Publication Highlights

Publications	43	**Book Chapter** - 05 **Journal Publications** - 30 **Conference** - 08
Total Impact Points	104.056 (calculated as per JCR 2023)	
Citations	793 (as per **Scholar. Google**)	
h-index	18	
i_{10}-index	20	

Patents

1. **Uvanesh Kasiviswanathan**, Sanjeev Kumar Mahto, Neeraj Sharma, Satyabrata Jit, Ajay Kumar Sahi, Chandan Kumar: "*A method for fabrication of a biosensing device and a product thereof*" **Indian Patent Application No.: 202411057617**, Journal No: XX/2024, Publication date: XX/XX/2024, part X, page no: XX (**Status:** Filed on 30-07-2024).
2. Tuhin Subhra Santra, Hima Harshan P, Kavitha Illath, Srabani Kar, **Uvanesh Kasiviswanathan**: *"Gold Nanorods-PDMS hybrid micro-pyramidal array for light-activated intracellular delivery."* **Indian Patent Application No.: 202441016898**, Journal No: 12/2024, Publication date: 22/03/2024, part I, page no: 29650 (**Status:** granted with a Patent no. 558476 and Patent Letter has been issued on January 22, 2025).
3. Hima Harshan P, Donia Dominic, Srabani Kar, Ashwini Uma Surendra Shinde, Kavitha Illath, **Uvanesh Kasiviswanathan**, Tuhin Subhra Santra: *"A Microtip Device and Method for Intracellular Delivery of Biomolecules."* **Indian Patent Application No.: 202341020417,** Journal No: 15/2023, Publication date: 14/04/2023, part II – designs, page no: 31744 (Status: granted with a Patent no. 563316 and Patent Letter has been issued on March 24, 2025).
4. **Uvanesh Kasiviswanathan**, Neeraj Sharma, Sanjeev Kumar Mahto, Satyabrata Jit, Chandan Kumar, Suruchi Poddar: "*Extended Larger Area Heterojunction Based Bio-Sensing Device."* **Indian Patent Application No.: 202011014307,** Journal No: 41/2021, Publication date: 08/10/2021, part 1, page no: 204 (**Status:** granted with a Patent no. 523737 and Patent Letter has been issued on March 12, 2024).

Book Chapters

1. **Uvanesh Kasiviswanathan** and Neeraj Sharma: *Importance of Bio-signal for Rehabilitative Engineering.* Biomedical Engineering and its Applications in Healthcare. Editor: Sudip Paul; 11/2019: chapter 19: pages 453-469; Springer Nature., ISBN: 9789811337055, DOI: 10.1007/978-981-13-3705-5_19
2. **Uvanesh Kasiviswanathan,** Abhishek Kushwaha and Shiru Sharma: *Development of human speech signal based intelligent human-computer interface for driving a wheelchair in enhancing the quality-of-life of the persons.* Intelligent Systems for Healthcare Management and Delivery. Editor: Nardjes Bouchemal; 11/2018: chapter 02: pages 21-60; IGI-Global., ISBN: 9781522570714, DOI: 10.4018/978-1-5225-7071-4.ch002
3. **Uvanesh Kasiviswanathan,** Suraj Kumar Nayak, Sai Sateesh Sagiri, Indranil Banerjee, Sirsendu Sekhar Ray, Kunal Pal: *Effect of Non-Ionic Hydrophilic and Hydrophobic Surfactants on the Properties on the Stearate Oleogels: A Comparative Study.* Nutraceuticals and Innovative Food Products for Healthy Living and Preventive Care, 2018 edited by Amit Verma, Kajal Srivastava, Shivom Singh, Hukum Singh, 11/2017: chapter 12: pages 260-279; IGI-Global., ISBN: 9781522529705, DOI:10.4018/978-1-5225-2970-5.ch012
4. **Uvanesh K.**, Suraj Kumar Nayak, Biswajeet Champaty, Goutam Thakur, Biswajit Mohapatra, D. N. Tibarewala, Kunal Pal: *Classification of Surface Electromyogram Signals Acquired from the Forearm of a Healthy Volunteer*. Classification and Clustering in Biomedical Signal Processing, Edited by Nilanjan Dey, Amira Ashour, 04/2016: chapter 13: pages 315 - 333; IGI Global., ISBN: 9781522501404, DOI: 10.4018/978-1-5225-0140-4.ch013
5. **Uvanesh K.**, Suraj Kumar Nayak, Biswajeet Champaty, Goutam Thakur, Biswajit Mohapatra, DN Tibarewala, Kunal Pal: *Development of a Surface EMG - Based Control System for Controlling Assistive Devices: A Study on Robotic Vehicle*. Classification and Clustering in Biomedical Signal Processing, Edited by Nilanjan Dey, Amira Ashour, 04/2016: chapter 14: pages 335 - 355; IGI Global., ISBN: 9781522501404, DOI: 10.4018/978-1-5225-0140-4.ch014

