Curriculum Vitae of Prem C. Pandey, Department of Chemistry, IIT(BHU)

- Name: PREM CHANDRA PANDEY,
- Designation: Professor: 2004 onward; Professor (HAG) : 2012 onward, Department of Chemistry, Indian Institute of Technology, Banaras Hindu University:
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  https://sensors-vns.com/asset/pdf/Prof.%20P.%20C.%20Pandey.pdf
  Former Head, Department of Applied Chemistry, Institute of Technology BHU
- Date of Birth : 01/09/1958
- Name of the Institute : Indian Institute of Technology, Banaras Hindu University:
- Email: pcpandey.apc@iitbhu.ac.in
- Educational Qualification
  - M.Sc. Gorakhpur University now Deen Dayal University, 1980 First Division
  - Ph.D. Gorakhpur University 1986
- 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.
- Honoured by Controller General of Patents and Trademark, Intellectual Property of India, during 75th Republic day for filing highest patents of commercial interest in India
- https://orcid.org/0000-0002-6053-902X
- Professional Qualification
  - Lecturer in Analytical Chemistry, Banaras Hindu University, April 1988
  - Reader in Analytical Chemistry, Banaras Hindu University, April 1996
  - Professor of Chemistry, Institute of Technology, Banaras Hindu University, Sep.2004
  - Professor (HAG), Indian Institute of Technology, Banaras Hindu University, 2012 onward
- Post Doctoral Experience
  - Ecole des Mines , France 1989-1990
  - National Institute of Standard and Technology, 1992-1994
  - University of California, Riverside, 2002-2003
- Visiting Professor and Invited talks in abroad
  - Cranfield Institute of Technology, UK, 1989
  - Biotechnology Division, Cambridge University, UK 1989
  - Biosensors'94, New Orleans Florid 1994
  - National Institute of Standard and Technology, Gaithersburg, 1996
  - Chemical Sensor (IMCS-8) Basel Switzerland, 2000
  - Institute of Biosensorik, Munister, Germany 2000
  - Sol-Gel IGGS-12), Sydney, Australia2003
  - Visiting Professor, Institute of Microtechnology University of Neuchatel, 2007
  - MRS The Cocoa Beach Meeting, Daytona,Florida, 2007
  - University of Lyon, France 2007
  - MRS , The Cocoa Beach Meeting, Daytona,Florida, 2009
  - Visiting Professor, Moscow state University, Russia, 2009
  - A N Bach Research Center of Biotechnology Russian Acad. Sci. 2010
  - MRS , The Cocoa Beach Meeting, Daytona,Florida, 2011
  - PACRIM-10, San Diago, 2013
  - MRS Fall Meeting, Boston, 2014
  - MRS Fall Meeting, Boston, 2015
  - MRS Fall meeting Boston 2017

- International Society of Eectrochemistry, Tokyo, 2018

- Fomer Head, department of Applied Chemistry, Institute of Technology, BHU
- Scientific Credentials for the first time Globally :
  - Applications of polyindole in chemical sensor design,
  - experimental findings on the synthesis of hydrophobic and hydrophilic polyindole, siloxane- polyindole-gold nanoparticles nanodispersion.
  - Experimental evidence on the mechanistic aspect of electron transfer from redox biological molecules and organic metal electrode surface, TCNQ mediated Flow Injection Biosensor,
  - 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,
  - Functional trialkoxysilanes assisted synthesis of noble metal nanoparticles and its multimetallic analogues;- Innovation in establishing new methods of metal nanoparticles synthesis
  - 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
  - Organotrialkoxysilane mediated synthesis of functional monometallic, (AuNP, AgNP and PdNP) nanoparticles, Bimetallic (Pd-Au; Pd-Ag, Au-Ag) Nanoparticles and trimetallic (PdAu@AgNP) dispersible in both aqueous and non-aqueous medium
  - Organotrialkoxysilane mediated synthetic incorporation of noble metal nanoparticles and PdNi bimetallic nanoparticles within mesoporous silica nanoparticles.
  - Role of small organic moieties and 3-Aminopropyltrimethoxysilane in the synthesis of functional noble metal nanoparticles and its multimetallic analogues
  - Synthesis of functional Prussian blue nanoparticles as homogeneous and heterogeneous suspension.
  - Organic aldehyde/ketone and polyethylenimine mediated controlled synthesis of functional noble metal nanoparticles and synthetic incorporation of the same within silica nanoparticles.

