

Name : Dr. Kunal Pal  
 Designation : Associate Professor  
 Department : Department of Biotechnology and Medical Engineering  
 Institute : National Institute of Technology, Rourkela  
 Date of Birth : 15/10/1980 Sex (M/F): Male  
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II) Education Details :

S.No.	Institution Place	Degree Awarded	Year	Field of Study
1	IIT-Kharagpur	PhD	2008	Materials Science & Engineering
2	Jadavpur University, Kolkata	ME	2004	Biomedical Engineering

III) Employment Details :

S.No.	Institution/Place	Position	From (Date)	To (date)
1	IIT-Delhi	Research Associate	14/10/2006	15/01/2007
2	Ryerson University, Canada	Post-doctoral Fellow	26/02/2007	31/12/2008
3	NIT-Rourkela	Assistant Professor	07/01/2009	01/02/2018
4.	NIT-Rourkela	Associate Professor	02/02/2018	Till date

IV) Publications :

	No.
A)International	150
B)National	2

**List of Publications (Selected publications with impact factor >4.000)**

1. P. Das, D. Qureshi, S. Paul, B. Mohanty, A. Anis, S. Verma, S. Wilczyński, and **K. Pal**, Effect of sorbitan monopalmitate on the polymorphic transitions and physicochemical properties of mango butter. *Food Chemistry*, 2021. 347: p. 128987. **(Impact Factor: 7.514)**
2. J. Jin, T.T.H. Nguyen, S. Humayun, S. Park, H. Oh, S. Lim, I.-K. Mok, Y. Li, **K. Pal**, and D. Kim, Characteristics of sourdough bread fermented with *Pediococcus pentosaceus* and *Saccharomyces cerevisiae* and its bio-preservative effect against *Aspergillus flavus*. *Food Chemistry*, 2021. 345: p. 128787. **(Impact Factor: 7.514)**
3. S. Kulanthaivel, T. Agarwal, V.S. Rathnam, **K. Pal**, and I. Banerjee, Cobalt doped nano-hydroxyapatite incorporated gum tragacanth-alginate beads as angiogenic-osteogenic cell encapsulation system for mesenchymal stem cell based bone tissue engineering. *International Journal of Biological Macromolecules*, 2021. 179: p. 101-115. **(Impact Factor: 6.953)**
4. S. Saravanan, R. Ahmad, S. Kasthuri, **K. Pal**, S. Raviteja, P. Nagaraaj, R. Hoogenboom, V. Nutalapati, and S. Maji, Pyrazoloanthrone-functionalized fluorescent copolymer for the detection and rapid analysis of nitroaromatics. *Materials Chemistry Frontiers*, 2021. 5(1): p. 238-248. **(Impact Factor: 6.482)**
5. S. Verma, M. Mili, C. Sharma, H. Bajpai, **K. Pal**, D. Qureshi, S. Hashmi, and A. Srivastava, Advanced X-ray shielding and antibacterial smart multipurpose fabric impregnated with polygonal shaped bismuth oxide nanoparticles in carbon nanotubes via green synthesis. *Green Chemistry Letters and Reviews*, 2021. 14(2): p. 271-284. **(Impact Factor: 4.990)**
6. D. Qureshi, A. Sahoo, B. Mohanty, A. Anis, V. Kulikouskaya, K. Hileuskaya, V. Agabekov, P.

