



PROFILE

Nature of Work:

Teaching and Research

EXPERIENCE:

20 Years of teaching experience at the university level

Expertise:

- ✚ Nanotechnology
- ✚ Thin films
- ✚ Self-assembly
- ✚ Microfluidics
- ✚ Shape-separation
- ✚ Nanoparticle synthesis
- ✚ Nano Interactions
- ✚ Plasmonics

DR. IMTIAZ AHMAD

L e c t u r e r

Department of Physics
University of Peshawar
Peshawar, Pakistan



EDUCATION

University of Twente, Netherland

2012 - 2015

PhD in nanotechnology

University of Peshawar, Pakistan

2000 - 2001

MSc Physics with **2nd position** in order of Merit

WORK EXPERIENCE

APS Girls College

Lecturer

2001-2002

Teaching college level physics and laboratories

University of Peshawar

Lecturer

2002-till date

Teaching and Research

University of Twente

2012-2015

A research scholar in Physics of Interfaces and Nanomaterial Group (PIN)
Enschede, Netherland

BOOK

Title: Evaporative self-assembly of gold nanoparticles on various surfaces

ISBN-13: 978-620-2-07708-8

ISBN-10: 6202077085

EAN: 9786202077088

Book language: English

Publishing house: LAP LAMBERT Academic Publishing

Website: <https://www.lap-publishing.com/>

Author: Imtiaz Ahmad

Number of pages: 180

Published on: 2018-06-15



Imtiaz Ahmad
Evaporative self-assembly of gold nanoparticles on various surfaces

PUBLICATIONS

CONTACT:

PHONE:

+923348667543

WEBSITE:

uop.edu.pk

EMAIL:

imtiazh@uop.edu.pk

ResearchGate:

<https://www.researchgate.net/profile/Imtiazh-Ahmad-16>

1. G. Hlawacek, **Imtiazh Ahmad**, M. A. Smithers, E. S. Kooij, *To see or not to see: imaging surfactant coated nano-particles using HIM and SEM*, Ultramicroscopy 135, (2013) 89-94.
2. **Imtiazh Ahmad**, H. J. W. Zandvliet and E.S. Kooij, *Shape-induced separation of nanospheres and aligned nanorods*, Langmuir 30, (2014) 7953-7961.
3. **Imtiazh Ahmad**, H. P. Jansen, J. van Swigchem, C. Ganser, C. Teichert, H. J. W. Zandvliet, E.S. Kooij, *Evaporative gold nanorod assembly on chemically stripe-patterned gradient surfaces*, Journal of Colloid and Interface Science 449, (2015) 261-269.
4. **Imtiazh Ahmad**, H. P. Jansen, H. J. W. Zandvliet, E. S. Kooij, *Hydrodynamic confinement and capillary alignment of gold nanorods*, Nanotechnology 27, (2016) 025301.
5. **Imtiazh Ahmad**, F. Derkink, P. Bampoulis, T. Boulogne, H. J. W. Zandvliet, R. Jan, H. Khan, E. S. Kooij, *Step-edge Induced Orientation of Nanorods in Evaporative Self-assembly on HOPG*, Colloid and Interface Science Communications 19, (2017) 25-30.
6. Rahim Jan, Amir Habib, Muhammad Aftab Akram, **Imtiazh Ahmad**, Attaullah Shah, Muhammad Sadiq and Akhtar Hussain, *Flexible, thin films of graphene-polymer composites for EMI shielding*, Material Research Express 4, (2017) 035605.
7. R. Jan, A. Saboor, A. N. Khan and **Imtiazh Ahmad**, *Estimating EMI shielding effectiveness of graphene-polymer composites at elevated temperatures*, Material Research Express 4, (2017) 085605.
8. Mateen Ullah, Hidayat Ullah, Amir Ullah, Aman Ullah, Ill Won Kim, Ibrahim Qazi, **Imtiazh Ahmad**, *Dielectric, Ferroelectric and Piezoelectric Properties of Lead-Free $(1-x)(Bi_{0.5}Na_{0.5})_{0.935}Ba_{0.065}Ti_{-x}(LiSbO_3)$ Solid Solutions*, Ceramics international 44, (2018) 562.
9. **Imtiazh Ahmad**, Floor Derkink, Tim Boulogne, Pantelis Bampoulis, Harold J. W. Zandvliet, Hidayat Ullah Khan, Rahim Jan and Stefan E. Kooij, *Self-assembly and wetting properties of gold nanorod-CTAB molecules on HOPG*, Beilstein Journal of Nanotechnology 10, (2019) 705.
10. **Imtiazh Ahmad**, Hidayat Ullah Khan, Rahim Jan, *Contrast of Ultrasonic Assisted Phase-Separation of Rod-Sphere Mixture with Static Deposits in a Coffee-Stain Ring*, Journal of Nanomaterials & Molecular Nanotechnology: 8, (2019) 1000271.
11. Rahim Jan Marwat, Adeel Riaz, Ahmad Nawaz Khan, Ahmed Shafqat, Asra Tariq, Hammad M Cheema, **Imtiazh Ahmad**, Muhammad Azeem, Muhammad Aftab Akram, Muhammad Fayzan Shakir, Ramsha Khan, Sofia Javed, *EMI Shielding Properties of Polymer Blends with inclusion of Graphene Nano Platelets*, Results in Physics, 14 (2019), 102365.
12. **Imtiazh Ahmad**, Rahim Jan, Hidayat Ullah Khan, Sajjad Ahmad Khan, *Nano Gold Shape-Separation Effect Induced by the Motion of a Droplet*, Surfaces and Interfaces, Volume 17, December 2019, 100342.
13. **Imtiazh Ahmad**, *Synthesis and Deposition of Irregular and Complex Gold Nanostructures*, Journal of Environmental Analytical Chemistry 2019, Volume 6 • Issue 1 • 1000255.

