Cd_{1-x}Pb_xS$  thin films prepared by spray pyrolysis technique", **Semiconductors**, Vol. 46, No. 7, pp 957-961, **2012**.
111. M. Kamruzzaman, T. R. Luna, **J. Podder** and M. G. M. Anowar, "Synthesis and characterization of  $Cd_{1-x}Co_xS$  thin films prepared using the spray pyrolysis technique", **Semicond. Sci. Technol.** 27 (2012) 035017 (6pp).
112. K. M. A. Hussain, **J. Podder**, D. K. Saha, M. Ichimura, Structural, optical and electrical characterization of  $CuInS_2$  thin films by spray pyrolysis, **Ind. J. Pure and Appl. Phys.** Vol. 50, pp. 117-122, **2012**.
1113. A. H. Rubel and **J. Podder**, "Structural and electrical transport properties of CdS and Al-doped CdS thin films deposited by spray pyrolysis", **J. Sci. Res.** 4 (1), 11-19, **2012**.
114. A. H. Rubel and **J. Podder**, "Effect of annealing temperature on structural, optical and electrical properties of pure CdS thin films deposited by spray pyrolysis technique", **Advances in Materials Physics and Chemistry**, 2, pp. 226-231, **2012**.
115. A. H. Rubel and **J. Podder**, "Effect of molar concentration on the optical and surface properties of CdS Thin film", **Bangladesh Journal of Physics**, 12, pp. 9-14, **2012**.
116. A. H. Rubel and **J. Podder**, "Dielectric properties of spray pyrolyzed Aluminum doped Cadmium sulfide (Al-doped CdS) thin films", **Int. Journal of Physical Sciences** Vol. 7(47), pp 6158-6161, 2012, DOI: 10.5897/IJPS12.539 ISSN 1992–1950, **2012** Academic Journals.
117. H. N. Das and **J. Podder**, "Investigations on thermal, electrical, mechanical and etching studies of KCl doped Triglycine sulphate single crystals", **J. Thermal Analysis and Calorimetry**, 110:1107-1112, **2012**.
118. F. Khanum and **J. Podder**, "Growth and Electrical Transport Properties of Pure and  $LiSO_4$  Doped Triglycine Sulphate Crystal from Low Temperature Solution", **International Journal of Optics**, Volume **2012**, Article ID 803797.

119. A. Rahman and **J. Podder**, “Effect of EDTA on the metastable zone width and growth kinetics of ADP crystal”, **Indian J. Physics**, 86(1): 15-21, **2012**.
120. A. Rahman and **J. Podder**, “The effect of EDTA on the nucleation kinetics and mechanical properties of KDP crystal”, **J. Sci.. Res.**, **4 (3)**, 533-540, **2012**.
121. F. Akhtar and **J. Podder**, “Investigation of structural properties and optical band gap in L-alanine single crystal for electro-optic devices” **Research Journal of Physics** **6(2):31-40, 2012**.

**[2011]**

122. M. A. Islam, Sk. A. Latif, S. M. Hossain, M. S. Uddin, **J. Podder**, “The Concentration and Distribution of Trace Elements in Coals and Ashes of the Barapukuria Thermal Power plant, Bangladesh”, **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects**, 1556-7230, Volume 33, Issue 5, Pages 392 – 400, **2011**.
123. F. Khanum and **J. Podder**, Crystallization and Characterization of Triglycine Sulfate (TGS) Crystal Doped with NiSO<sub>4</sub>”, **J. Crystallization Process and Technology**, **3**, 49-54, **2011**.
124. F. Akhtar and **J. Podder**, A Study on Structural, Optical, Electrical and Etching Characteristics of Pure and L-Alanine Doped Potassium Dihydrogen Phosphate Crystals”, **J. Crystallization Process and Technology**, **3**, 55-62, **2011**.
125. F. Akhtar and **J. Podder**, ‘Studies on the effect of L-alanine on the structural, optical and thermal properties of potassium acid phthalate crystals’, **J. Applied Sciences**, 11 (6): 2974-2983, **2011**.
126. F. Khanum and **J. Podder**, ‘Structural and optical properties of triglycine sulfate single crystals doped with potassium bromide’, **J. Crystallization Process and Technology**, **1**, 26-31, **2011**.
127. F. Akhtar and **J. Podder**, ‘Structural, Optical, Electrical and Thermal Characterizations of Pure and L-alanine Doped Ammonium Dihydrogen Phosphate, **J. Crystallization Process and Technology**, **1**, 18-25, **2011**.
128. J. K. Saha and **J. Podder**, "Crystallization of zinc sulphate single crystals and its structural, thermal and optical characterization", **J. Bangladesh Academy of Sciences**, Vol. 35, No.2, 203-210, **2011**.
129. M. Kamruzzaman, T. R. Luna, **J. Podder**, "Elemental, Structural and Optical Properties of Cd<sub>1-x</sub>CoxS Thin Films Prepared by Spray Pyrolysis Technique", **Innovative Systems Design and Engineering**, ISSN 2222-1727, Vol 2, No. 5, **2011**.
130. F. Rahman, **J. Podder** and M. Ichimura, “Studies on structural and optical characterization of In-Zn-S ternary thin films prepared by spray pyrolysis” **Int. J. Optics and Photonics**, Vol. 5, no. 2, pp.79-86, **2011**.
131. **J. Podder** and S. S. Roy,” An investigation of structural and electrical properties of nano crystalline SnO<sub>2</sub>: Cu thin films deposited by spray pyrolysis”, **Sensors & Transducers**, Vol. 134, Issue 11, pp. 155-162, **2011**.
132. M. R. Islam, **J. Podder**, S.F.U. Farhad and D. K. Saha "Effect of annealing on the structural and optical properties of nano fiber ZnO films deposited by spray pyrolysis", **Sensors & Transducers**, Vol. 134, Issue 11, pp. 170-176, **2011**.
133. R. I. Chowdhury, **J. Podder**, and A. B. M. O. Islam “Synthesis and characterization of manganese sulphide thin films deposited by spray pyrolysis”, **Cryst. Res. Technol.** **46**, No. 3, 267 – 271, **2011**.