Journal Publications

1. **Uvanesh Kasiviswanathan**, Lucky Agarwal, Chandhan Kumar, Ajay Kumar Dwivedi, Swetha Tripathi: "SnS_2 Based Extended-Gate Field-Effect Transistor for Low Voltage pH Sensing Applications", Materials Letter (Accepted for Publication on 27-03-2025) (Corresponding author).
2. **Uvanesh Kasiviswanathan,** Chandan Kumar, Ajay Kumar Sahi, Amit Kumar, Satyabrata Jit, Neeraj Sharma, Sanjeev Kumar Mahto: *"Electrospun Stannic Oxide Nanofiber Thin-Film Based Sensing Device for Monitoring Functional Behaviors of Adherent Mammalian Cells"*. IEEE Transactions on NanoBioscience, vol. 24, no. 1, pp. 120-126, DOI: 10.1109/TNB.2024.3489353. (Corresponding author).
3. Sajal Kumar Babu Degala, Ravi Prakash Tewari, Pankaj Karma, **Uvanesh Kasiviswanathan** and Ramesh Pandey: "*Segmentation and Estimation of Fetal Biometric Parameters using an Attention Gate Double UNet with Guided Decoder Architecture*". Comput. Biol. Med., vol. 180, p. 109000, 2024, DOI: 10.1016/j.compbiomed.2024.109000. (Corresponding author).
4. Ashwini Shinde, Kavitha Illath, **Uvanesh Kasiviswanathan**, Shalini Nagabooshanam, Pallavi Gupta, Koyel Dey, Pulasta Chakrabarty, Moeto Nagai, Suresh Rao, Srabani Kar, and Tuhin Subhra Santra*****: *"Recent Advances of Biosensor-Integrated Organ-on-a-Chip Technologies for Diagnostics and Therapeutics"*. Analytical Chemistry, vol. 95, no. 6, pp. 3121-3146, DOI: 10.1021/acs.analchem.2c05036
5. **Uvanesh Kasiviswanathan**, Chandan Kumar, Suruchi Poddar, Satyabrata Jit, Neeraj Sharma, Sanjeev Kumar Mahto: "*Extended Large Area Si/ZnO Heterojunction Biosensor for Assessing Functional Behaviour of Primary Cortical Neuronal Cells".* IEEE Sensors Journal, vol. 21, no. 13, pp. 14619-14626, DOI: 10.1109/JSEN.2021.3072448
6. **Uvanesh Kasiviswanathan**, Chelladurai Karthikeyan Balavigneswaran, Chandan Kumar, Suruchi Poddar, Satyabrata Jit, Neeraj Sharma, Sanjeev Kumar Mahto: "*Aluminum Oxide Thin Film Based in vitro Cell-Substrate Sensing Device for Monitoring Proliferation of Myoblast Cells"*. IEEE Transactions on NanoBioscience, vol. 20, no. 3, pp. 331-337, DOI: 10.1109/TNB.2021.3068318
7. **Uvanesh Kasiviswanathan**, Chandan Kumar, Suruchi Poddar, Satyabrata Jit, Neeraj Sharma, Sanjeev Kumar Mahto: "*Functional Behaviour of the Primary Cortical Neuronal Cells on the Large Surface of TiO_2 and SnO_2 Based Biosensing Device".* IEEE Transactions on NanoBioscience, vol. 20, no. 2, pp. 138-145, DOI: 10.1109/TNB.2021.3058332