REFERENCES:

1). PROF.DR. ANISA QAMAR

CHAIRPERSON
DEPARTMENT OF PHYSICS
UNIVERSITY OF PESHAWAR

E-MAIL:

anisaqamar@uop.edu.pk

2). DR. HIDAYAT ULLAH KHAN

ASSISTANT PROFESSOR

DEPARTMENT OF PHYSICS
UNIVERSITY OF PESHAWAR

E-MAIL:

hidayatphysics@uop.edu.pk

3). DR. AKHLAQ HUSSAIN

LECTURER

DEPARTMENT OF PHYSICS
UNIVERSITY OF PESHAWAR

E-MAIL:

akhlaq.hussain@uop.edu.pk

4). DR. SAJJAD AHMAD

ASSOCIATE PROFESSOR

DEPARTMENT OF
STATISTICS

ISLAMIA COLLEGE
UNIVERSITY, PESHAWAR

E-MAIL:

sajjadkhan@icp.edu.pk

14. **Imtiaz Ahmad**, Hidayat Ullah Khan, Rahim Jan, Sajjad Ahmad Khan, *Anisotropic gold nanoparticles crystalizes in multifaceted superstructures*, Mater. Res. Express 6 (2019) 105006.
15. **Imtiaz Ahmad** and Rahim Jan, *Size-Separation and Self-assembly of Anisotropic Nanoparticles in a Coffee-Stain Ring*, NANO, Vol. 14, No. 12 (2019) 1950149.
16. **Imtiaz Ahmad**, Rahim Jan, Hidayat Ullah Khan, Sajjad Ahmad Khan and Akhlaq Hussain, "Deposition and Patterning of Gold Nanostructures on Various Wettable and Nonwettable Patterned Surfaces" Mater. Res. Express 6 (2019) 125042.
17. **Imtiaz Ahmad**, Deposition and Distribution of Gold Nanoparticles in a Coffee-stain Ring on the HOPG Terraces; Bulletin of Materials Science, **accepted 2019**.
18. Ibrar Ahmed, Rahim Jan , Ahmad Nawaz Khan, Iftikhar Hussain Gul, Ramsha Khan, Sofia Javed, MAftab Akram, Ahmad Shafqat, Hammad M. Cheema and **Imtiaz Ahmad**, Graphene-ferrites interaction for enhanced EMI shielding effectiveness of hybrid polymer composites, Mater. Res. Express 7 (2020) 016304.
19. Mateen Ullah, Amir Ullah, Hidayat Ullah Khan, **Imtiaz Ahmad**, Won Kim, Dielectric, Ferroelectric and Strain Properties of $(\text{Bi}_{0.5}\text{Na}_{0.5})_{0.935}\text{Ba}_{0.065}\text{Ti}_{1-x}(\text{Al}_{0.5}\text{Nb}_{0.5})_x\text{O}_3$ Lead-free Piezoelectric Ceramics, Journal of the Korean Physical Society, Vol. 76, No. 2, January 2020, pp. 145~149.
20. **Imtiaz Ahmad**, Akhlaq Hussain, Rahim Jan, Hidayat Ullah Khan, Sajjad Ahmad Khan, Imaging, Deposition, and Self-assembly of CTAB Stabilized Gold Nanostructures, SN Appl. Sci. 2, 1099 (2020).
21. Hidayat Ullah Khan, Amir Ullah, Mateen Ullah, Aman Ullah, **Imtiaz Ahmad**, Won Kim, Structural, Electrical and Electromechanical Properties of $[(\text{Bi}_{0.5}\text{Na}_{0.5})_{0.935}\text{Ba}_{0.065}]_{1-y}\text{La}_y(\text{Ti}_{1-z}\text{Ta}_z)\text{O}_3$ lead-free Piezoelectric ceramics, Physica B: Condensed Matter, 584, 1 May 2020, 412102