[2010]

134. S. S. Roy and **J. Podder**, "Synthesis and optical characterization of pure and Cu doped SnO<sub>2</sub> thin films deposited by spray pyrolysis", **J. Optoelectronics and Advanced Materials**, Vol. 12. p 1479-1484, **2010**.
135. M. M. Islam, **J. Podder**, and M.R.Islam "Effect of molar concentration on the optical and Surface properties of CdO thin films deposited by spray pyrolysis", **Optoelectronics and Advanced Materials-Rapid Communication**, Vol. 4, ISS.7, p 968-972, **2010**.
136. A. Rahman and **J. Podder** "Effect of EDTA on the Growth Kinetics and Structural and Optical Properties of KDP Crystal", **International Journal of Optics**, Volume **2010**, Article ID 978763, 5 pages.

[2009]

137. M.R.Islam and **J. Podder**, "Optical properties of ZnO nano fiber thin films grown by spray pyrolysis of zinc acetate precursor", **Cryst. Res. Technol.** 44, No. 3, p 286 – 292, **2009**.
138. K. M. A. Hussain, J. L. Sullivan, **J. Podder**, and A. K. M. Fazlul Hoque, " Characteristics of diamond like carbon deposited under different experimental conditions", **The Bangladesh J. Scientific Research**, Vol. 22, No.(1 & 2), 1-11, **2009**.
139. S.A. Begum and **J. Podder**., "Influence of co-doped bimettalic impurities on the metastable zonewidth and induction period for nucleation of KDP from aqueous solutions", **Trends in Applied Sciences Research**, Vol.4 (4), p 241-247, **2009**.
140. S.A. Begum, **J. Podder**, "Effect of co-doped bimettalic impurities on the growth and nucleation kinetics of potassium acid phthalate (KAP)", **J. Bangladesh Academy of Sciences**, Vol. 33, No.2, **2009**.
141. S. A. Begum, M. Hossain, **J. Podder**, "An investigation on the growth and characterization of thiourea single crystals grown from aqueous solutions", **J. Bangladesh Academy of Sciences**, Vol. 33, No.1, 59-66, **2009**.
142. S. Ferdous, **J. Podder**, "Growth and characterization of epsomite single crystals doped with KCl from low temperature aqueous solutions", **J. Bangladesh Academy of Sciences**, Vol. 33, No.1, 43-50, **2009**.
143. K. M. A. Hussain, J. L. Sullivan, **J. Podder**, and A. K. M. Fazlul Hoque, " Characteristics of diamond like carbon deposited under different experimental conditions", **The Bangladesh J. Scientific Research**, Vol. 22, No.(1 & 2), 1-11, **2009**.

[2008]

144. M.M.Islam, M.R.Islam and **J. Podder**, "Optical and electrical properties of CdO thin films deposited by spray pyrolysis method", **J. Bangladesh Academy of Sciences**, Vol.32, No. 1, pp 97-105, **2008**.

[2007]

145. **J. Podder**, Rusop M., Soga T. and Jimbo T., "Structural and optical characterization of boron nitrogen doped amorphous carbon films deposited by r.f. PECVD", **Modern Physics Letters B**, Vol. 21 No. 8, p 455-466, **2007**.

[2006]

146. Rusop M., Abdullah S., **J. Podder**, Soga T. and Jimbo T., "Effect of gas pressure on the boron doped hydrogenated amorphous carbon thin films grown by radio frequency plasma enhanced chemical vapor deposition", **Surface Review and Letters**, Vol.13, No. 1, p 7-12, **2006**.

147. Rusop M., Abdullah S., **J. Podder**, Soga T. and Jimbo T., "Optical and structural properties of nitrogenated diamond like carbon film prepared by r.f.PECVD", **Surface Review and letters**, Vol.13, No. 1, p 1-6, **2006**.

[2005]

148. **J. Podder**, Rusop M., Soga T. and Jimbo T., "Boron-doped amorphous carbon thin films grown by r.f. PECVD under different partial pressure", **Diamond & Related Materials**, Vol.14, Issues 11-12, p 1799-1804, **2005**.
149. **J. Podder**, Miyawaki T and Ichimura M, "Preparation and characterization of CuInS<sub>2</sub> thin films from aqueous solutions by novel photochemical deposition technique", **J. Crystal Growth** Vol.275, p 937-942, **2005**.
150. **J. Podder**, Kobayashi R and Ichimura M, "Photochemical deposition of Cu<sub>x</sub>S thin films from aqueous solutions", **Thin Solid films**, Vol. 472, p 71-75, **2005**.

[2004]

151. **J. Podder**, S. A. Tarek and T. Hossain, "Study of trace elemental analysis in Permian Gondwana coals of Bangladesh by PIXE technique", **Int. J. of PIXE**, Vol. 14 No. 3 & 4, p 89-97, **2004**.

[2003]

152. S. Ramalingom, **J. Podder**, S. N. Kalkura, "Habit modification of epsomite in presence of urea", **J. Crystal Growth**, Vol. 247, p 523-529, **2003**.

[2002]

153. **J. Podder**, and T. Hosain, "X-ray diffraction studies and its application on the examination of defect and growth mechanism of some laser host materials", **Malaysian Journal of Science**, Vol.21 A, p 7-11, **2002**.
154. **J. Podder**, "The study of impurities effect on the growth and nucleation kinetics of Potassium dihydrogen phosphate", **J. Crystal Growth**, Vol. 237-239, p 70-75, **2002**.
155. **J. Podder**, and T. Hossain, "Study of heteroatom effect on graphitic carbons derived from Anthracene-Phenanthrene sulphur systems by thermal and optical Analysis", **Indian J. Physics**, 76A, p 537-540, **2002**.
156. **J. Podder**, S. Ramalingom, and S. N. Kalkura, and P. Ramasamy, "Investigation on the crystallization and morphology of (β) K<sub>2</sub>SO<sub>4</sub> from aqueous solutions", **Indian J. Physics**, 76 A (3), p 255-259, **2002**.

[2001]

157. **J. Podder**, S. Ramalingom, and S. N. Kalkura, "An investigation of lattice distortion in urea and KCl doped KDP crystals grown from low temperature aqueous solutions", **Crystal Res. Technol**, Vol.36, p 551-558, **2001**.
158. S. Ramalingom, **J. Podder** and S. N. Kalkura, "Crystallization and characterization of orthorhombic MgSO<sub>4</sub>.7H<sub>2</sub>O", **Crystal Res. Technol.**, 36 (12) p 1357-1364, **2001**.
159. **J. Podder**, and S. Majumder, "A study on the thermal and electrical characterization on the Barapukuria coal of Northwestern of Bangladesh", **Thermochimica Acta**, 372, p 113-118, **2001**.