- Scientific Credentials for the first time in India :
  - Design and mechanistic approach on the development of mediated and electrocatalytic biosensors/chemicals.
  - 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,
  - Photo-electrochemical behaviour of bacteriorhodopsin thin film together isolation and purification of purple membrane protein.
  - 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

- Technological credentials in Indian market:
    - Established company under name Sensors Tech Varanasi in 2000 for commercialization of our own scientific products, through both online and offline marketing,. And available at : http://www.sensors-vns-opc.com/ http://sensors-vns.com/
    - 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 or send mail to pcpandey.apc@iitbhu.ac.in for samples.
    - 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 innIndian market,
    - Commercialization of Pd-Ni NPs inserted mesoporous silica nanoparticles for potent heterogeneous catalysis for HER and controlling environmental pollution.
    - 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.
    - Commercialization of electrochemical ascorbic acid sensor and peroxide sensor in Indian market for the first time.
    - Commercialization of cheapest blood glucometer with due certification at NIB in Indian market: kindly visit: https://www.youtube.com/watch?v=8eJnuaAGAR8
    - 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
    - pH sensor : https://youtu.be/_QKpBCaxs30
    - Final Water Pollutants sensor https://youtu.be/t1zJb2VaQk8
    - Clinical Diagnostics https://youtu.be/rOS421MxGJc
    - Non invasive Clinical sensor : https://youtu.be/JpOqN38AZtY
    - Glucometer : https://youtu.be/SsmJn66_Irk
    - Oxygen Sensor: https://youtu.be/fGHATw82yJ0

- Scientific innovation available in You tube.
    - https://studio.youtube.com/channel/UCb7rZ26MzeP9m_aKzvC1DQ/videos/upload?filter=%5B%5D&sort=%7B%22columnType%22%3A%22date%22%2C%22sortOrder%22%3A%22DESCENDING%22%7D
    - Blood Glucose Sensor : https://www.youtube.com/watch?v=Y6na0NRvOJE,
    - Solid-state pH sensor : https://youtu.be/jnkBb2lSomE ,
    - Organotrialkoxysilane mediated synthesis of monometallic nanoparticles: https://youtu.be/kZDvLKmOjs , 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/Q3qtHjpMyxA
- Clinical assay based on enzyme immobilized silica-Alginate beads: https://youtu.be/Jb8eJUNUXZk ,
- Screen Printed Electrodes: https://youtu.be/2KEc_CDoNkw
- Nanomaterials for hydrogen production : https://youtu.be/1Jzy9NghAdo , Solid-state Chloride ion sensor : https://youtu.be/wZzk4hJfAN0
- Catalytic degradation of Rhodamine B present in real Textile sample, : https://youtu.be/WQPrBKgJ1xc
- Urea Biosensor : https://youtu.be/SN2q8A08IKA
- Purple membrane protein : https://youtu.be/Ti3A1aqbm8M
- Oxygen Sensor : https://youtu.be/DhrJJ3yLNr4
- Microprocessor controlled pH sensor : https://youtube.com/shorts/aLt1rUC9wv4
- Methylene blue degradation by Ag NPs : https://youtu.be/BGkmsqnlQuo
- Cheapest Blood Glucometer : https://youtu.be/8eJnuaAGAR8
- Products of IITBHU Innovated in the lab of Prof P C Pandey of Chemistry Department : https://youtu.be/ljHm34HAc3k
- Screen Printed Electrodes based reference electrode-A product of IIT(BHU) : https://youtu.be/bsgaeb7MYQc
- Eletrochemical Detector A product of IITBHU: https://youtu.be/Q3qtHjpMyxA
- Ascorbic acid sensor: https://youtu.be/zeWCsLlpNKU
- Hydrogen peroxide sensor: https://youtu.be/2u5sVQCQMO0
- Screen Printed Electrodes: https://youtu.be/2KEc_CDoNkw
- Organotrialkoxysilane mediated synthesis of palladium nanoparticles : https://youtu.be/GLI3q3ai2OE
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- List of Publications.