- Sarkar, S.S. Ray, S. Maji, and **K. Pal**, Fabrication and Characterization of Poly (vinyl alcohol) and Chitosan Oligosaccharide-Based Blend Films. *Gels*, 2021. 7(2): p. 55. **(Impact Factor: 4.702)**
7. D. Qureshi, A. Nadikoppula, B. Mohanty, A. Anis, M. Cerqueira, M. Varshney, and **K. Pal**, Effect of carboxylated carbon nanotubes on physicochemical and drug release properties of oleogels. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2021. 610: p. 125695. **(Impact Factor: 4.539)**
8. D. Qureshi, K.P. Behera, D. Mohanty, S.K. Mahapatra, S. Verma, P. Sukyai, I. Banerjee, S.K. Pal, B. Mohanty, D. Kim, and **K. Pal**, Synthesis of novel poly (vinyl alcohol)/tamarind gum/bentonite-based composite films for drug delivery applications. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2021. 613: p. 126043. **(Impact Factor: 4.539)**
9. A. Anis, **K. Pal**, and S.M. Al-Zahrani, Essential Oil-Containing Polysaccharide-Based Edible Films and Coatings for Food Security Applications. *Polymers*, 2021. 13(4): p. 575. **(Impact Factor: 4.329)**
10. S. Dhal, **K. Pal**, I. Banerjee, and S. Giri, Upconversion nanoparticle incorporated oleogel as probable skin tissue imaging agent. *Chemical Engineering Journal*, 2020. 379: p. 122272. **(Impact Factor: 13.273)**
11. D. Qureshi, H. Behera, A. Anis, D. Kim, and **K. Pal**, Effect of polyglycerol polyricinoleate on the polymorphic transitions and physicochemical properties of mango butter. *Food chemistry*, 2020. 323: p. 126834. **(Impact Factor: 7.514)**
12. S.S.R. Vuppaladadiam, T. Agarwal, S. Kulanthaivel, B. Mohanty, C.S. Barik, T.K. Maiti, S. Pal, **K. Pal**, and I. Banerjee, Silanization improves biocompatibility of graphene oxide. *Materials Science and Engineering: C*, 2020. 110: p. 110647. **(Impact Factor: 7.328)**
13. M. Rawoath, D. Qureshi, M. Hoque, M.G. Prasad, B. Mohanty, M.A. Alam, A. Anis, P. Sarkar, and **K. Pal**, Synthesis and characterization of novel tamarind gum and rice bran oil-based emulgels for the ocular delivery of antibiotics. *International Journal of Biological Macromolecules*, 2020. 164: p. 1608-1620. **(Impact Factor: 6.953)**
14. S. Agarwal, M. Hoque, N. Bandara, **K. Pal**, and P. Sarkar, Synthesis and characterization of tamarind kernel powder-based antimicrobial edible films loaded with geraniol. *Food Packaging and Shelf Life*, 2020. 26: p. 100562. **(Impact Factor: 6.429)**
15. D. Qureshi, B. Choudhary, B. Mohanty, P. Sarkar, A. Anis, M.A. Cerqueira, I. Banerjee, S. Maji, and **K. Pal**, Graphene Oxide Increases Corneal Permeation of Ciprofloxacin Hydrochloride from Oleogels: A Study with Cocoa Butter-Based Oleogels. *Gels*, 2020. 6(4): p. 43. **(Impact Factor: 4.702)**
16. G. Lee, T.T.H. Nguyen, T.Y. Lim, J. Lim, B. Park, S. Lee, I.-K. Mok, **K. Pal**, S. Lim, and D. Kim, Fermented Wild Ginseng by *Rhizopus oligosporus* Improved l-Carnitine and Ginsenoside Contents. *Molecules*, 2020. 25(9): p. 2111. **(Impact Factor: 4.411)**
17. D. Qureshi, S.K. Nayak, S. Maji, A. Anis, D. Kim, and **K. Pal**, Environment sensitive hydrogels for drug delivery applications. *European Polymer Journal*, 2019. 120: p. 109220. **(Impact Factor: 4.598)**
18. K.K. Tarafdar, B.K. Pradhan, S.K. Nayak, A. Khasnobish, S. Chakravarty, S.S. Ray, and K. Pal, Data mining based approach to study the effect of consumption of caffeinated coffee on the generation of the steady-state visual evoked potential signals. *Computers in biology and medicine*, 2019. 115: p. 103526. **(Impact Factor: 4.589)**
19. I. Yadav, V.S. Rathnam, Y. Yogalakshmi, S. Chakraborty, I. Banerjee, A. Anis, and **K. Pal**, Synthesis and characterization of polyvinyl alcohol-carboxymethyl tamarind gum based composite films. *Carbohydrate Polymers*, 2017. 165: p. 159-168. **(Impact Factor: 9.381)**
20. S. Dhal, A. Mohanty, I. Yadav, K. Uvanesh, S. Kulanthaivel, I. Banerjee, **K. Pal**, and S. Giri, Magnetic nanoparticle incorporated oleogel as iontophoretic drug delivery system. *Colloids and Surfaces B: Biointerfaces*, 2017. 157: p. 118-129. **(Impact Factor: 5.268)**

### List of projects handled

#	Title	Sponsoring agency	Commencement date	Tenure	Role	Budget (₹ )	Remarks
1	Designing a low cost real time food colour monitoring systems	DST	28 Aug 2019	2 years	Principal investigator	3832872.00	On-going
2	Designing of biocompatible coating with antibacterial properties for polypropylene surgical meshes for improvement their functionality	DST (International Division, India-Belarus)	29 Jun 2019	2 years	Principal investigator	1040000.00	Closed
3	Low cost bench-top fluorescence microscope with integrated diagnostic algorithm for early cervical cancer risk prediction	DST	30 Oct 2017	3 years	Principal investigator from NIT Rourkela	3432000.00	Closed (Joint project with IEST Shibpur)
4	Cellulose nanocrystal reinforced pH-responsive PVA-gum tragacanth based proangiogenic smart wound dressings for diabetic foot care	DST	14 Jun 2019	3 years	Co-investigator	1095000.00	Project closed at NIT Rourkela (PI relocated)
5	Study for the development and characterization of immunomodulating functional mango butter based chocolate fortified with curcuminoids and its potential uses	DST	01 Jul 2017	3 years	Principal investigator	3355560.00	Closed
6	Molecular Characterisation vis-à-vis in vitro assessment of medicinal potentials of probiotic microorganisms with high antibacterial activity isolated from vaginal swab of women of Barak Valley, Assam, India	DBT	30 May 2012	3 years	Principal investigator	1895000.00	Closed

7	Encapsulated Organogels: A Prospective new generation Controlled delivery system	DST	29 May 2012	3 years	Principal investigator	1865000.00	Closed
8	Development of antimicrobial organogels	DBT	18 Jul 2011	3 years	Principal investigator	3178800.00	Closed