[2000]

160. **J. Podder**, and Md Khairul Hassan Bhuiyan, "Growth and Characterization of single crystals of KDP and KCl doped KDP from aqueous solution", **J. Bangladesh Academy of Sciences**, Vol. 26, No.1, p 42-53, **2000**.

**[1999]**

161. **J. Podder**, S. A. Tarek, and T. Hossain, "Structural studies of Permian 'Gondwana' coals of Barapukuria by Infrared Spectroscopy", **Indian Journal of Physics**, 73A (3), p 283-293, **1999**.
162. **J. Podder**, and T. Hossain, "Fourier transform Infrared (FT-IR) spectroscopic studies of Bangladeshi coal", **Chemical Engineering Research Bulletin**, Vol. I 1, p 51-61, **1999**.

**[1998]**

163. **J. Podder**, and T. Hossain, "Petrographic studies of Permian Gondwana coals from the boreholes of Barapukuria and Khalaspir of Northwestern Bangladesh", **J. Bangladesh Academy of Sciences**, Vol.22, No.1, p71-78, **1998**.
164. T. Hossain and **J. Podder**, "Investigation of graphitizing carbons from organic compounds by various experimental techniques", **Indian Journal of Physics**, 72A (3), p 1 -8, **1998**.
165. **J. Podder**, Hossain T., and Kalkura S. N., "Characterization of pure KDP single crystals grown in silica gel medium", **Bangladesh Journal of Scientific Research**, 16(1): pp 59-64, **1998**.

**[1996]**

166. **J. Podder**, and T. Hossain, "A study of graphitizing coal by X-ray diffraction", **Indian Journal of Physics** 71 A (2), p 225-229, **1996**.
167. **J. Podder**, and T. Hossain, "Anisotropic crystalline growth developed in Bangladeshi coking coal during mesophase transformation", **Thermochimica Acta**, 284, p 279-287, **1996**.

**[1995]**

168. **J. Podder**, T. Hossain, and Kh. M. Mannan, "An investigation into the thermal behaviour of Bangladeshi coal", **Thermochimica Acta**, 255, p 221-226, **1995**.

**[1994]**

169. **J. Podder**, and T. Hossain, Kh. M. Mannan, and D. A. Begum, "Characterization of Barapukuria and Khalaspir coal found in the Northwestern zone of Bangladesh", **Fuel Science and Technology**, Vol. 13 No. 3, p 93 -101, **1994**.

**[1987-1989]**

170. T. Hossain, and **J. Podder**, "The role of heteroatom on the carbonization and graphitization of polynuclear organic compounds", **Thermochimica Acta**, 139, p 225-232, **1989**.
171. Mofiz U. A. and **J. Podder**, "Solitons in strongly magnetized electron-positron plasmas and pulsar microstructure", **Physical Review A**. Vol. 36, No. 4, p1811-1814, **1987**.

❖ **Published in the Reviewed Proceedings of the International Conference:**

172. **J. Podder**, M. Zahan, 'Synthesis, Processing and Characterization of Fe doped MnO<sub>2</sub> nanostructured thin films for gas sensing performance', **17<sup>th</sup> IEEE International symposium on Electrets**, Bernal Institute, University of Limerick, Ireland, September 2- 6, 2019, Proceeding of the Symposium, P
173. Fariha Anjum, Muhammad Samir Ullah, **Jiban Podder**, Md. Shahjahan, Md. Mizanur Rahman, "Electrical and Optical Properties of Zinc doped Titanium dioxide Thin Films", 2018 International Conference on Innovations in Science, Engineering and Technology, **27-28 Oct. 2018, (ICISSET)DOI: 10.1109/ICISSET.2018.8745637**, Publisher: **IEEE**.



174. **J. Podder**, Shaoyu.G., Richard W. Evitts, Robert W. Besant and D. Matthews, "Crystallization and growth kinetics of binary mixed alkali metal halides from aqueous solutions and natural evaporation processes", **Proc. of the 24th Canadian Congress on Applied Mechanics**, Paper MS03, pp.MS-9-MS-12, June 2-5, **2013**, University of Saskatchewan, Canada.
175. **J. Podder** and Hossain T., "Surface, optical and electrical characterization of  $Zn_{1-x}Cd_xS$  thin films by spray pyrolysis", **Proc. of the INSC 2011**, July 4-5, **2011**, Seri Kembangan, Selangor, Kuala Lumpur, Malaysia.
176. **J. Podder** and Hossain T., "Deposition of some transparent conducting oxide thin films by a simple spray pyrolysis technique and their characterizations for optoelectronic applications", **Proc. of the ICXRI-2010** (Int.conf. on X-ray and Related Techniques in Research and Industry), pp 46-50, June 9 - 10, 2010, Langkawi, Malaysia. \*This paper has been selected as one of the five best papers presented at the ICXRI, June 9 - 10, **2010**, Langkawi, Malaysia.
177. K. M. A. Hussain, J. L. Sullivan and **J. Podder**, "Structural and mechanical properties of diamond like carbon thin films semiconductors", **Proc. of the Int. Conf. on Magnetism and Advanced Materials (ICMAM-2010)**, pp 283-287, 03-07 March **2010**, Dhaka, Bangladesh.
178. S. S. Roy and **J. Podder**, "Studies on tin oxide ( $SnO_2$ ) and Cu doped  $SnO_2$  thin films deposited by spray pyrolysis technique for window materials in solar cells", **Proc. of the 8th International Conference on Mechanical Engineering (ICME)**, ICME09-RT-14, Page 1-6, Dec 26-28 (**2009**), Dhaka, Bangladesh.
179. M. R. I. Chowdhury, **J. Podder**, S. F. U. Farhad and D. K. Saha, "Structural and optical characterization of MnS thin film deposited by spray pyrolysis technique for optoelectronic applications", **Proc. of the 3rd International Conference on Structure, Processing and Properties of Materials, SPPM 2010**, 24-26 February **2010**, Dhaka, Bangladesh, SPPM2010 F16.
180. S. S. Siddique, S.M.M.A. Mamun, **J. Podder** and Kh. H..Bhuiyan, "Effect of CNT doping on electrical conductivity in bituminous coal", **Proc. of the Silver Jubilee Conference on Communication Technologies & VLSI Design (COMMV'09)**, VIT University, Vellore, India, October 8-10, **2009**, p-445-446.
181. **J. Podder** and Hossain T., "Study of graphite and diamond like carbon from coal and carbonaceous materials by X-ray and other associated techniques and their relevance to industrial applications", **Proc. of the ICXRI-2008** (Int.conf. on X-ray and Related Techniques in Research and Industry), 2-page extended paper, June 2-6, **2008**, University Malaysia Sabah, Shah Alam, Malaysia.
182. **J. Podder** and Hossain T., "An investigation of graphite like carbon in Bangladesh coal by XRD and associated Raman Spectroscopic technique", **Proc. of the ICXRI-2006** (Int.conf. on X-ray and Related Techniques in Research and Industry), 2-page extended paper, November 29-30, **2006**, Putrajaya, Malaysia.
183. **J. Podder**, Rusop M., Rakesh Afre, Soga T., and Jimbo T., "Boron doped amorphous carbon thin films by r.f.PECVD and their microstructure by atomic force microscopy", **Proc. of the 16th International Microscopy Congress**, Vol 2. P-1366, Sapporo, Japan, Sept 3-8, **2006**.
184. **J. Podder** and Hossain T. "Polarized light sensitive tint technique-a novel method for identifying graphitic carbons" **Proc. of the 16th International Microscopy Congress**, Vol 2. P-693, Sapporo, Japan, Sept 3-8, **2006**.
185. Hossain T and **J. Podder**, "Characterization of graphitizable organic materials including coal and coal-peat by X-rays and other related techniques, **Proc. of the Int. conf. on X-rays and Related Techniques in Research and Industry (ICXRI-2004)** p 1-12, 15-16 Sept, **2004**, Penag, Malaysia.