- 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.
- 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.
- R. P. Rastogi & P C Pandey,Experimental tests of thermodynamic theory of Dissolution potential Indian J. Chem. 24A (1985) 449-454.
- P C Pandey, Measurement of Dissolution potential using rotating electrode Indian J. Chem. 25A (1986) 807-809.
- 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.
- R. P. Rastogi., P C Pandey, & A. K Tripathi Thermochemistry of Dissolution, & Precipitation Potentials Indian J. Chem. , 25A (1986) 803-806.
- P. C. Pandey and A. P. Mishra, Conducting polymer coated enzyme microsensor for urea Analyst (Lond.) 113 (1988) 329-331.
- P. C. Pandey, A new Conducting polymer coated glucose sensor for urea J. Chem. Soc. Faraday Trans. I. 84 (1988) 2259-2265.

- 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) 461-474
- P. C. Pandey, C. Tran-Minh, & F. Lantreibecq. Electrochemical Studies on TetrathiafulvaleneTetracyanoquinodimethane modified Acetylcholine/Choline sensor Appl. Biochem. Biotech. 31 (1991) 145-158.
- 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.
- 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.
- P. C. Pandey, & V. Pandey. Ion-Selective electrode based on dinitrophenyl-alanine conjugate. Indian J. Chem.. 31A (1992) 639-641.
- 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.
- 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.
- P. C. Pandey. Membrane electrode as biosensor. Bulletin of Electrochemistry 8 (1992) 212-221.
- C. Tran-Minh & P. C. Pandey, Biosensors and Toxin detection. Bulletin of Electrochemistry 8 (1992)199-204.
- P. C. Pandey, V. Pandey & S. Mehta. A glucose sensor based on a graphite paste electrode. Indian J. Chem. 32A (1993) 667-672.
- 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.
- 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.
- P. C. Pandey & H. H. Weetall. Application of photochemical reaction in electrochemical detection of DNA Intercalation. Anal. Chem. 66 (1994) 1236-1241.
- 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.
- P. C. Pandey, Tetracyanoquinodimethane mediated flow-injection analysis sensor for NADH coupled with dehydrogenase enzymes Anal. Biochem. 221 (1994) 392-396.
- 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.
- 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.
- 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.
- 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.

- Y. B. Tewari, M. M. Sanchez, P. C. Pandey, & R. N. Goldberg. Thermodynamics of the hydrolysisnof N-Acetyl-Phenylalanine ethyl ester in water and in organic solvents. J. Phys. Chem. 99 (1995) 1594-1601.
- 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.
- 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.
- P. C. Pandey , S. Singh, B. Upadhyay, H. H. Weetall & P. K. Chen. Reversal in he kinetics of Mstate decay of D96N mutant Bacteriorhodopsin. Sensors & Actuators. B35-36(1996) 270-276.
- 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.
- 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.
- P. C. Pandey, S. Upadhyay & B. Upadhyay. Peroxide bisensor and mediated electrochemical regeneration of peroxidase. Anal. Biochem. 252 (1997) 136-142.
- P. C. Pandey, An evanescent wave sensor for the detection of nitric oxide Indian J. Chem. Technol.. 4(1998) 402-404.5
- P. C. Pandey, S. Upadhyay, & H. C. Pathak. Ethanol Bisensor and electrochemical regeneration of NADH. Anal. Biochem. 260 (1998) 195-203.
- 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.
- 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.
- P. C. Pandey & R. Prakash. Electrochemical synthesis of polyindole-a study for rechargeable battery application. J. Electrochem. Soc. 145(1998) 999-1003.
- 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.
- 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.
- P. C. Pandey. Copper (II) ion sensor based on electropolymerized undoped-polyindole modified electrode. Sensors& Actuators. B54(1999) 210-214.
- 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.
- 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.
- 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.
- P. C. Pandey. Mediated Bioelectrochemistry within graphite paste electrode Trans. Indian . Inst. met. 51(1998) 319-325.

