

## Biography of Prem C. Pandey, IIT(BHU)

1. Name: PREM CHANDRA PANDEY,
2. Designation: Professor (HAG) : 2012 onward, Department of Chemistry, Indian Institute of Technology, Banaras Hindu University: <https://iitbhu.ac.in/dept/apc/people/pcpandeyapc>
3. Date of Birth :01/09/1958
4. Name of the Institute : Indian Institute of Technology, Banaras Hindu University:
5. Email: [pcpandey.apc@iitbhu.ac.in](mailto:pcpandey.apc@iitbhu.ac.in)
6. Educational Qualification
  - (i) M.Sc. Gorakhpur University now Deen Dayal University, 1980 First Division
  - (ii) Ph.D. Gorakhpur University 1987
7. Ranked amongst World's top 2 per cent scientists' list by Stanford University with addition of single scientist from Uttar Pradesh in the area of *Analytical Chemistry*.
8. Professional Qualification
  - (i) Lecturer in *Analytical Chemistry*, Banaras Hindu University, April 1988
  - (ii) Reader in *Analytical Chemistry*, Banaras Hindu University, April 1996
  - (iii) Professor of Chemistry, Institute of Technology, Banaras Hindu University, Sep.2004
  - (iv) Professor (HAG), Indian Institute of Technology, Banaras Hindu University, 2012 onward
9. Post Doctoral Experience
  - (i) Ecole des Mines , France 1989-1990
  - (ii) National Institute of Standard and Technology, 1992-1994
  - (iii) University of California, Riverside, 2002-2003
10. Visiting Professor and Invited talks in abroad
  - (i) Cranfield Institute of Technology, UK, 1989
  - (ii) Biotechnology Division, Cambridge University, UK 1989
  - (iii) Biosensors'94, New Orleans Florid 1994
  - (iv) National Institute of Standard and Technology, Gaithersburg, 1996
  - (v) Chemical Sensor (IMCS-8) Basel Switzerland, 2000
  - (vi) Institute of Biosensorik, Munister, Germany 2000
  - (vii) Sol-Gel IGGS-12), Sydney, Australia2003
  - (viii) Visiting Professor, Institute of Microtechnology University of Neuchatel, 2007
  - (ix) MRS The Cocoa Beach Meeting, Daytona,Florida, 2007
  - (x) University of Lyon, France 2007
  - (xi) MRS , The Cocoa Beach Meeting, Daytona,Florida, 2009
  - (xii) Visiting Professor, Moscow state University, Russia, 2009
  - (xiii) A N Bach Research Center of Biotechnology Russian Acad. Sci. 2010
  - (xiv) MRS , The Cocoa Beach Meeting, Daytona,Florida, 2011
  - (xv) PACRIM-10, San Diego, 2013
  - (xvi) MRS Fall Meeting, Boston, 2014
  - (xvii) MRS Fall Meeting, Boston, 2015
  - (xviii) MRS Fall meeting Boston 2017
  - (xix) International Society of Electrochemistry, Tokyo, 2018
11. Scientific Credentials for the first time Globally :
  - (i) Applications of polyindole in chemical sensor design, experimental findings on the synthesis of hydrophobic and hydrophilic polyindole, siloxane- polyindole-gold nanoparticles nanodispersion.
  - (ii) Experimental evidence on the mechanistic aspect of electron transfer from redox biological molecules and organic metal electrode surface, TCNQ mediated Flow Injection Biosensor,
  - (iii) Specific interaction on hydrophobic and hydrophilic organic functionalities linked to organotrialkoxysilane for making nanostructured biocompatible thin film of organically modified silicate (ORMOSILS), Mechanism of electron transfer from redox protein within nanostructured ormosils and electrode surface,
  - (iv) Functional alkoxyasilanes assisted synthesis of noble metal nanoparticles and its multimetallic analogues; Specific interaction of palladium chloride with 3-glycidoxypropyltrimethoxysilane and Trimethoxysilane yielding Pd-C-; -Pd-Si- linkages during the formation of nanostructured matrix-Novel Electrocatalytic Nanomaterials.

- (v) Organotrialkoxysilane mediated synthesis of functional monometallic, (AuNP, AgNP and PdNP) nanoparticles, Bimetallic (Pd-Au; Pd-Ag, Au-Ag) Nanoparticles and trimetallic (Pd-Au@AgNP) dispersible in both aqueous and non-aqueous medium.