22. **Imtiaz Ahmad**, Akhlaq Hussain, Analysis of Colloidal Nanostructures Synthesized through Complex Route, Inorganic and Nano-Metal Chemistry VOL. 50, NO. 12, 1248-1253 (2020).
23. **Imtiaz Ahmad**, Rahim Jan, Hidayat Ullah Khan, Akhlaq Hussain, Liquid Crystalline Ordered Arrays of Gold Nano-particles in Evaporative Deposits, Molecular Crystals and Liquid Crystals, 709, (2020) 24-42.
24. **Imtiaz Ahmad**, Akhlaq Hussain, Ambeen Ali, Rahim Jan, Energetically and sterically favorable assembly of identical gold nanorods with varying concentrations of nanospheres, Surface Review and Letters, 28 (2021) 2150028.
25. M. Umer Farooq, Rahim Jan, Muhammad Azeem, M. Adeel Umer, M. Aftab Akram, Ahmad Nawaz Khan, **Imtiaz Ahmad**, Sajjad A. Khan, Zeshan A. Umar & Usman Liaqat, Enhanced mechanical properties of functionalized BN nanosheets-polymer composites, Journal of Polymer Research, 27, (2020) 310.
26. **Imtiaz Ahmad**, Akhlaq hussain, Rahim jan and Hidayat ullah khan, Nanorods over wettable and defect sights, Bull. Mater. Sci. (2021) 44:106.

<http://www.uop.edu.pk/departments/Teaching-Faculty/?r=1214&q=Dr-Ahmad;-Imtiaz>



27. **Imtiaz Ahmad**, Rahim Jan, Hidayat Ullah Khan, Akhlaq Hussain, Aqsa Tabassum, Ambreen Ali, Self-Assembly on Dual Wettable Surface, *Surface Review and Letters*, Vol. 28, No. 10, 2150087 (2021).
28. **Imtiaz Ahmad**, Rahim Jan, Hidayat Ullah Khan & Akhlaq Hussain (2020) Liquid crystalline ordered arrays of gold nanoparticles in evaporative deposits, *Molecular Crystals and Liquid Crystals*, 709:1, 24-42, DOI: 10.1080/15421406.2020.1811603
29. Hidayat Ullah Khan, Amir Ullah, Karishma Sualiheem, **Imtiaz Ahmad** & Mateen Ullah, Incipient ferroelectricity of AgTaO₃ and ferroelectric nature of (Li_{0.008}Ag_{0.992})TaO₃, *Journal of the Korean Physical Society* volume 79, 832–840 (2021).
30. **Imtiaz Ahmad**, Rahim Jan, Anmol Riaz Khan, Gul E Nayab, Stationary and Ultrasonic Nanoparticles Assembly on Notable Surfaces, *Surface Review and Letters*, 29, 04, 2250045 (2022).
31. **Imtiaz Ahmad**, Rahim Jan, Hidayat Ullah Khan, Shayan Ahmad Khattak, Yusra Murad, Assembly of nanoparticles at symmetric coffee stain locations, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 682 (2024) 132833.