- 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.
- P. C. Pandey, New composite sol-gel glasses and their applications in sensors construction. ABSTR PAP AM CHEM. SOC., 217 (1999) U791, Mar 21.
- 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.
- 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.
- 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.
- P. C. Pandey , R. Prakash, G. Singh and V. S. TripathiStudies on polycarbazole . modified electrode and its application in the construction of solid-state ionselective electrode. J. Appl. Polymer Sci., 75(2000) 1749-1759.
- P. C. Pandey , S. Upadhyay , H. C. Pathak, C. M. D. Pandey & Ida Tiwari.bAcetylthiocholine/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.
- P. C. Pandey. A review on ormosil based biomaterial and its application in sensor design. J. Indian Inst. Sci., 79(1999)415-430.
- P. C. Pandey , S. Upadhyay, R. Prakash, G. Singh, R. C. Srivastava and P. K. Seth, A new solidstate pH sensor and its application in the construction of all solid-state urea biosensor. Electroanalysis 12 (2000) 1251-1258.
- P. C. Pandey & S. Upadhyay. An electrocatalytic biosensor for glucose. Sensors & Actuators 78(2001) 148-155.
- P. C. Pandey , S. Upadhyay, Ida Tiwari & V. S. Tripathi. An ormosil based Ethanol Biosensor. Anal. Biochem. 288 (2000)39-45.
- P. C. Pandey. An ormosil electrocatalytic biosensor for glucose/ethanol based dehydrogenase enzyme. Electroanalysis 13 (8) (2001) 820-826.
- 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.
- P. C. Pandey , S. Upadhyay, Ida Tiwari & V. S. Tripathi. An electrocatalytic dopamine biosensor. Sensors & Actuators 75(2001) 48-55.6
- L. Mishra, R. Sinha and P. C. Pandey. Construction of Ru(II) polypyridyl based macrocycles; Synthesis, characterization, electrochemical, Li+ binding, anti-tumour and anti-HIV properties. Metal based drugs 8 (2001) 113-117.
- P. C. Pandey , S. Upadhyay, Ida Tiwari & S. Sharma. A Novel Ferrocene Encapsulated PalladiumLinked Ormosil based Electrocatalytic Biosensor; Role of Reactive Functional Group. Electroanalysis 13 (18) (2001) 1519-1527.
- P. C. Pandey & G. Singh. Tetraphenylborate doped polyaniline based novel pH sensor and solidstate urea biosensor. Talanta 55(2001) 773-782 .
- 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.

- P. C. Pandey , S. Upadhyay, & S. Sharma. TTF-TCNQ Functionalized Ormosil based Electrocatalytic Biosensor; A comparative study on Bioelectrocatalysis. Electroanalysis 15(2003) 425-429.
- 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.
- 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.
- 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.
- 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.
- 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.
- Sergi Morais, Prem C. Pandey, W. Chen and Ashok Mulchandani A novel bioassay for screening andquantification of Taxanes, Chem. Commun. 2003, 1188-1189.
- P C Pandey, S. Upadhyay and N K Shukla and S. Sharma. Asian J. Phys. 12(2003)40-60.
- P C Pandey and A.P. Mishra, A novel potentiometric sensing of creatinine, Sensors & Actuators B, 99 (2004) 237 – 242.
- P C Pandey and A.P. Mishra, Chemical sensors based on fuctionalized ormosil-modified electrodesRole of ruthenium and palladium on the electrocatalysis of NADH and Ascorbic acid. Sensors & Actuators B, 102 (2004) 113-126.
- 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.
- 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
- P C. Pandey, S.. Upadhyay and B. C.. Upadhyay “Studies on ne omosils derived from reactive alkoxysilane precursors as a function of hydrophobicity/hydrophilicity” Journal of sol-gel science and technology, 33 (2005)25-32.
- 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.
- P. C. Pandey and B. C. Upadyay, Role of palladium on the redox electrochemistry offerrocene monocarboxylic acid encapsulated within ormosil network, J. Molecules, 10 (2005) 728-739.
- P. C. Pandey and B. C. Upadyay, Studies on differential sensing of dopamine at the surfaceof chemically sensitized ormosil-modified electrodes, Talanta, 67/5 (2005) 997-1006.
- Pandey PC, Bacteriorhodopsin - Novel biomolecule for nano devices. ANALYTICA CHIMICA ACTA 568 (1-2): 47-56 MAY 24 2006.
- P.C. Pandey, B. Singh, R.C. Boro and C.R. Suri, Chemically sensitized ormosilmodifiedelectrodes—Studies on the enhancement of selectivity in electrochemical oxidation of peroxide, Sensors & Actuators B, 122 (2007)30-41.