186. **J. Podder** and Hossain T, "Barapukuria and Khalaspir coals: the state of the art and opportunities for research", **Proc. of the 12th Int Conf. on Coal Science (ICCS'2003)**, Paper No. 2D5, p 1-7 (Published by AIE), Nov 2-6 (2003) Cairns, Australia.
187. **J. Podder** and Hossain T., "X-ray diffraction studies and its application on the examination of defect and growth mechanism of some laser host materials, **Proc. of the ICXRI-2002**, Oct 30-31, 2002, Kuala Lumpur, Malaysia.
188. **J. Podder**, "Studies on nucleation, metastable zone width and growth kinetics of KDP, ADP crystals in supersaturated aqueous solutions" **Proc. of the 4th International Conference on Mechanical Engineering (ICME)**, Dec 26-28 (2001), Dhaka, Bangladesh VII, pp141-144.
189. **J. Podder** and Hossain T., "Thermal study of mesophase-A novel method for identifying the graphitizing carbon", **Proc. of the 11th International Conference on Coal Science**, Sept 30-5th Oct' (2001), San Francisco, CA, ABS.082, p 1-4 Mildred B. Perry (Eds.) Published by DOE/NETL-2001/1153, USA.
190. **J. Podder** and Majumder S., "Investigation on the electrical characterization of permian gondwana coal of Northwestern Bangladesh", **Proc. of the 11th International Conference on Coal Science**, Sept 30-5th Oct' (2001), San Francisco, CA, ABS.083, p 1-4 Mildred B. Perry (Eds.) Published by DOE/NETL-2001/1153, USA.
191. **J. Podder**, Ramalingom S., Tarek S. A., Kalkura, S. N, and Ramasamy P., "The influence of impurities on the growth kinetics of potassium dihydrogen phosphate", **Proc. of the Int Workshop on Preparation and Characterization of Technologically Important Single Crystals**, NPL, New Delhi, India, Feb 26-28, (2001), p 213-217.
192. Tarek S. A., **J. Podder**, Ramalingom S., Kalkura, S. N, and Ramasamy P., "Crystallization and characterization of Ammonium Oxalate single crystals", **Proc. of the Int. Conf. on Crystal Growth (ICCG-13)**, 30July-4 August, Doshisha University, Kyoto Japan (2001), 31a-K25-06, p-10.
193. Ramalingom S, **J. Podder**, and Kalkura, S. N, "The effect of impurity adsorption on the kinetics of crystallization: Orthorhombic (b)  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ ", **Proc. of the Int. Workshop on Preparation and Characterization of Technologically Important Single Crystals**, NPL, New Delhi, India, Feb 26-28, (2001), pp 197-200.
194. **J. Podder**, Tarek S. A., and Hossain T., "An Investigation into the Trace Elements Distribution in Permian Gondwana Coals of Northwestern Bangladesh by PIXE Spectroscopy", **Proc. of the 10th Int. Conf. on Coal Science**, Sept 12-17, Taiyuan-China, Vol. 1, (1999) p 93-96.
195. **J. Podder**, and Nahar M., "Growth and characterization of single crystals of  $\text{K}_2\text{CrO}_4$  doped KDP from aqueous solution of different pH values", **Proc. of the Int. Conference on Material Sci. & Tech.** 23-25 Oct., Dhaka, Bangladesh, (1999) pp 3-6.
196. **J. Podder**, and Akther T., "Growth of ADP, KDP and ADP-KDP mixed crystals from aqueous solution by the slow evaporation method", **Proc. of the Int. Conference on Material Sci. & Tech.** 23-25 Oct. Dhaka, Bangladesh, (1999) pp 152-155.
197. **J. Podder**, and Hossain T., "The study of the precursor states for the graphitization of Northwestern Bangladeshi coal", **Proc. of the 9th International Conference on Coal Science**, Sept 7-12 Essen, Germany, Vol. II, (1997) p 909-912.
198. **J. Podder**, Tarek S. A., and Hossain T., "Infrared (IR) Spectroscopic studies of Permian 'Gondwana' coals of Northwestern Bangladesh", **Proc. 19th Bangladesh Science Conference**, Part-2: (1996) p 197-204.