  - (vi) Organotrialkoxysilane mediated synthetic incorporation of noble metal nanoparticles and Pd-Ni bimetallic nanoparticles within mesoporous silica nanoparticles.
  - (vii) Role of small organic moieties and 3-Aminopropyltrimethoxysilane in the synthesis of functional noble metal nanoparticles and its multimetallic analogues
  - (viii) Synthesis of functional Prussian blue nanoparticles as homogeneous and heterogeneous suspension.
  - (ix) Organic aldehyde/ketone and polyethylenimine mediated controlled synthesis of functional noble metal nanoparticles synthetic incorporation of the same within silica nanoparticles.
12. Scientific Credentials for the first time in India :
- (i) Design and mechanistic approach on the development of mediated and electrocatalytic biosensors/chemicals.
  - (ii) Design and development of glucose biosensors and other clinical biosensors, Screen printed electrodes in three electrode configuration together portable electrochemical detector at commercial scale, chemically modified screen printed electrodes, screen printed electrodes based conventional reference electrode, solid-state reference electrode, solid-state pH sensor, solid-state chloride ion sensor, ascorbic acid sensor, potassium ion sensor, Transdermal sensor, Hydrogen peroxide sensor,
  - (iii) Photo-electrochemical behaviour of bacteriorhodopsin thin film together isolation and purification of purple membrane protein.
  - (iv) Commercialization of self generated and innovated products in Indian market for the first time and established company for commercialization of self generated products. Kindly visit for details of scientific products, for the first time innovated and commercialized in online/offline market
13. Technological credentials in Indian market:
- (i) Established company under name Sensors Tech Varanasi in 2000 for commercialization of our own scientific products, through both online and offline marketing, developed at laboratory level. Following links justify the same:
    - (a) <http://sensors-vns.com/>
    - (b) <http://www.sensors-vns-opc.com/>
  - (ii) Commercialization of highly stable functional gold nanoparticles (AuNPs), silver nanoparticles (AgNPs), palladium nanoparticles (PdNPs), Au-Ag NPs, Au-Pd NPs, Au-Ag-Pd for the first time in Indian market. Interested one may kindly get in touch with company at [sensors\\_tech@yahoo.com](mailto:sensors_tech@yahoo.com) or send mail to [pcpandey.apc@iitbhu.ac.in](mailto:pcpandey.apc@iitbhu.ac.in) for samples.
  - (iii) Commercialization of screen printed electrodes (SPE) in three electrode configuration, PdNPs/AuNP/AgNPs/Pd-Ni modified screen printed electrodes for the time for the first time in Indian market,
  - (iv) Commercialization of Pd-Ni NPs inserted mesoporous silica nanoparticles for potent heterogeneous catalysis for HER and controlling environmental pollution.
  - (v) Commercialization of inexpensive ( within INR 2000-3000) portable electrochemical detector both potentiometric and amperometric along with necessary accessories Indian market for the first time in India.
  - (vi) Commercialization of electrochemical ascorbic acid sensor and peroxide sensor in Indian market for the first time.