- P. C. Pandey, Prussian Blue nanoparticle envapsulated withing ormosil network,Cer.Engg.Sci.Proc. 28 (2007) 200-212.
- P. C. Pandey, Studies on polypyrrole modified electrode, case of pH sensing network, J.Appl. Polymer Sci, 107 (2007) 2594 – 2599.
- V. Singh, S. Mohan, G.Singh, P.C. Pandey and R. Prakash, Synthesis and characterization of polyaniline–carboxylated PVC composites: Application in development of ammonia sensor, Sensors & Actuators B, 132(2008)99-103.
- P C Pandey and b. singh, "Library of Electrocatalytic sites in nanostructureddomain, Biosensors & Bioelectronics, 24 (2008) 848-858.
- P.C . Pandey, Dheeraj S. Chauhan, " Novel Nano-Material for Opto- Electrochemical Application"Series: Ceramic Engineering and Science Proceedings, 2009, ch 16, DOI: 10.1002/9780470456248.ch16
- Dheeraj S. Chauhan, Prem C. Pandey, IEEE SENSORS 2009 Conference, 978-1-4244-5335-1/09/$26.00©2009 IEEE,1135-113.
- Vandana Singh, Dheeraj S. Chauhan, Prem C. Pandey*, A comparative study on electrochemical synthesis of carboxylic acid substituted indoles and their application in selective oxidation of dopamine, , IEEE SENSORS 2009 Conference, 978-1-4244-5335-1/09/$26.00©2009 IEEE, 1140- 1145.
- P C Pandey, V. Singh and D S Chauhan "Poly(indole-6-carboxylic acid) and tetracyanoquinodimethane-modified electrode for selective oxidation of dopamine" Electrochimical Acta, 54 (2009)2256-2260.
- P C Pandey and V. singh "Electrochemical polymerization of aniline over tetracyanoquinodimethane encapsulated ormosil matrix: application in the electrocatalytic oxidation of ascorbic acid and acetylthiocholine" Analyst,136(2011)1472.
- P C Pandey and Arvind Mishra "Studies on the Synthesis and Characterization of Pd-TiO2-SiO2 Nanocomposite for Electroanalytical Applications Electroanalysis" Electroanalysis, 23 (2011)1991
- P. C Pandey and D S Chauhan, 3-Glycidoxypropyltrimethoxysilane mediated in situ synthesis of noble metal nanoparticles: application to hydrogen peroxide sensing. Analyst, 137(2012)376-385.
- P. C Pandey and D S Chauhan "Calcium ion-sensor based on polyindolecamphorsulfonic acid composite" J.Appl. Poly.Sci., 125(2012)2993-2999.
- P. C Pandey, D S Chauhan and V. Singh, Effect of processable polyindole and nanostructured domains on selective sensing of dopamine, Material Science and Engineering: C, 32 (2012)1-11.
- P.C.Pandey and Ashish K Pandey, Size-dependence enhancement in electrocatalytic activity of NiHCF-goldnanocomposite: potential application in electrochemical sensing, Analyst, 137(2012)3306-3313.
- P.C.Pandey D.S.Chauhan and Ashish K Pandey Nanocomposite of Prussian blue based sensor for lcysteine: Synergetic effect of nanostructured gold and palladium on electrocatalysis, Electrochimical Acta, 74 (2012)23-31.
- P.C.Pandey D.S.Chauhan and Ashish K Pandey Role of nanostructured networks as analytical tools for biological systems. Frontiers in Bioscience-Elite / Articles / Volume 5 / Issue 2 /10.2741/E644.
- P.C.Pandey and Ashish K Pandey, Electrochemical Behavior of Hydrogen Peroxide at Nanocomposite of Prussian Blue with Palladium of Variable Nanogeometery Modified Electrode, J.Electrochem Soc., 159(2012)G128-G136.