199. Mofiz U. A., and **J. Podder**, "Ultrarelativistic excitation of sonic solitons in magnetized plasma" **Proc. of the Second International Plasma Workshop on the relation between Laboratory and Space Plasmas**, Tokyo, Japan, Nov. 25 - 26 (1986) p 217-225.
200. Rahman M. A., **J. Podder**, and Karnal I., "Neutron radiography facilities in Bangladesh research reactor", **Proc. of the Third World Conference on Neutron Radiography**", Osaka, Japan, May 14-18, Fujine et al (EDT) Neutron Radiography (3) (1989) p 179-185.
201. Rahman M. A., **J. Podder** and Karnal I., "Neutron radiography facilities at the Institute of Nuclear science & Technology, **Proc. of the 2nd seminar on Nuclear Reactor**, AERE, Savar, Bangladesh, February, (1988), p 23-33.

#### **Invited/Keynote/Plenary talk:**

1. **Keynote Speech “Synthesis of Metal Oxides Thin Films for Energy Devices via a Simple Chemical Route”** International Conference on Recent Advancements in Materials Science and Spectroscopy (ICRAMS-2025) at RKM Vivekananda College in collaboration with the Indian Spectro Physics Association in commemoration of National Science Day, **27 - 28 February 2025**, Chennai, India.
2. **Invited Talk: “A Novel Technique of Oxide Thin Films Deposition for Device Applications”**, International Symposium on Advanced Materials and Spectroscopy (ISAMS-2025) at C. Kandaswamy Naidu College, **Feb 26, 2025**, Chennai, Tamil Nadu, India.
3. **Plenary Talk: Crystallization of Single Crystals: The Beauty and Importance in Technology**, International Conference on Recent Advancements in Materials Science (ICRAMS-2025) in collaboration with the Indian Spectro Physics Association, **24-25 February 2025** at Periyar Maniammai Institute of Science and Technology, Thanjavur, Tamil Nadu, India.
4. **Invited Talk: Nanostructured Metal Oxide Thin Films: A Pathway to Advanced Energy Storage Devices**, National Conference on Nanomaterials for Energy Harvesting and Storage Applications (NCNEA-2025), **8-9 January 2025**, Departments of Physics, Arignar Anna Government Arts College, Musiri-621211, Tamil Nadu.
5. **Plenary Talk: Emerging Applications of Metal Oxides Thin Films for Energy Storage Devices**, International Conference on Advanced Perspectives in Materials Science (ICAPMS-2025), Jamal Mohamed College-Tiruchirappalli, **7 January 2025**.
6. **Plenary Talk: ‘Solution Processing of Functional Oxide Thin Films for Energy Applications’**, BPS Conference **7-9 May, 2024**, BAEC, Dhaka.
7. **Invited Talk: ‘A Simple Chemical Route for Synthesis of Metal Oxides Thin Films: An Overview’**, Prof. S. Ahmed Memorial lecture, **3-4 May, 2024**, Dhaka University, Dhaka.
8. **Invited Talk: ‘Growth Aspects of Some Semi-organic Optical Crystals: An Assessment for Harmonic Conversions’**, 4<sup>th</sup> International Conference on Material Science (ICMS-2024), Organized by Department of Physics, Tripura University, **31<sup>st</sup> January-2<sup>nd</sup> February, 2024**, Agartala, Tripura.
9. **Invited Talk: Spray Pyrolysis Deposition Technique for Functional Oxide Thin Films: An Overview**, 1<sup>st</sup> National Conference on the advances in Science and Technology (NCAST-2023), Organized by Dean, Faculty of Science, **7-8 December, 2023**, Bangladesh University of Engineering and Technology.
10. **Invited Talk: Powder X-ray diffraction-A Powerful Tool for Analyzing Material Structures**, 8<sup>th</sup> Conference of Bangladesh Crystallographic Association- **24-25 November, 2023**-Dhaka University.

11. **Conference Speaker: Growth, Structural and Optical Characterization of Pure and L-asparagine Monohydrate Added Zinc Sulphate Heptahydrate Crystals**, 5<sup>th</sup> International Conference on “**Physics for Sustainable Development & Technology (ICPSDT-2023)**”, **September 6-7, 2023**, Chittagong University of Engineering and Technology (CUET), Chittagong, Bangladesh.
12. **Invited Talk: “Synthesis of nanostructured metal oxide films for energy storage devices by spray pyrolysis”**, **3rd International Conference on Light Applications in Science & Engineering Research** in commemoration of Prof. S. Mohan, organized by the Department of Physics, Periyar University, Salem in collaboration with Indian SpectroPhysics Association (ISPA), **14-16 September, 2023**.
13. **Academy Lecture: “Nonlinear Optical Single Crystals: Its Beauty and Importance in Technology”**, Organized by Bangladesh Academy of Sciences, **June 20, 2023**, Academic Council Building, Bangladesh University of Engineering and Technology (BUET), Dhaka.
14. **Invited Talk: “A State-of-the-art of Nonlinear Optical Single-Crystal for Optoelectronic Applications”**, National Conference on Physics, Organized by Bangladesh Physical Society, **March 9-11, 2023**, Jahangirnagar University, Savar, Dhaka
15. **Plenary Talk: “Eco-friendly high performance electrode materials for super capacitor, International Conference of Electronics and Informatics, January 26-28, 2023**, Bangladesh Atomic Energy Center, Organized by Bangladesh Electronics and Informatics Society, Dhaka, Bangladesh.
16. **Plenary Talk: Synthesis of Nonlinear Optical Single Crystals and Its Importance to Technology**, International Conference on Recent Innovations in Materials Science and Spectroscopy (ICRIMS-2023) organized by PG & Research Department of Physics, **Jamal Mohamed College, Tiruchirapalli** in association with Indian SpectroPhysics Association, Chennai, on **10th January 2023**, Tamil Nadu, India.
17. **Plenary Talk: “Crystallization of Non-linear Optical Single Crystals and Its Importance to Technology”**, 7<sup>th</sup> Conference of the Crystallographic Association, **December 8-9, 2022**, organized by BCA, at BUET campus, Dhaka.
18. **Plenary Talk: Postgraduate Research in the Department of Physics: Overview and Future Prospects**, 1<sup>st</sup> International conference on Frontier in Sciences, Faculty of Science, Bangladesh University of Engineering and Technology, **November 11-12, 2022**, Dhaka.
19. **A lecture on ‘Synthesis of Activated Carbon from Tea Waste and Coconut Shells for Electrochemical Capacitors’**, Department of Chemical and Biological Engineering, **University of Saskatchewan, 23<sup>rd</sup> September, 2022, Canada**.
20. **Invited Talk** on the ‘Metal oxides thin films via a simple chemical route for photo catalytic degradation’, International Conference on Light Applications in Science & Engineering Research (LASER - 2022) in online mode, **14th September, 2022**, India.
21. **Invited Talk** on the ‘**An Overview of Activated Carbon Based Electrode Materials for Electrochemical Energy Storage**’, International Conference on Crystal Growth and Spectroscopy (ICCGS-2022), **29-31 August 2022 (Virtual)** Organized by Department of Physics St. Joseph's College, Tiruchirappalli in Collaboration with SSN Research Centre, SSN Institutions in Association with Indian Association for Crystal Growth (IACG) Indian Spectrophysics Association (ISPA) Tamil Nadu, India.
22. **Plenary Talk** on “An Overview of Activated Carbons for Diverse Industrial Applications, 2nd Virtual International Conference on Hierarchically Structured Materials (ICHSM 2022)” from