  - (vii) Commercialization of cheapest blood glucometer with due certification at NIB in Indian market: kindly visit: <https://www.youtube.com/watch?v=8eJnuaAGAR8>
  - (viii) Made commercial formulation of silver nanoparticles nanofluid for developing any bacteria and virus protected mask and PPE followed claimed patent: visit : <https://youtu.be/ViQ9ivQ8msg> and see publications: see : DOI: 10.1557/jmr.2020.183 and doi:10.1557/mrc.2020.50
14. Scientific innovation available in youtube. Kindly note these scientific innovations have not been funded by any funding agencies. In addition it is emphasized here that many Indian scientists having position as member of editorial board of many high rated journals/authors of the same, their contributions are limited to publications only n many cases and have seldom been extended in forms of claims and technical formulations. Visit for details

- (i) [https://studio.youtube.com/channel/UCb7rZ26MzeP9m\\_a-KzvC1DQ/videos/upload?filter=%5B%5D&sort=%7B%22columnType%22%3A%22date%22%2C%22sortOrder%22%3A%22DESCENDING%22%7D](https://studio.youtube.com/channel/UCb7rZ26MzeP9m_a-KzvC1DQ/videos/upload?filter=%5B%5D&sort=%7B%22columnType%22%3A%22date%22%2C%22sortOrder%22%3A%22DESCENDING%22%7D)
- (ii) Kindly visit the studio youtube link shown above for live video of our technological demonstrations for public use through our continuous innovation in the area of sensors science and technology and may kindly have look of some individual video link innovated for the first time in India : Blood Glucose Sensor : <https://www.youtube.com/watch?v=Y6na0NRvOJE>, Solid-state pH sensor : <https://youtu.be/jnkBb2lSomE> , Ascorbic acid sensor : <https://youtu.be/zeWCsLlpNKU> , H2O2 sensor : <https://youtu.be/2u5sVQCQMO0> Organotrialkoxysilane mediated synthesis of monometallic nanoparticles: <https://youtu.be/kZ-DvLKmOjs> , <https://youtu.be/d6369j-SG78> , Organotrialkoxysilanes mediated synthesis of bimetallic nanoparticles: <https://youtu.be/61uTTR3exgQ> , Organotrialkoxysilanes mediated synthesis of trimetallic nanoparticles: <https://youtu.be/JDvU7uD1tY> , <https://youtu.be/kyzTY14GibY> , Screen Printed Electrodes and Electrochemical detector : <https://youtu.be/O3qtHjpMyxA> , Clinical assay based on enzyme immobilized silica-Alginate beads: <https://youtu.be/Jb8eJUNUXZk> , Screen Printed Electrodes: [https://youtu.be/2KEc\\_CDoNkw](https://youtu.be/2KEc_CDoNkw) , Nanomaterials for hydrogen production : <https://youtu.be/1Jzy9NghAdo> , Solid-state Chloride ion sensor : <https://youtu.be/wZzk4hJfAN0> , Urea Biosensor : <https://youtu.be/SN2q8A08IKA> Purple membrane protein : <https://youtu.be/Ti3A1aqbm8M> ,

#### 15. Bilateral International collaboration

We have been working seriously on scientific innovation under bilateral collaborations from France and United States. Professor Roger J Narayan from University of North Carolina has been awarded Vajra Fellow (VJR/2017/000034) by SERB in 2018 and has worked in my laboratory in initial phase in 2018 on 3D printing technology useful in Biomedical applications. We have published 25 publications and 4 patents from 2018 onward with single shot support to Vajra fellow without any support to internal investigator either by SERB or parent institution. Kindly see the publication list sent to SERB that justify our close bilateral interaction: all originating from our laboratory: with further inclusion of US partner in our technological innovation as partner of the company established in India: <http://sensors-vns.com/>.

#### 16. List of Publications. [Attention: All the publications given below originate from our concept of Sensors science and technology triggered after completing Ph.D. work in 1986 onward.]

- (i) R. P. Rastogi, M. K. Verma., A. K. tripathi & P C Pandey, *Dissolution potential of silver halide in aqueous solution of corresponding halates* Indian J. Chem. 22A (1983) 841-457.
- (ii) R. P. Rastogi, Ram Shabd, B. M. Upadhyay, S. B. Singh & P C Pandey, *Photoelectric effects in Chlorophyll Membranes* J. Membrane Sci., 19 (1984) 51-73.
- (iii) R. P. Rastogi & P C Pandey, *Experimental tests of thermodynamic theory of Dissolution potential* Indian J. Chem. 24A (1985) 449-454.
- (iv) P C Pandey, *Measurement of Dissolution potential using rotating electrode* Indian J. Chem. 25A (1986) 807-809.
- (v) R. P. Rastogi., P. C. Pandey, & A. K Tripathi *Thermodynamic theories of Dissolution, precipitation, Freezing and Melting Potentials* J. Indian Chem. Soc., LXIII, (1986) 179-184.
- (vi) R. P. Rastogi., P C Pandey, & A. K Tripathi *Thermochemistry of Dissolution, & Precipitation Potentials* Indian J. Chem. , 25A (1986) 803-806.
- (vii) P. C. Pandey and A. P. Mishra, *Conducting polymer coated enzyme microsensor for urea* Analyst (Lond.) 113 (1988) 329-331.
- (viii) P. C. Pandey, *A new Conducting polymer coated glucose sensor for urea* J. Chem. Soc. Faraday Trans. I. 84 (1988) 2259-2265.
