

Dr. Dipali Rakesh Mohan Kestwal

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Education

Ph.D: 2007_Savitribai Phule Pune University, India.

M.Sc. 2000, Shivaji University, India.

B.Sc. 1998, Shivaji University, India (Distinction)

Research Interests

Biochemistry, Biotechnology, Chemistry, Nanotechnology Electrochemistry, physics, Fermentation technology, Chromatography, Electrophoresis, HPLC, Optical, Photometric, Biosensors, Food Chemistry, Protein purification, Antioxidants, Anticancer, Food Safety, etc.

Present Position

Assistant Research Fellow

Institute of Food Science and Technology, National Taiwan University ,Taiwan , Republic of China.

Publications

- [1] **Dipali R. Bagal-Kestwal***, Been-Huang Chiang*, Portable paper-micro well device composed of agglomerated nano-hematite clusters in enzyme-hydrogel composite for beta glucan detection using smartphone. *Sensors and Actuators B: Chemical*. March **2021**.
- [2] **Dipali R. Bagal-Kestwal***, Been-Huang Chiang*, Exploration of chitinous scaffold-based interfaces for glucose sensing assemblies. *Polymers*. **2019**, *11*(12), 1958
- [3] **Dipali R. Bagal-Kestwal***, Been-Huang Chiang*, Electrochemical invertase probes with novel nanocomposite of microfibrillated Cellulose-Tragacanth gum-metal nanoparticles for direct sucrose analysis in sweetened beverages. *Journal of The Electrochemical Society*, **2019**.
- [4] **Dipali R. Bagal-Kestwal***, Been-Huang Chiang*, Platinum nanoparticle-carbon nanotubes dispersed in gum Arabic-corn flour composite-enzymes for an electrochemical sucrose sensing in Commercial juice. *Ionics*, **2019**.
- [5] **Dipali Rakesh Bagal-Kestwal***, **Been Huang Chiang***, **Book Chapter 11: One dimensional nanostructures and their potential applications in biosensors, in Book: Applications of One Dimensional Nanomaterials**, edited by Ramesh Chaughule and Rupesh Devan, American Scientific Publishers (Asp), Valencia, California, USA. **May 2019**.
- [6] **Dipali Rakesh Bagal-Kestwal***, M.H. Pan, Been Huang Chiang*, Book Chapter 3: Processing methods for the bio nanocomposites, in Book: *Bio Monomers for Green Polymeric Composites Materials*,
- [7] **Dipali Rakesh Bagal-Kestwal***, M.H. Pan, Been Huang Chiang*, Book Chapter 7: Properties and applications of gelatins, pectins, carrageenans gels, in Book: *Bio Monomers for Green Polymeric Composites Materials*, edited by Visakh, Morlanes, Oguz Bayraktar, Gopalakrishnan Menon, Wiley-Blackwell, UK. **November 2019**,
- [8] **Dipali R. Bagal-Kestwal***, M.H. Pan, Been-Huang Chiang*, Electrically nanowired-enzymes for probe modification and sensor fabrication. *Biosensors and Bioelectronics*, **2018**
- [9] **Dipali R. Bagal-Kestwal***, Been-Huang Chiang*, Recent Advances in Enzyme Based Glucose Biosensors for Biomedical Applications. *Current Trends in Biomedical Engineering & Biosciences*, 3(5), 555624, May **2017**.
- [10] **Dipali Rakesh Bagal-Kestwal**, Rakesh Mohan Kestwal, Been Huang Chiang*, Book Chapter 8: Bio Based Nanomaterials and Their Bio- Nanocomposites, in Book: *Nanomaterials and Nanocomposites, Zero- to Three- Dimensional Materials and Their Composites*, Edited by Visakh, Morlanes, Wiley-VCH Verlag GmbH and Co. Germany, June 2016, Pages: 255