8. Chelladurai Karthikeyan Balavigneswaran, Gaurav Kumar, Chandrasekaran Vignesh Kumar, Satheeshkumar Sellamuthu, **Uvanesh Kasiviswanathan**, Biswajit Ray, Vignesh Muthuvijayan, Sanjeev Kumar Mahto, Nira Misra*****: "*Gelatin grafted poly(D,L-lactide) as an inhibitor of protein aggregation: An in vitro case study".* Biopolymers 111.8 (2020): e23383, DOI: 10.1002/bip.23383
9. **Uvanesh Kasiviswanathan**, Chandan Kumar, Suruchi Poddar, Satyabrata Jit, Sanjeev Kumar Mahto, Neeraj Sharma: "*Fabrication of MSM Based Biosensing Device for Assessing Dynamic Behavior of Adherent Mammalian Cells".* IEEE Sensors Journal, vol. 20, no. 17, pp. 9652-9659, DOI: 10.1109/JSEN.2020.2990919
10. **Uvanesh Kasiviswanathan**, Suruchi Poddar, Chandan Kumar, Satyabrata Jit, Sanjeev Kumar Mahto*****, Neeraj Sharma*****: "*A Portable Standalone Wireless Electric Cell–Substrate Impedance Sensing (ECIS) System for Assessing Dynamic Behaviour of Mammalian Cells".* Journal of Analytical Science and Technology, SpringerOpen; Volume 11; Article number 25 (2020); DOI: 10.1186/s40543-020-00223-9
11. Gaurav Kumar#, **Uvanesh Kasiviswanathan#**, Sumedha Mukherjee, Sanjeev Kumar Mahto, Neeraj Sharma, Ranjana Patnaik*****: *"Changes in electrolyte concentrations alter the impedance during ischemia-reperfusion injury in rat brain"*, Physiological Measurements, IOP; 40(10):105004; DOI: 10.1088/1361-6579/ab47ee; **#equal contribution**.
12. Sarika Patel Kodela, Preeti Madhuri Pandey, Suraj K. Nayak**, K. Uvanesh**, Arfat Anis, Kunal Pal*****: *Novel agar–stearyl alcohol oleogel-based bigels as structured delivery vehicles.* International Journal of Polymeric Materials; 66(13):669-678; DOI: 10.1080/00914037.2016.1252362
13. Soumyashree Dhal, Abhinav Mohanty, Indu Yadav, **K. Uvanesh**, Senthilguru Kulanthaivel, Indranil Banerjee, Kunal Pal, Supratim Giri*****: *Magnetic nanoparticle incorporated oleogel as iontophoretic drug delivery system*. Colloids and surfaces B: Biointerfaces 05/2017; 157:118-127; DOI: 10.1016/j.colsurfb.2017.05.061
14. I. Yadav, **U. Kasiviswanathan**, C. Soni, S.R. Paul, S.K. Nayak, S.S. Sagiri, A. Anis, K. Pal*****: *Stearic Acid Modified Stearyl Alcohol Oleogel: Analysis of the Thermal, Mechanical and Drug Release Properties*. Journal of Surfactants and Detergents 05/2017; 20(4):851-861; DOI: 10.1007/s11743-017-1974-4
15. Preeti Madhuri Pandey, Suraj K Nayak, Gauri Shankar Shaw, **Uvanesh K.**, I. Banerjee, S. M. Al-Zahrani, Arfat Anis, Kunal Pal*****: *An In-Depth Analysis of the Swelling, Mechanical, Electrical and Drug Release Properties of Agar-Gelatin Co-Hydrogels*. Polymer-Plastics

Technology and Engineering 2017; 56(6):667-677; DOI: 10.1080/03602559.2016.1211694

16. Tarun Agarwal, Prajna Kabiraj, Gautham Narayana, Senthilguru Kulanthaivel, **Uvanesh Kasiviswanathan**, Kunal Pal, Supratim Giri, Tapas Maiti, Indranil Banerjee*****: *Alginate bead based hexagonal close packed 3D implant for bone tissue engineering.* ACS Applied Materials & Interfaces 11/2016; 8(47):32132-32145; DOI: 10.1021/acsami.6b08512
17. S. Pandey, K. Senthilguru, **K. Uvanesh**, Sai S. Sagiri, B. Behera, N. Babu, Mrinanl K. Bhattacharyya, K. Pal, I. Banerjee*****: *Natural gum modified emulsion gel as single carrier for the oral delivery of probiotic-drug combination*. International Journal of Biological Macromolecules 07/2016; 92:504-514; DOI: 10.1016/j.ijbiomac.2016.07.053
18. S. P. Mallick, G. S. Shaw, **Uvanesh K**, D. Biswal, Suraj Nayak, S. S. Sagiri, V. K. Singh, M. K. Bhattacharya, A. Anis, K. Pal*****: *An in-Depth Analysis of the Mechanical, Electrical and Drug Release Properties of Gelatin-Starch Phase-Separated Hydrogels*. Polymer-Plastics Technology and Engineering 04/2016; 55(16):1731-1742; DOI: 10.1080/03602559.2016.1171873
19. Vinay Singh, **Uvanesh K**, Rashmi Rekha Behera, Samrat Baruah, Tarun Aggarwal, Indranil Banerjee, Kunal Pal*****: *Effect of Polysaccharides on the Properties of the Mucoadhesive Poly (Vinyl Alcohol) Multi-Core-shell Microparticles*. Polymer-Plastics Technology and Engineering 2016; 55(9):879-888; DOI: 10.1080/03602559.2015.1098692
20. Sai Sateesh Sagiri, **Uvanesh Kasiviswanathan**, Gauri Shankar Shaw, Meenakshi Singh, Arfat Anis, Kunal Pal*****: *Effect of sorbitan monostearate concentration on the thermal, mechanical and drug release properties of oleogels*. Korean Journal of Chemical Engineering 03/2016; 33(5):1720-1727; DOI: 10.1007/s11814-015-0295-4
21. **K. Uvanesh**, Sai S. Sagiri, Indranil Banerjee, Hamid Shaikh, Krishna Pramanik, Arfat Anis, Kunal Pal*****: *Effect of Tween 20 on the Properties of Stearate Oleogels: an in-Depth Analysis*. Journal of the American Oil Chemists' Society 03/2016; 93(5):711-719; DOI: 10.1007/s11746-016-2810-0
22. **K Uvanesh**, S S Sagiri, K Senthilguru, K Pramanik, I Banerjee, Arfat Anis, S M Al-Zahrani, Kunal Pal*****: *Effect of Span 60 on the Microstructure, Crystallization Kinetics, and Mechanical Properties of Stearic Acid Oleogels: An In-Depth Analysis*. Journal of Food Science 2016; 81(2):E380-E387; DOI: 10.1111/1750-3841.13170
23. Dibyajyoti Biswal, B Anupriya, **K Uvanesh**, Anis Arfat, Indranil Banerjee, Kunal Pal*****: *Effect of mechanical and electrical behavior of gelatin hydrogels on drug release and cell*