- (ix) C. Tran-Minh, P. C. Pandey & Satish Kumaran. *Studies on Acetylcholine Sensor and its application based on the inhibition of cholinesterase.* Biosensors & Bioelectronics 5 (1990) 461-47

- (x) 10. P. C. Pandey, C. Tran-Minh, & F. Lantreibecq. Electrochemical Studies on Tetrathiafulvalene-Tetracyanoquinodimethane modified Acetylcholine/Choline sensor *Appl. Biochem. Biotech.* *31* (1991) 145-158.
- (xi) P. C. Pandey, & V. Pandey. Urease purification from the seeds of *Cajanus Cajan* and its application in a Biosensor Construction. *Appl. Biochem. Biotech.* *31* (1991) 247-252.
- (xii) P. C. Pandey, A. M. Kayastha & V. Pandey. An amperometric Biosensor for glucose based on tetracyanoquinodimethane modified graphite paste electrode. *Appl. Biochem. Biotech.* *33* (1992) 139-147.
- (xiii) P. C. Pandey, & V. Pandey. Ion-Selective electrode based on dinitrophenyl-alanine conjugate. *Indian J. Chem.* *31A* (1992) 639-641.
- (xiv) P. C. Pandey, V. Pandey, C. Tran-Minh & F. Lantreibecq. A new sensor for the analysis of urea in human serum. *Indian J. Technol.* *30* (1992) 404-408.
- (xv) P. C. Pandey, V. Pandey, C. Tran-Minh & D. Chavanne. A new membrane electrode for the detection of antibody. *Biosensors & Bioelectronics* *7* (1992) 147-149.
- (xvi) P. C. Pandey. Membrane electrode as biosensor. *Bulletin of Electrochemistry* *8* (1992) 212-221.
- (xvii) C. Tran-Minh & P. C. Pandey, Biosensors and Toxin detection. *Bulletin of Electrochemistry* *8* (1992) 199-204.
- (xviii) P. C. Pandey, V. Pandey & S. Mehta. A glucose sensor based on a graphite paste electrode. *Indian J. Chem.* *32A* (1993) 667-672.
- (xix) P. C. Pandey, V. Pandey & S. Mehta. An amperometric sensor for L-ascorbic acid based on a graphite paste modified with tetracyanoquinodimethane. *Indian J. Chem.* *32A* (1993) 667-672.
- (xx) P. C. Pandey, S. Glazer & H. H. Weetall. An amperometric flow-injection analysis biosensor for glucose based on graphite paste modified with tetracyanoquinodimethane. *Anal. Biochem.* *214* (1993) 133-137.
- (xxi) P. C. Pandey & H. H. Weetall. Application of photochemical reaction in electrochemical detection of DNA Intercalation. *Anal. Chem.* *66* (1994) 1236-1241.
- (xxii) P. C. Pandey, V. Pandey, & S. Mehta. An amperometric enzyme electrode for lactate based on graphite paste modified with tetracyanoquinodimethane *Biosensors & Bioelectronics* *9* (1994) 365-372.
- (xxiii) P. C. Pandey, Tetracyanoquinodimethane mediated flow-injection analysis sensor for NADH coupled with dehydrogenase enzymes *Anal. Biochem.* *221* (1994) 392-396.
- (xxiv) P. C. Pandey & H. H. Weetall. Detection of aromatic hydrocarbon based on DNA Intercalation using an Evanescent wave biosensor. *Anal. Chem.* *67* (1995) 787-792.
- (xxv) P. C. Pandey, & H. H. Weetall. Evanescent wave Fluorobiosensor for the detection of polyaromatic hydrocarbon based on DNA intercalation. *Appl. Biochem. Biotech.* *55* (1995) 87-94.
- (xxvi) P. C. Pandey, R. W. Aston & H. H. Weetall. Tetracyanoquinodimethane mediated glucose Biosensor based on self-assembling alkanethiol/phospholipid bilayer *Biosensors & Bioelectronics* *10* (1995) 669-674.
- (xxvii) P. C. Pandey & H. H. Weetall, Peroxidase and Tetracyanoquinodimethane modified graphite paste electrode for the measurement of glucose/glutamate/lactate using enzyme packed bed reactor. *Anal. Biochem.* *224* (1995) 428-433.