- 24th March & 25th March 2022, SRM Institute of Science and Technology, Ramapuram Campus, Chaveennai-600089, India.**
23. **Invited Talk** on the "Biomass Based Activated Carbon for High Performance Supercapacitor Electrodes", International Conference on Material Science and Technology (ICMAST 2022), **15-16 March, 2022, Tamil Nadu, India.**
  24. **Conference Speaker**, 4<sup>th</sup> International Conference on “**Physics for Sustainable Development & Technology (ICPSDT-2022)**”, Title of the talk “**Porous Activated Carbon: Eco-friendly, Cost Effective for Sustainable Energy Harvesting Sources**”, **January 22-23, 2022, Chittagong University of Engineering and Technology (CUET), Chittagong, Bangladesh.**
  25. **Invited Talk** on the ‘**Porous carbon-based electrodes: low cost, eco-friendly for high performance supercapacitors**’, Department of Chemical and Biological Engineering, University of Saskatchewan, Canada, **December 20, 2021.**
  26. **Plenary Talk** on “**Metal Oxide Thin Films: Fundamentals and Potential Applications**”. To the “Emerging Trends in Applied Sciences” (ETAS 2021) International level Virtual Conference Organized under Veer Narmad South Gujarat University-Surat, India and Vyatka State University, Kirov, Russia, **28-29 October 2021.**
  27. **Invited Talk-Nanostructured Metal Oxide Thin Films for Sensor and Optoelectronic Applications**’, International Conference on Sustainable Materials and Technologies for Energy and Bio Applications (**SMTBEA -2021**) Organized by Department of Electronics and Communication, SSN College of Engineering SSN Research Centre, Chennai, Tamil Nadu, India, **19-21 May 2021.**
  28. **Invited Talk-Nanostructured Metal Oxide Thin Films for Gas sensor and Bio-sensor Applications**’, **International e-Conference on Advances in Materials Science**, Organized by Manonmaniam Sundaranar University, Tamilnadu, India held on **24-26 March 2021.**
  29. **Invited Talk-** ‘Structural, Optical and Electrical Properties of Cu: MnO<sub>2</sub> Nanostructured Thin Films via Thermal Spray Pyrolysis for Glucose Sensor Applications’, **International Conference on Science and Technology (ICSTB-2021)** with central theme ‘**Innovation for Tomorrow**’ organized by BCSIR, Dhaka, **March 11-13, 2021.**
  30. **Invited Talk-** ‘Synthesis and Characterizations of Cu Doped Co<sub>3</sub>O<sub>4</sub> Nanostructured Thin Films via Thermal Spray Pyrolysis for Glucose Sensor Applications’, International Virtual Conference entitled “**Physics of Emerging Materials and Molecules (IVCPEMM – 2021)**” **March 4 – 5, 2021, organized by** Sri Vidya Mandir Arts & Science College, Uthangarai, Tamil Nadu in collaboration with Indian SpectroPhysics Association (ISPA), Chennai.
  31. **Invited Talk-** ‘Bond length turning in CuO thin films through Mn doping via thermal spray pyrolysis’, **6<sup>th</sup> Crystallographic Virtual Conference of Bangladesh, Dhaka, January 14-16, 2021.**
  32. **Invited Talk-**International Webinar on ‘Nanostructured Metal Oxide Thin Films for Sensor Technology’, Organized by the Department of Physics, **Saveetha Engineering College, Chennai, Tamil Nadu, India, 16 July 2020.**
  33. A Webinar on Physics’ Fundamentals of Thermodynamics and Its Application in Nature’, Organized by the **Pabna University of Science and Technology (PUST), 25 June, 2020.**
  34. **Invited Talk-** ‘Nano-Structures Metal-Oxide Thin Films for Biosensors applications’, A Seminar on Advanced Functional Materials, **Begum Rokeya University, Rangpur, Bangladesh, March 12<sup>th</sup> 2020.**
  35. **Invited Talk-**Nano structured metal, rare earth metal oxides thin films for gas and bio-sensing applications, **International Conference on Physics**, Bangladesh Atomic Energy Center, **Dhaka, March 5-7, 2020.**