proliferation. Journal of the Mechanical Behavior of Biomedical Materials 2016; 53:174-186; DOI: 10.1016/j.jmbbm.2015.08.017

24. Prerak Gupta, Gautham Hari Narayana S.N., **Uvanesh Kasiviswanathan**, Tarun Agarwal, Senthilguru K, Devdeep Mukhopadhyay, Kunal Pal, Supratim Giri, Tapas Kumar Maiti, Indranil Banerjee*****: *Substrate stiffness does affect the fate of human keratinocytes*. RSC Advances 12/2015; 6(5):3539-3551; DOI: 10.1039/C5RA19947F
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26. Somya Asthana, Priyanka Goyal, Rik Dhar, **Uvanesh K**, Narendra B Pampanaboina, Joseph Christakiran, S S Sagiri, Manoj Khanna, Ajit Samal, Indranil Banerjee, Kunal Pal*****, Krishna Pramanik, Sirsendu Sekhar Ray*****: *Evaluation extracellular matrix-chitosan composite films for wound healing application*. Journal of Materials Science Materials in Medicine 08/2015; 26(8):220(pp1-11). DOI: 10.1007/s10856-015-5551-y
27. Gauri S Shaw, **K Uvanesh**, SN Gautham, Vinay Singh, Krishna Pramanik, Indranil Banerjee, Naresh Kumar, Kunal Pal*****: *Development and characterization of gelatin-tamarind gum/carboxymethyl tamarind gum based phase-separated hydrogels: A comparative study*. Designed Monomers & Polymers 05/2015; 18(5):434-450. DOI: 10.1080/15685551.2015.1041075
28. Priyanka Goyal, Rik dhar, Sai S. Sagiri, **K. Uvanesh**, K. Senthilguru, Gauri Shankar, Ajit Samal, Krishna Pramanik, Indranil Banerjee, Sirsendu Sekhar Ray, Kunal Pal*****: *Synthesis and characterization of novel dual environment-responsive hydrogels of Hydroxyethyl methacrylate and Methyl cellulose*. Designed Monomers & Polymers 03/2015; 18(4):367-377. DOI: 10.1080/15685551.2015.1012626
29. B Behera, D Biswal, **K Uvanesh**, A.K. Srivastava, Mrinal K Bhattacharya, K Paramanik, K Pal*****: *Modulating the properties of sunflower oil based novel emulgels using castor oil fatty acid ester: Prospects for topical antimicrobial drug delivery*. Colloids and surfaces B: Biointerfaces 02/2015; 128:155-164. DOI: 10.1016/j.colsurfb.2015.02.026
30. **K Uvanesh**, S Jain, S Das, B Champaty, VK Singh, KC Das, SP Ghosh, JP Kar, A Anis, SM Al-Zahrani, Kunal Pal*****: *Development of a continuous impedance monitoring system: A study to monitor D-glucose concentration*. International journal of electrochemical science 2015; 10(1):112-120. DOI: 100100112