- (xxviii) Y. B. Tewari, M. M. Sanchez, P. C. Pandey, & R. N. Goldberg. Thermodynamics of the hydrolysis of N-Acetyl-Phenylalanine ethyl ester in water and in organic solvents. *J. Phys. Chem.* *99* (1995) 1594-1601.
- (xxix) P. C. Pandey, & H. H. Weetall. An evanescent wave sensor for the detection of organophosphorus compounds based on the inhibition of cholinesterase. *Indian J. Chem. Technol.* *2* (1995) 233-238.
- (xxx) R. P. Rastogi, R. C. Srivastava, P. C. Pandey, A. R. Singh & A. P. Mishra. Non-linear dynamics of membrane processes. *J. Colloids & Interface Sci.* *175* (1995) 262-275.
- (xxxii) P. C. Pandey, S. Singh, B. Upadhyay, H. H. Weetall & P. K. Chen. Reversal in the kinetics of M-state decay of D96N mutant Bacteriorhodopsin. *Sensors & Actuators.* *B35-36*(1996) 270-276.
- (xxxiii) J. L. Lima Filho, P. C. Pandey & H. H. Weetall. An amperometric flow Injection analysis biosensor for sucrose using TCNQ modified graphite paste electrode. *Biosensors & Bioelectronics* *11* (1996) 169-174.
- (xxxiiii) P. C. Pandey, TTF-TCNQ modified self-assembled alkanethiol monolayer; An efficient surface for electrocatalysis *ABSTR PAP AM CHEM. SOC.*, *213* (1997) 66-BTEC Part 3 APR 13.
- (xxxv) P. C. Pandey, S. Upadhyay & B. Upadhyay. Peroxide bisensor and mediated electrochemical regeneration of peroxidase. *Anal. Biochem.* *252* (1997) 136-142.
- (xxxvi) P. C. Pandey, An evanescent wave sensor for the detection of nitric oxide *Indian J. Chem. Technol.* *4*(1998) 402-404.

- (xxxvi) P. C. Pandey, S. Upadhyay, & H. C. Pathak. Ethanol Bisensor and electrochemical regeneration of NADH. *Anal. Biochem.* 260 (1998) 195-203.
- (xxxvii) P. C. Pandey, B. Upadhyay, H. C. Pathak & C. M. D. Pandey. Dependence of M, N, and O states decay kinetics of D96N mutant bacteriorhodopsin on amino and amine compounds; application in chemical sensing *Sensors & Actuators.* B46(1998) 80-86.
- (xxxviii) P. C. Pandey & R. Prakash. Polyindole modified potassium ion sensor using dibenzo-18-crown-6 mediated PVC matrix membrane. *Sensors & Actuators.* B46(1998) 61-65.
- (xxxix) P. C. Pandey & R. Prakash. Electrochemical synthesis of polyindole-a study for rechargeable battery application. *J. Electrochem. Soc.* 145(1998) 999-1003.
- (xl) P. C. Pandey & R. Prakash. Characterization of electropolymerized polyindole-application in the construction of a solid-state Ion-Selective electrode *J. Electrochem. Soc.* 145(1998) 4103-4107.
- (xli) P. C. Pandey, S. Upadhyay, B. Upadhyay, H. C. Pathak & C. M. D. Pandey. Sensitivity, selectivity and reproducibility of some mediated biosensors/sensors. *Analytical Letters* 31(1998) 2327-2348.
- (xlii) P. C. Pandey. Copper (II) ion sensor based on electropolymerized undoped-polyindole modified electrode. *Sensors& Actuators.* B54(1999) 210-214.
- (xlili) P. C. Pandey, S. Upadhyay, & H. C. Pathak/ A new glucose Biosensor based on sandwiched configuration of organically modified sol-gel glass. *Electroanalysis* 11(1999) 59-65.
- (xliv) P. C. Pandey, S. Upadhyay, & H. C. Pathak. A new ferrocene-linked organically modified electrode sol-gel glass and its application in the construction of Ion-selective electrode. *Electroanalysis* 11(1999) 950-958.
- (xlv) P. C. Pandey, S. Upadhyay, B. Upadhyay, H. C. Pathak & C. M. D. Pandey. Electrochemical oxidation of ascorbic acid at the surface of chemically modified electrode. *Bulletin of Electrochemistry* 15(1999) 438-448.
- (xlvi) P. C. Pandey. Mediated Bioelectrochemistry within graphite paste electrode *Trans. Indian . Inst. met.* 51(1998) 319-325.
