GUWAHATI COLLEGE

FACULTY PROFILE

01.NAME : Arup JyotiChoudhury

02.QUALIFICATION : PhD

03.DESIGNATION : Assistant Professor

04.DEPARTMENT : Physics

05.SPECIALIZATION : Electronics and optoelectronics; Material Science

06.EMAIL ID : arupjchoudhury@gmail.com

07.PHONE NO : 8724014686

08.WHATSAPP NO : 8724014686

09.DATE OF BIRTH : 30/06/1983

10. DATE OF JOINING : 20/01/2020

11. ACADEMIC RECORD

DEGREE	INSTITUTION	YEAR OF AWARD
B.SC.	Nowgong College	2004
M.SC.	Tezpur University	2006
M.PHIL	-	-
PhD	Gauhati University	2012
NET / SLET	UGC	2017
OTHERS	GATE (IIT Kanpur)	2007

12. TEACHING EXPERIENCE : 6 years

13. SUBJECT / TOPIC TAUGHT :

(i) Solid state Physics
(ii) Mathematical physics
(iii) Physics of Solid State Devices
(iv) Electronics
(v) Measurement Physics
(vi) Wave Optics

14. RESEARCH ACTIVITIES :Research experience (Post PhD) – 8 years

Research areas: Radiofrequency plasma assisted chemical vapour deposition (RF-PACVD), plasma assisted grafting, surface modification of bell metal and muga silk fibre, thin film synthesis, plasma diagnostics (OES, emissive and Langmuir probe), film characterization (FESEM, XPS, XRD, AFM, ATR-FTIR, Profilometer, TGA, DSC etc.).

Research Projects

Title	**Cost in lakh**	**Duration**	**Role as PI/Co-PI**	**Funding Agency**
Surface functionalization of muga (antherareaassamensis) silk using atmospheric dielectric barrier discharge for biomedical applications	19,20,000.00	2014-2017	PI	SERB, DST
Studies and development of some natural silks of Northeast India for advanced biomedical applications using low temperature plasma processes	35,00,000.00	2014-2019	PI	INSPIRE, DST
Development of mulberry and non-mulberry silk of Assam as potential biomaterials for healthcare and bioengineering applications by using atmospheric dielectric barrier discharge (A-DBD) plasma	70,18,165.00	2018-2021	PI	SERB, DST

15. PUBLICATIONS :

Research papers

1. "Studies of radiofrequency plasma deposition of hexamethyldisiloxane films and their thermal stability and corrosion resistance behaviour"Arup JyotiChoudhury, JoyantiChutia, HemenKakati, S. A. Barve, Arup Ratan Pal, NeelotpalSenSarma, DevasishChowdhury,DinkarS. Patil, Vacuum 84 (2010) 1327-1333.
2. "Investigations of the hydrophobic and scratch resistance behavior of polystyrene films deposited on bell metal using RF-PACVD process"Arup JyotiChoudhury, S. A. Barve, JoyantiChutia, Arup RatanPal,DevasishChowdhury, R. Kishore, Jagannath, N. Mithal, M. Pandey,DinkarS. Patil, Applied Surface Science257 (2011) 4211-4218.
3. "Studies of physical and chemical properties of styrene-based plasma polymerfilms deposited by radiofrequency Ar/styrene glow discharge"Arup JyotiChoudhury, JoyantiChutia, S. A. Barve, HemenKakati, Arup RatanPal, Jagannath, N. Mithal, R. Kishore, M. Pandey,DinkarS. Patil, Progress in Organic Coatings70 (2011) 75-82.

4. “Effect of impinging ion energy on the substrates during deposition of SiO_x films by radiofrequency plasma enhanced chemical vapor deposition process”Arup JyotiChoudhury, S. A. Barve, JoyantiChutia, HemenKakati, Arup RatanPal, Jagannath, N. Mithal, R. Kishore, M. Pandey, Dinkar S. Patil, Thin Solid Films 519 (2011)7864-7870.
5. “RF-PACVD of water repellent and protective HMDSO coatings on bell metal surfaces: Correlation between discharge parameters and film properties”Arup JyotiChoudhury, S. A. Barve, JoyantiChutia, Arup RatanPal, R. Kishore, Jagannath,DinkarS. Patil, Applied Surface Science257 (2011) 8469-8477.
6. “Synthesis and characterization of plasma polymerized styrene films by RF discharge” Arup JyotiChoudhury, HemenKakati, Arup RatanPal, HerembaBailung,JoyantiChutia, Journal of Physics: Conference Series208 (2010) 1-9.
7. “Enhancement of hydrophobicity and tensile strength of muga silk fiber by radiofrequency Ar plasma discharge” DollyGogoi, Arup JyotiChoudhury, JoyantiChutia, Arup RatanPal, NarendraNathDass, Dipali Devi,DinkarS. Patil, Applied Surface Science258 (2011) 126-135.
8. “Effect of radiofrequency plasma assisted grafting of polypropylene on the properties of muga silkyarn” Dolly Gogoi, JoyantiChutia, Arup JyotiChoudhury, Arup Ratan Pal, NarendraNathDass,DinkarS. Patil, Plasma Chemistry and Plasma Processing32 (2012) 1293-1306.
9. “Development of advanced antimicrobial and sterilized plasma polypropylene grafted muga*(antheraeaassama)* silk as suture biomaterial” DollyGogoi, Arup JyotiChoudhury, JoyantiChutia, Arup RatanPal, M. Khan, M. Choudhury, P. Pathak, G. Das, DinkarS. Patil, Biopolymers 101 (2013) 355-365.
10. “Penicillin impregnation on oxygen plasma surface functionalized chitosan/Antheraeaassama silk fibroin: Studies of antibacterial activity and antithrombogenic property”, Arup JyotiChoudhury, DollyGogoi, R. Kandimalla, S. Kalita, Y. B. Chaudhari, M.r R. Khan, JibonKotoky, JoyantiChutia, Materials Science and Engineering: C 60 (2016) 475–484
11. “Controlled antibiotic-releasing Antheraeaassama silk fibroin suture for infection prevention and fast wound healing”, Arup JyotiChoudhury, DollyGogoi, JoyantiChutia, R. Kandimalla, S. Kalita, JibonKotoky, Y. B. Chaudhari, M. R. Khan, K. Kalita, Surgery, 159 (2016) 539–547
12. “Gold-coated electrospun PVA nanofibers as SERS substrate for detection of pesticides”, NabadweepChamuaha, NabadeepBhuyana, PranjalPratim Das, NamitaOjah, Arup JyotiChoudhary, TapasMedhi, PabitraNath, Sensors and Actuators B: Chemical, 273 (2018) 710-717.
13. “Surface modification of electrospun PVA/chitosan nanofibersbydielectric barrier discharge plasma at atmospheric pressure and studies of their mechanical properties and biocompatibility”, Punamshree Das, NamitaOjah, RaghuramKandimalla, Kiranjyoti Mohan, Dolly Gogoi, Swapan Kumar Dolui, Arup JyotiChoudhury, International Journal of Biological Macromolecules, 114 (2018) 1026-1032.
14. “Kinetics of inactivation of peroxidase and polyphenol oxidase in tender coconut water by dielectric barrier discharge plasma”, HemantaChutia, DipankarKalita,