Conference Proceedings

1. **Uvanesh Kasiviswanathan,** Ashwini Shinde, Hima Manoj, Kavitha Illath, Tuhin Subhra Santra: *"Nanosecond Pulse Laser activated Intracellular Delivery using AuNRs and PEGylated AuNRs",* International Online Conference on Nano Materials (ICN 2022), Mahatma Gandhi University, Kerala, India; **(Invited Talk)**
2. Hima Manoj, **Uvanesh Kasiviswanathan,** Ashwini Shinde, Kavitha Illath, Tuhin Subhra Santra*: "Infrared Laser Pulse Mediated Intracellular Delivery Using Gold Nanorod (AuNRs) Mixed PDMS Pyramidal Microtips Device",* International Online Conference on Nano Materials (ICN 2022), Mahatma Gandhi University, Kerala, India;
3. Kavitha Illath, Ashwini Shinde, **Uvanesh Kasiviswanathan,** Hima Manoj, Tuhin Subhra Santra*: "Tunable synthesis of spiky gold nanostars using symmetric flow-focusing microfluidic device",* International Online Conference on Nano Materials (ICN 2022), Mahatma Gandhi University, Kerala, India;
4. **Uvanesh Kasiviswanathan**, Chandan Kumar, Suruchi Poddar, Satyabrata Jit, Sanjeev Kumar Mahto, Neeraj Sharma: "*Vertical p-n Junction Diode as the Biosensor for Assessing the Dynamics of the Mammalian Neuronal Cell", 2nd National Biomedical Research Competition (NBRCom) 2019*, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India; **(Appreciation Award for Excellence in Research work** under **Innovative Ideas and Patents Category)**
5. **Uvanesh Kasiviswanathan**, Sanjeev K. Mahto and Neeraj Sharma: "*Phenol Red functionalized Mesoporous Silica Nanoparticle in various system for developing effective pH sensing system", The Academy – ACS Symposium: Expanding Frontiers in Chemical Sciences* (1/11/2018), Banaras Hindu University, India;
6. **ª Uvanesh Kasiviswanathan**, Suruchi Poddar, Chandan Kumar, Satyabrata Jit, Sanjeev K. Mahto and Neeraj Sharma: "*In-house Developed Electric Cell-Substrate Impedance Sensing (ECIS) System for Studying Dynamic Behaviour of Myoblast cells"*, Advanced Nano Materials Conference (ANM-2018), University of Aveiro, Portugal; **(Support by DBT-CTEP Scheme Vide No: DBT/CTEP/02/201800285)**
7. Abhishek Kushwaha, **Uvanesh Kasiviswanathan**, Shiru Sharma: "*Feature Extraction and Classification of Speech Signal Using Hidden Markov-Gaussian Mixture Model (HM-GMM) for Driving the Rehabilitative Aids"*. India Conference (INDICON), 2017 Annual IEEE, IIT-Roorkee, India; 12/2017; DOI: 10.1109/INDICON.2017.8487963

8. **Uvanesh K.**, Biswajeet Champaty, Indranil Banerjee, Sirsendu S. Ray, Kunal Pal, Biswajeet Mohapatra: "*Designing of a dual channel impedance analyzer for biological measurements"*. India Conference (INDICON), 2014 Annual IEEE, Pune, India; 12/2014; DOI: 10.1109/INDICON.2014.7030631
9. K. Kumar, B. Champaty, **K. Uvanesh**, R. Chachan, K. Pal, A. Anis: "*Development of an ultrasonic cane as a navigation aid for the blind people"*. Control, Instrumentation, Communication and Computational Technologies (ICCICCT), 2014 International Conference on, Kanyakumari, India; 07/2014; DOI: 10.1109/ICCICCT.2014.6993009 (Presenting Author & Best paper of the session award)
10. D.R. Kumar, B. Champaty, **K. Uvanesh**, K. Pal, A. Anis: "*Designing of an infra-red optocoupler based mobility aid for the blinds"*. Control, Instrumentation, Communication and Computational Technologies (ICCICCT), 2014 International Conference on, Kanyakumari, India; 07/2014; DOI: 10.1109/ICCICCT.2014.6993011
11. D. Biswal, **K. Uvanesh**, B. Champaty, S.S. Ray, K. Pal: "*Development of an ambulatory universal bio potential recording device"*. Control, Instrumentation, Communication and Computational Technologies (ICCICCT), 2014 International Conference on, Kanyakumari, India; 07/2014; DOI: 10.1109/ICCICCT.2014.6993130 (Best paper of the session award)