- [11] **Dipali R. Bagal-Kestwal**, Rakesh Mohan Kestwal, Been-Huang Chiang*, Fenugreek hydrogel-agarose composite entrapped gold nanoparticles for acetylcholinesterase-based biosensor for carbamates detection. *Analytica Chimica Acta*, 886, 143–150, July **2015**.
- [12] **Dipali R. Bagal-Kestwal**, Rakesh Mohan Kestwal, Been-Huang Chiang*, Invertase-nanogold clusters decorated onion membranes for fluorescence-based sucrose sensor. *Journal of Nanobiotechnology*, 13, 30, 1-11, April, **2015**.
- [13] **Dipali R. Bagal-Kestwal**, Rakesh Mohan Kestwal, Wen-Ting Hsieh, Been-Huang Chiang*, Chitosan-guar gum-peroxidase like silver nanoparticles-hybrid matrix for enzyme immobilization and its application for fabrication of beta glucan and glucose sensing photometric flow injection system. *Journal of Pharmaceutical and Biomedical analysis*, 88, 571-578, October **2014**.
- [14] **Dipali Rakesh Bagal-Kestwal**, Rakesh Mohan Kestwal, Been Huang Chiang*, Book Chapter 6: **Biosensors Based on Nanomaterials and Their Applications**, in Book: *Applications of Nanomaterials*, Edited by Ramesh S. Chaugule and Shrikant C. Watawe, American Scientific Publishers, Valencia, California, USA, June, **2013**,
- [15] Rakesh Mohan Kestwal, **Dipali Bagal-Kestwal**, Been Huang Chiang*. Analysis and enhancement of nutritional and antioxidant properties of *Vigna aconitifolia* sprouts. *Plant Foods for Human Nutrition*, 67(2), 136-41, April **2012**.
- [16] **Dipali Bagal-Kestwal***, Rakesh Mohan Kestwal, Been-Huang Chiang*. Development of dip-strip sucrose sensors: Application of plant invertase immobilized in chitosan–guar gum, gelatin and polyacrylamide films. *Sensors and Actuators B: Chemical*, 160 (1), 1026-1033, December **2011**.
- [17] **Dipali Bagal-Kestwal**, Rakesh Mohan Kestwal, Been-Huang Chiang*. 1, 3- β -Glucanase from *Vigna aconitifolia* and its possible use in enzyme bioreactor fabrication. *International Journal of Biological Macromolecules*, 49 (5), 894-899, December **2011**.
- [18] Rakesh Mohan Kestwal, Jia Ching Lin, **Dipali Bagal-Kestwal**, Been-Huang Chiang*, Glucosinolates fortification of cruciferous sprouts by sulphur supplementation during cultivation to enhance anti-cancer activity. *Food Chemistry*, 126 (3), 1164-1171, June **2011**.
- [19] **Dipali Bagal-Kestwal**, Rakesh Mohan Kestwal, Bo-Chuan Hsieh, Richie L.C. Chen, Tzong-Jih Cheng, Been-Huang Chiang*, Electrochemical $\beta(1\rightarrow3)$ -d-glucan biosensors fabricated by immobilization of enzymes with gold nanoparticles on platinum electrode. *Biosensors and Bioelectronics*, 26, 118-125, May **2010**.
- [20] **Dipali Bagal-Kestwal**, Rakesh Mohan Kestwal, Been-Huang Chiang*, Fabrication of photometric dip-strip test systems for detection of $\beta(1\rightarrow3)$ -d-glucan using crude $\beta(1\rightarrow3)$ -d-glucanase from sprouts of *Vigna aconitifolia*. *Biosensors and Bioelectronics*, 24, 2566-2573, April **2009**.
- [21] **Dipali Bagal-Kestwal**, M.S. Karve*, B.A. Kakade, V.K. Pillai, Invertase inhibition based electrochemical sensor for the detection of heavy metal ions in aqueous system: application of ultra-microelectrode to enhance sucrose biosensor's sensitivity. *Biosensors and Bioelectronics*, 24, 657-664, December **2008**.
- [22] **Dipali S. Bagal**, Anu Vijayan, R.C. Aiyer, R.N. Karekar, M.S. Karve*, Fabrication of sucrose biosensor based on single mode planar optical waveguide using co-immobilized plant invertase and GOD. *Biosensors and Bioelectronics*, 22, 3072-3079, June **2007**.
- [23] **Dipali S. Bagal** and M.S. Karve*, Entrapment of plant invertase within novel composite of agarose- guar gum biopolymer membrane. *Analytica Chimica Acta*, 555, 316-321, **2006**.