CharuLataMahanta, NamitaOjah, Arup JyotiChoudhury, LWT - Food Science and Technology, 101 (2019) 625-629.

15. "Surface modification of core-shell silk/PVA nanofibers by oxygen dielectric barrier discharge plasma: studies of physico-chemical properties and drug release behavior", NamitaOjah, Diana Saikia, Dolly Gogoi, PitambarBaishya, GaziAmeen Ahmed, AnandRamteke, Arup JyotiChoudhury, Applied Surface Science, 475 (2019) 219-229.
16. "Chitosan coated silk fibroin surface modified by atmospheric dielectric-barrier discharge (DBD) plasma: a mechanically robust drug release system, NamitaOjah, JyotishikhaDeka, SauravHaloi, RaghuramKandimalla, Dolly Gogoi, Tapas Medhi, ManabendraMandal, GaziAmeen Ahmed, Arup JyotiChoudhury, Journal of Biomaterials Science, Polymer Edition, 30 (2019) 1142-1160"

Patents:

1. "Radiofrequency plasma polymerization technology for surface protection of bell metal at low temperature",Indian Patent Office, patent granted (Grant No. 268130)
2. "Antibiotic-loaded muga (*antheraeaassama*) silk fibroin (AASF) as suture biomaterial", Indian Patent Office, patent applied (Patent application No. 726/KOL/2014)
3. "Polymer/antibiotic coated muga (antheraeaassamensis) silk suture", Indian Patent Office, patent applied (Patent application No. 201931020788)

16. BOOKS PUBLISHED :

1. Plasma Technologies for Textile and Apparel, RF plasma treatment of muga silk and its characterization (Book chapter), Dolly Gogoi, Arup JyotiChoudhury, Arup Ratan Pal, JoyantiChutia, Woodhead Publishing India Pvt. Ltd., New Delhi, India, 2015, ISBN: 978-93-803-0855-5.
2. Material Science and Nanomaterials: Recent Advances and Applications,Low temperature plasma in materials processing: protective thin film deposition on bell metal by plasma polymerization (Book chapter), Arup JyotiChoudhury, Global Publishing House, Visakhapatnam, India, 2015, ISBN: 978-93-81563.65-6.

17.SEMINARS/ CONFERENCES/WORKSHOPS ATTENDANT:

1. "Workshop on Recent Trends in Polymer Science", IASST, Guwahati, Assam, India, 2008.
2. "National Symposium on Plasma Science and Technology", BARC, Mumbai, India, 2008.
3. "DST-SERC school on Science & Technology of Processing Plasmas", Birla Institute of Technology, Mesra, Ranchi, India, 2008.
4. "DST-SERC School on Nonlinear Dynamics", IASST, Guwahati, Assam, India, 2009.
5. "National Symposium on Plasma Science and Technology-2010", IASST, Guwahati, Assam, India, 2010.
6. "63rd Annual Gaseous Electronics Conference and 7th International Conference on Reactive Plasmas", Maison de la Chimie, Paris, France, 2010.

7. “National Workshop on Nuclear and Atomic Technique based Pure and Applied Sciences”, Tezpur University, Assam, India, 2011.
8. “International Conference on Polymeric Biomaterials, Bioengineering and Bio-diagnostics”, IIT Delhi, India, 2014'
9. “International Conference on “Sophisticated Instruments in Modern Research”, Indian Institute of Technology, Guwahati, Assam, India, 2017.
10. “International Conference on Polymer Science and Technology”, IISER Pune, CSIR-NCL and AndSavitribaiPhule Pune University, Pune, Maharasthta, India, 2018.

18. ANY OTHERS :

1) Junior Research Fellowship (JRF) and Senior Research Fellowship (SRF) received for DAE-BRNS sponsored project titled “Development of RF plasma polymerization process for deposition of hard, transparent and corrosion resistant coatings on bell metal and surface modification of muga silk fiber”.
2) Post-Doctoral Research fellowship (2010-2011) from Yokohama National University, Japan.
3) DST-INSPIRE Faculty Award (2014) by Department of Science and Technology (DST), India.