

Publication Highlights

Publications	42	Book Chapter - 05
		Journal Publications - 29
		Conference - 08
Total Impact Points	104.056 (calculated as per JCR 2023)	
Citations	739 (as per Scholar. Google)	
h-index	17	
i10-index	19	

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. Hima Harshan P, **Uvanesh Kasiviswanathan**, Kavitha Illath, Srabani Kar, Tuhin Subhra Santra: “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: published online, FER submitted**).
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: published online, FER submitted**).
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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.4018/978-1-5225-0140-4.ch014)

Journal Publications

1. **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 Behaviours of Adherent Mammalian Cells*”. IEEE Transactions on NanoBioscience, DOI: [10.1109/TNB.2024.3489353](https://doi.org/10.1109/TNB.2024.3489353) (accepted for publication on 29-10-2024). (Corresponding author).
2. 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](https://doi.org/10.1016/j.compbiomed.2024.109000). (Corresponding author).
3. 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](https://doi.org/10.1021/acs.analchem.2c05036)

4. **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](https://doi.org/10.1109/JSEN.2021.3072448)
5. **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](https://doi.org/10.1109/TNB.2021.3068318)
6. **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 TiO₂ and SnO₂ Based Biosensing Device*". IEEE Transactions on NanoBioscience, vol. 20, no. 2, pp. 138-145, DOI: [10.1109/TNB.2021.3058332](https://doi.org/10.1109/TNB.2021.3058332)
7. Chelladurai Karthikeyan Balavigneswaran, Gaurav Kumar, Chandrasekaran Vignesh Kumar, Satheeskumar 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](https://doi.org/10.1002/bip.23383)
8. **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](https://doi.org/10.1109/JSEN.2020.2990919)
9. **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](https://doi.org/10.1186/s40543-020-00223-9)
10. 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](https://doi.org/10.1088/1361-6579/ab47ee); #equal contribution.
11. 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](https://doi.org/10.1080/00914037.2016.1252362)
12. 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](https://doi.org/10.1016/j.colsurfb.2017.05.061)

13. 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](https://doi.org/10.1007/s11743-017-1974-4)
14. 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](https://doi.org/10.1080/03602559.2016.1211694)
15. 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](https://doi.org/10.1021/acsami.6b08512)
16. 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](https://doi.org/10.1016/j.ijbiomac.2016.07.053)
17. 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](https://doi.org/10.1080/03602559.2016.1171873)
18. 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](https://doi.org/10.1080/03602559.2015.1098692)
19. 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](https://doi.org/10.1007/s11814-015-0295-4)
20. **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](https://doi.org/10.1007/s11746-016-2810-0)
21. **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](https://doi.org/10.1111/1750-3841.13170)
22. 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](https://doi.org/10.1016/j.jmbbm.2015.08.017)
23. 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](https://doi.org/10.1039/C5RA19947F)
 24. Saikat Sahoo, Vinay K Singh, **K Uvanesh**, Dibyajyoti Biswal, Arfat Anis, Usman Ali Rana, Saeed M Al Zahrani, Kunal Pal*: *Development of ionic and non-ionic natural gum based bigels: Prospects for drug delivery application*. Journal of Applied Polymer Science 10/2015; 132(38):42561(pp1-8). DOI: [10.1002/app.42561](https://doi.org/10.1002/app.42561)
 25. 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](https://doi.org/10.1007/s10856-015-5551-y)
 26. 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](https://doi.org/10.1080/15685551.2015.1041075)
 27. 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](https://doi.org/10.1080/15685551.2015.1012626)
 28. 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](https://doi.org/10.1016/j.colsurfb.2015.02.026)
 29. **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](https://doi.org/10.100100112)

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 (NBRCCom) 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. **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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1109/ICCICCT.2014.6993130) **(Best paper of the session award)**