- (xlvii) R. P. Rastogi, G. P. Misra, P. C. Pandey, K. Bala & K. Kumar. Bistability and electrokinetic oscillations. *J. Colloids & Interface Sci.* 217 (1999) 275-287.
- (xlviii) P. C. Pandey, New composite sol-gel glasses and their applications in sensors construction. *ABSTR PAP AM CHEM. SOC.*, 217 (1999) U791, Mar 21.
- (xlix) P. C. Pandey, S. Upadhyay, Ida Tiwari & V. S. Tripathi. Studies on glucose biosensor based on non-mediated and mediated electrochemical oxidation of reduced glucose oxidase. *Electroanalysis* 11(1999) 1251-1258.
- (l) P. C. Pandey, B. Upadhyay, H. C. Pathak & C. M. D. Pandey. Electrochemical studies on D96N mutant bacteriorhodopsin and its application in the construction of photosensor. *Sensors & Actuators.* B56(1999)112-120.
- (li) P. C. Pandey, S. Upadhyay & H. C. Pathak. A new glucose biosensor based on encapsulated glucose oxidase within organically modified sol-gel glass. *Sensors & Actuators.* B60(1999)83-89.
- (lii) P. C. Pandey, R. Prakash, G. Singh and V. S. Tripathi Studies on polycarbazole . modified electrode and its application in the construction of solid-state ionselective electrode. *J. Appl. Polymer Sci.*, 75(2000) 1749-1759.
- (liii) P. C. Pandey, S. Upadhyay, H. C. Pathak, C. M. D. Pandey & Ida Tiwari. Acetylthiocholine/acetylcholine and thiocholine/choline electrochemical biosensor/sensor based on a organically modified sol-gel glass enzyme reactor and graphite paste electrode. *Sensors & Actuators.* B62(2000)109-116.
- (liv) P. C. Pandey. A review on ormosil based biomaterial and its application in sensor design. *J. Indian Inst. Sci.*, 79(1999)415-430.
- (lv) P. C. Pandey, S. Upadhyay, R. Prakash, G. Singh, R. C. Srivastava and P. K. Seth, A new solid-state pH sensor and its application in the construction of all solid-state urea biosensor. *Electroanalysis* 12 (2000) 1251-1258.
- (lvi) P. C. Pandey & S. Upadhyay. An electrocatalytic biosensor for glucose. *Sensors & Actuators* 78(2001) 148-155.
- (lvii) P. C. Pandey, S. Upadhyay, Ida Tiwari & V. S. Tripathi. An ormosil based Ethanol Biosensor. *Anal. Biochem.* 288 (2000)39-45.
- (lviii) P. C. Pandey. An ormosil electrocatalytic biosensor for glucose/ethanol based dehydrogenase enzyme. *Electroanalysis* 13 (8) (2001) 820-826.
- (lix) P. C. Pandey, S. Upadhyay, Ida Tiwari & V. S. Tripathi. An ormosil based peroxide biosensor-A comparative study on direct electron transfer from Horseradish peroxidase. *Sensors & Actuators* 72 (2001) 224-232.
- (lx) P. C. Pandey, S. Upadhyay, Ida Tiwari & V. S. Tripathi. An electrocatalytic dopamine biosensor. *Sensors & Actuators* 75(2001) 48-55.

- (lxi) L. Mishra, R. Sinha and P. C. Pandey. Construction of Ru(II) polypyridyl based macrocycles; Synthesis, characterization, electrochemical, Li<sup>+</sup> binding, anti-tumour and anti-HIV properties. *Metal based drugs* 8 (2001) 113-117.
- (lxii) P. C. Pandey, S. Upadhyay, Ida Tiwari & S. Sharma. A Novel Ferrocene Encapsulated Palladium-Linked Ormosil based Electrocatalytic Biosensor; Role of Reactive Functional Group. *Electroanalysis* 13 (18) (2001) 1519-1527.
- (lxiii) P. C. Pandey & G. Singh. Tetraphenylborate doped polyaniline based novel pH sensor and solid-state urea biosensor. *Talanta* 55( 2001) 773-782 .
- (lxiv) P. C. Pandey & G. Singh. Electrochemical synthesis of polyaniline in proton free non-aqueous mediums; effects of solvents and dopants on microstructure. *J. Electrochem. Soc* 149( 2002) D51-D56.