36. **Invited Talk**-‘Metal-Oxide nanostructures for sensor applications’, Crystal Growth Center, Anna University, **Chennai, India, 18<sup>th</sup> February, 2020.**
37. **Keynote Speaker**- ‘Needs, Challenges and Progress of Nano-structured Metal-Oxide Thin Films for Gas and Bio Sensing Applications’, International Conference on Innovations in Physical Sciences, Information Technology and Social Sciences [IC-IPIS2020], Sri Vidya Mandir College of Arts and Science, Uthangarai, **Tamil Nadu, India, February 14-15, 2020.**
38. **Keynote Speaker**, ‘Growth of Some Novel Single Crystals from Aqueous Solutions for Optoelectronic Applications: An Overview’, International Workshop on Emerging Trends in Crystal Growth’ (IWETCC-2020), Government Arts and Science College, Krishnagiri, **Tamil Nadu, India, 17<sup>th</sup> February’2020.**
39. **Special Guest Speaker**-‘Recent Advances in Nano-Structures Metal-Oxide Thin Films for Biosensor Applications’, ‘International Conference on Advanced Materials for Energy and Environmental Applications,’ as special guest, Thiru Kolanjiappar Government Arts College, Bridhachalum, organized by Indian Science and Technology Association, Kolianaper, **Tamil Nadu, India, 20-21<sup>st</sup> February ’2020.**
40. ‘Inorganic crystals from aqueous solutions for optoelectronic applications: An overview’, International workshop on crystalline materials and applications, **Anna University, Chennai, India, January 3 – 5, 2019.**
41. **Keynote Speaker**: ‘Transparent conducting oxides thin films: An overview and opportunities in basic research’, ICEMM-2019, **K.S. Rangasamy College of Arts and Science, Tiruchengode, Tamil Nadu, India, January 7-9, 2019.**
42. **Lecture Series**-‘Transparent Conducting Oxides for Photovoltaic Cells: An Overview’, Workshop cum lecture series on Advances in solar energy materials and devices, **Savitribai Phule Pune University, Pune, India, February 28 – March 1, 2019.**
43. ‘Oxides thin films by spray pyrolysis method’, Workshop on Semiconductor materials cum Meeting at the **Indian Institute of Technology (IIT), Bombay, India, 2<sup>nd</sup> March 2019.**
44. **Invited Speaker**-‘Growth of some novel single crystals from aqueous solutions and its importance to technology’, Bernal Institute, **University of Limerick, Ireland, 11<sup>th</sup> September, 2019.**
45. Inorganic Crystals from Aqueous Solutions for Optoelectronic Applications: An Overview, Department of Physics, Mukarram Hossain Khundaker Biggan Bhaban, **University of Dhaka, Dhaka, Bangladesh, 18<sup>th</sup> December, 2018.**
46. ‘Transparent conducting oxides thin films: state of art and prospects,’ICAMSE-2018, **Academy of Maritime Education and Training (AMET), Chennai, India, March 2- 3, 2018.**
47. The Development of Thin film Technology for Optoelectronic Application, **Satyen Bose Science Club, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, Science Lecture Series-16, 2016.**
48. ‘Metal oxides thin films via a simple chemical route for gas sensing applications’, International Conference on materials processing and applications, **Vellore Institute of Technology (VIT), Vellore, India, December 14-16, 2016.**
49. ‘Role of impurities and fundamentals of crystal growth from low temperature solutions’, **St. Peter’s University and Indian SpectroPhysics Association, (ICRAAS), Chennai, India, February 11 – 13, 2016.**
50. Oxide thin films for optoelectronic applications, Canada-India symposium on materials for clean energy, **University of Saskatchewan, Radisson Hotel, Saskatoon, Canada, January 22-25, 2012.**
51. Surface, optical and electrical characterization of  $Zn_{1-x}Cd_xS$  thin films prepared by spray pyrolysis (INSC-2011), Mines Wellness Hotel, Seri Kembangan, Selangor, **Malaysia, July 4 – 5 2011.**

52. 'Single Crystal: State of the Art and Its Importance to Technology', College of Engineering, University of Saskatchewan, **Canada**, 1<sup>st</sup> April, **2011**.
53. 'Thin Films Technologies for Optoelectronic Applications', Department of Physics and Engineering, University of Saskatchewan, **Canada**, 4<sup>th</sup> April, **2011**.
54. Deposition of Nano Fiber ZnO and Zn<sub>1-x</sub>Cd<sub>x</sub>O Thin Films by a Simple Spray Pyrolysis and Characterizations for Optoelectronic Applications"10<sup>th</sup> International Conference on the Advancement of Materials and Nanotechnology, **Universiti Teknologi MARA**, Shah Alam, Selangor, **Malaysia**, Nov 29<sup>th</sup> -1<sup>st</sup> Dec, **2010**.
55. Study of co-doped bimetallic impurities on the growth kinetics of some NLO crystals from aqueous solutions, 13<sup>th</sup> National seminar on crystal growth, NSCG-13, **SSN college of Engineering**, Tamil Nadu, **India**, January 27-29, **2009**.
56. The influence of co-doped bimetallic impurities on the growth and nucleation kinetics of KAP and KDP single crystals for non-linear applications, International Conference on Frontiers of Physics (ICFP-2009), **Tribhuvan University**, Nepal, **June 2-5, 2009**.
57. Investigations on the structural and optical properties of ZnO nano fiber thin films deposited by spray pyrolysis method, International Conference on Frontier of Physics (ICFP 2009), Nepal Physical Society, **Tribhuvan University**, Kathmandu, **Nepal**, June 2-5, **2009**.
58. Single Crystal: Sate of the Art & Technological Importance, **Satyen Bose Science Club**, Bangladesh University of Engineering and Technology, Dhaka, **Bangladesh**, 21<sup>st</sup> August, **2008**.
59. Crystal Growth: Present state of art and scope of research in Bangladesh, Department of Physics, **University of Dhaka**, Dhaka, **Bangladesh**, April 05, **2006**.
60. Deposition of Some Transparent Conducting Oxide Thin Films by a Simple Spray Pyrolysis Technique and Their Characterizations for Optoelectronic Applications, ICXRI-2008, Universiti Malaysia Sabah (UMS) Kota Kinabalu, Sabah, **Malaysia**, **2-6 June, 2008**.
61. An Investigation of Graphite like Carbon in Bangladeshi Coal by XRD and associated Raman Spectroscopic Techniques ICXRI-2006, Putrajaya, **Malaysia**, **29-30 Nov, 2006**.
62. Fundamental of crystal growth from aqueous solutions, 11<sup>th</sup> National seminar on crystal growth, NSCG-11, **SSN college of Engineering**, Tamil Nadu, **India**, December 7-9, **2006**.
63. 'Crystal Growth research activities in Bangladesh', The 12th International Summer School of Crystal Growth (ISSCG12), Berlin, **Germany**, **August 1 to 7, 2004**.
64. Bangladeshi Coal: State of the art and energy source for industrial applications, Institute of Advanced Materials Study, Kyushu University, **Japan**, 12<sup>th</sup> March, **2004**.
65. Synthesis and characterization of CuInS<sub>2</sub> thin films by two step photochemical deposition technique, Department of Electrical and Computer Engineering, **Nagoya Institute of Technology**, Nagoya, **Japan**, 5<sup>th</sup> April, **2004**.
66. Carbon and Carbonaceous materials: state of the art and outlook for research, Department of Electrical and Computer Engineering, **Nagoya Institute of Technology**, Nagoya, **Japan**, 17<sup>th</sup> September, **2003**.
67. The study of impurities effect on the growth and nucleation kinetics of potassium dihydrogen phosphate, **Doshisha University**, Kyoto, **Japan**, July 30 – August 4, **2001**.
68. Potassium antimony tartrate doped KDP-A new NLO semi organic crystal, 31<sup>st</sup> National seminar on crystallography, Bhabha Atomic Research Center, **Mumbai, India**, **June 19-22, 2001**.
69. Thermal study of mesophase of carbonaceous material-A novel method for identifying the graphitizing carbon, International Conference on Inorganic Materials for the new Millennium, Materials Science Research Center, **IIT-Madras, India**, **January 18-19, 2001**.