- (lxv) P. C. Pandey, S. Upadhyay, & S. Sharma. TTF-TCNQ Functionalized Ormosil based Electrocatalytic Biosensor; A comparative study on Bioelectrocatalysis. *Electroanalysis* 15(2003) 425-429.
- (lxvi) P. C. Pandey & G. Singh. Electrochemical Synthesis of Tetraphenylborate Doped Polypyrrole; Dependence of Zinc ion sensing on the Polymeric-microstructure. *Sensors & Actuators* 85/3 (2002) 256 – 262.
- (lxvii) P. C. Pandey, G. Singh and P K Srivastava. Electrochemical synthesis of tetraphenylborate doped polypyrrole and its applications in designing a novel zinc and potassium ion sensor *ELECTROANAL* 14 (6): 427-432 APR 2002 R.
- (lxviii) R. Prakash, R C Srivastava and P. C. Pandey. Copper(II) ion sensor based on electropolymerized undoped conducting polymers. *J SOLID STATE ELECTR* 6 (3): 203-208 MAR 2002.
- (lxix) P. C. Pandey, S. Upadhyay and S. Sharma. Functionalized ormosil-based biosensor. Probing a Horseradish peroxidase catalyzed reactions. *J. Electrochem. Soc.* 150 (2003) H85-H92.
- (lxx) P. C. Pandey\*, S. Upadhyay, N. K. Shukla & S. Sharma. Studies on the Electrochemical Performance of Glucose Biosensor based on Ferrocene encapsulated ORMOSIL and Glucose Oxidase Modified Graphite Paste Electrode, *Biosensors & Bioelectronics* 10 (2003) 1257-1268.
- (lxxi) Sergi Morais, Prem C. Pandey, W. Chen and Ashok Mulchandani A novel bioassay for screening and quantification of Taxanes, *Chem. Commun.* 2003, 1188-1189.
- (lxxii) P C Pandey, S. Upadhyay and N K Shukla and S. Sharma. *Asian J. Phys.* 12(2003)40-60.
- (lxxiii) P C Pandey and A.P. Mishra, A novel potentiometric sensing of creatinine, *Sensors & Actuators B*, 99 (2004) 237 – 242.
- (lxxiv) P C Pandey and A.P. Mishra, Chemical sensors based on functionalized ormosil-modified electrodes—Role of ruthenium and palladium on the electrocatalysis of NADH and Ascorbic acid. *Sensors & Actuators B*, 102 (2004) 113-126.
- (lxxv) P C. Pandey, B. C. Upadhyay and A. K. Upadhyay “Differential selectivity in electrochemical oxidation of ascorbic acid and hydrogen peroxide at the surface of functionalized ormosil-modified electrode”, *ANAL CHIM ACTA* 523/2 (2004) 219-223.
- (lxxvi) P C. Pandey, S.. Upadhyay and B. C.. Upadhyay “Photo-electrochemistry of ormosil sandwiched D96N bacteriorhodopsin” *Journal of sol-gel science and technology* 33 (2005)51-58
- (lxxvii) P C. Pandey, S.. Upadhyay and B. C.. Upadhyay “Studies on ne ormosils derived from reactive alkoxy silane precursors as a function of hydrophobicity/hydrophilicity” *Journal of sol-gel science and technology*, 33 (2005)25-32.
- (lxxviii) Kanchan A. Joshi, Prem C. Pandey, Wilfred Chen and Ashok Mulchandani, ORMOSIL “Encapsulated pyrroloquinoline quinone-modified electrochemical sensor for thiols, *ELECTROANALYSIS*, 16 (2004)1938-1943.
- (lxxix) P. C. Pandey and B. C. Upadhyay, Role of palladium on the redox electrochemistry of ferrocene monocarboxylic acid encapsulated within ormosil network, *J. Molecules*, 10 (2005) 728-739.
- (lxxx) P. C. Pandey and B. C. Upadhyay, Studies on differential sensing of dopamine at the surface of chemically sensitized ormosil-modified electrodes, *Talanta*, 67/5 (2005) 997-1006.
- (lxxxii) Pandey PC, Bacteriorhodopsin - Novel biomolecule for nano devices. *ANALYTICA CHIMICA ACTA* 568 (1-2): 47-56 MAY 24 2006.
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