70. The influence of impurities on the growth kinetics of potassium dihydrogen phosphate, International workshop on preparation and characterization of technologically important single crystals, National Physical Laboratory (NPL), **New Delhi, India, February 26-28, 2001.**
71. Studies on the growth of urea doped KDP crystals and their characterization, National seminar on current trends in Material Science, M. G. University, **Kerala, India, March 23-24, 2001.**
72. Crystallization and characterization of potassium sulphate from low temperature solutions, Symposium on fundamentals of crystal growth, Crystal Growth Center, **Anna University, Chennai, India, November 6-7, 2000.**
73. Crystallization and characterization of  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$  from low temperature aqueous solutions, XXX National seminar on Crystallography, Sri Venkateswara University, **Tirupati, India, June 28-30, 2000.**
74. An investigation of the electrical properties of Barapukuria coal of Northwestern Bangladesh, National seminar on Physico-Chemical studies of solids including Minerals and Coal, Indian School of Mines, **Dhanbad, India, December 21- 22, 2000.**
75. Growth and characterization of KDP-ADP mixed crystals and their applications in the electronic devices, Symposium on crystal growth of laser related materials, Crystal Growth Center, **Anna University, Chennai, India, August 7-9, 2000.**
76. An investigation into the trace elements distribution in Permian Gondwana coals of northwestern Bangladesh by proton induced X-ray emission spectroscopy, 10<sup>th</sup> International conference on coal science, **Taiyuan, China, September 12-17, 1999.**
77. The study of the precursor states for the graphitization of Northwestern Bangladeshi coal, 9<sup>th</sup> International conference on coal science, Essen, **Germany, September 7-12, 1997.**
78. A study of the trace element analysis of Barapukura coal by PIXE measurement, International symposium on recent advances in Physics, **Dhaka, Bangladesh, March 21-23, 1997.**
79. Petrographic studies of Permian Gondwana Coals from the boreholes of Barapukuria and Khalaspir of Northwestern Bangladesh, 19<sup>th</sup> Bangladesh Science Conference, **Jahangirnagar University, Savar, Dhaka, October 29-31, 1996.**
80. An investigation into the thermal behavior of Bangladeshi coal, 18<sup>th</sup> Bangladesh Science Conference, **Bangladesh Agricultural University, Mymensingh, Bangladesh, June 22- 24, 1994.**
81. Optically anisotropic crystalline growth developed in Barapukuria coal found in Bangladesh, Institute of Post Graduate Studies in Agriculture (IPSA), Salna, Gazipur, Dhaka, 17<sup>th</sup> Bangladesh Science Conference, **May 6-9, 1992.**
82. Neutron radiography at the Institute of Science and Technology, **International Bose Symposium, Dhaka, University of Dhaka, Dhaka, Bangladesh, January 15 – 19, 1989.**
83. Thermal properties of carbonizing and graphitizing materials, 11<sup>th</sup> Bangladesh Science Conference, **Rajshahi University, Rajshahi, Bangladesh March 3-6, 1986.**

❖ **International Research Collaborations:**

- **Dr. Suresh Sagadevan**  
Nanotechnology & Catalysis Research Centre  
University of Malaya  
Malaysia.
- **Prof. Masaya Ichimura**  
Department of Electrical and Computer Engineering  
Nagoya Institute of Technology  
Nagoya, Japan.



**Contributed Research Presentation at various National/International Conferences:**  
(Published in the Abstract Book): About **100** contributed research papers.

**Country Visited for Scientific Presentations:** India, Nepal, China, Japan, Korea, Singapore, Malaysia, Germany, France, Moscow, Canada, Ireland, Belfast, England, etc.

**Supervision of Post Graduate (M.Phil) and Doctoral Research (Ph.D)**

**Degree Awarded**

➤ Ph.D.: **06**, M.Phil.: **30**, M.Sc.: **20**

➤ **Appointment of an External Examiner for Ph.D. Thesis Evaluation**

- Over **250** Ph.D. theses have been evaluated from different Universities around the world.

➤ **Summary**

|                                                                                                                                                                                                                            |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Publications in Referred Journals                                                                                                                                                                                          | 170 |
| International Conf. Proceedings (full paper)                                                                                                                                                                               | 30  |
| Published Abstracts                                                                                                                                                                                                        | 100 |
| Invited Presentations                                                                                                                                                                                                      | 80  |
| Patent: U. S Provisional Patent Apl. No. 61/932662 ‘Methods and Apparatus for Crystallization of Salts’, 2015                                                                                                              | 1   |
| Technical Reports                                                                                                                                                                                                          | 5   |
| Text Book: ‘Applied Engineering Physics: -Electricity and Magnetism’                                                                                                                                                       | 1   |
| Book: Metal Oxides for Optoelectronics and Optics-Based Medical Applications, Editors: Suresh Sagadevan, Jiban Podder, Faruq Mohammad, 1st Edition-June 1, 2022, Copyright © 2022 Elsevier, Paperback ISBN: 9780323858243. | 1   |
| Text Book: ‘Advanced Engineering Physics: Heat and Thermodynamics’(in progress)                                                                                                                                            | 1   |
| A Text of Materials Characterization Techniques by J. Podder & S. Sagadevan (in progress)                                                                                                                                  | 1   |

**Prof. Dr. Jiban Podder**

**Permanent address:**

Vill. + PO: Kaitala  
PS. Nabinagar  
Dist: Brahmanbaria

**Present Address** :366/1(Level-9), Modhubag, Moghbazar, Dhaka-1217

**Telephone no./WhatsApp:** 01552423766 (Cell)

**E-mail:** jpodder59@gmail.com, jpodder@phy.buet.ac.bd

**National ID no.** 19592694263709395