- P. C. Pandey and Ashsish Pandey. Size-dependence enhancement in electrocatalytic activity of NiHCFgoldnanocomposite: potential application in electrochemical sensing, Analyst, 137(2012)3306-3313.
- P.C.Pandey and Ashish K Pandey, SurfaceModification Using Prussian Blue–Gold (I)–Palladium Nanocomposite: Towards Bioelectrocatalytic Probing of Hydrogen Peroxide, BioNanoScience, 2(2012)127-134.
- P.C.Pandey, Richa Singh and Digvijay K Pandey, "Extraction and Purification of Purple Membrane for Photochromic Thin Film Development: Application in Photoelectrochemical Investigation" Appl. Biochem. Biotechnol.168(2012)138-146.
- P.C.Pandey D.S.Chauhan and Ashish K Pandey "Novel synthesis of Prussian blue nanoparticles and nanocomposite sol: Electro-analytical application in hydrogen peroxide sensing" Electrochimica Acta, 87 (2013)1-8.
- A. Narayanan, P C. Pandey. Studies on the Competitive Interaction of Glutathione with 3-Aminopropyl Trimethoxysilane-Stabilized Gold Nanoparticles. In: Marquis F. (eds) Proceedings of the 8th Pacific Rim International Congress on Advanced Materials and Processing. Springer, Cham.https://doi.org/10.1007/978-3-319-48764-9_200,
- P.C.Pandey and Ashish K Pandey, Cyclohexanone and 3- Aminopropltrimethoxysilane mediated controlled synthesis of mixed nickel-iron hexacyanoferrate nanosol for selective sensing of glutathione and hydrogen peroxide, Analyst, 138(2013)952-968.
- P C Pandey* and Ashish K Pandey, Electrochemical sensing of dopamine and pyrogallol on mixed analogue of Prussian blue nanoparticles modified electrodes – role of transition metal on the electrocatalysis and peroxidase mimetic activity, Electrochimica Acta, 109 (2013)536-545 .
- P C Pandey and Ashish K Pandey, "Cyclohexanone and 3-aminopropyltrimethoxysilane mediated controlled synthesis of mixed nickel-iron hexacyanoferrate nanosol for selective sensing of glutathione and hydrogen peroxide"Analyst, 138(2013)952-959.
- P. C Pandey, D S Chauhan, and V. Singh , "Role of nanostructured networks as analytical tools for biological systems" Frontiers in Bioscience, 2013, 5:622-642], DOI: 10.2741/E644,
- P. C. Pandey, and Gunjan Pandey "Tunable functionality and nanogeometry in tetrahydrofuran hydroperoxide and 3-Aminopropyl-trimethoxysilane mediated synthesis of gold nano-particles; Functional application in Glutathione sensing, J. Mater. Chem. B, 2(2014))3383-3390.
- P C. Pandey*, A. K. Pandey and Gunjan Pandey, Functionalized alkoxysilane mediated controlled synthesis of noble metal nanoparticles dispersible inaqueous and non-aqueous medium" J. Nanosci. Nanotechnol., , 14 (2014) 6606-6613.
- P C Pandey*A rvind Prakash and Ashish K Pandey, Studies on electrochemical and peroxidase mimetic behavior of Prussian blue nanoparticles in presence of Pd-WO3-SiO2 Nanocomposite; bioelectrocatalytic sensing of H2O2 , Electrochimica Acta, 127 (2014)132-137.
- P C Pandey and Ashish K Pandey, Tetrahydrofuran hydroperoxide mediated synthesis of Prussian blue nanoparticles: a study of their electrocatalytic activity and intrinsic peroxidase-like behavior, Electrochimica Acta, 125 (2014)465-472.
- P C Pandey and Richa Singh, Tetrahydrofuran hydroperoxide and 3-Aminopropyltrimethoxysilanemediated controlled synthesis of Pd, Pd-Au, Au-Pd nanoparticles: Role of Palladium nanoparticles on the redox electrochemistry of ferrocenemonocarboxylic acid, Electrochimica Acta, 138 (2014)163-173.

- P.C. Pandey and Arvind Prakash, Electrochemistry of redox mediators encapsulated within organically modified silicate matrix in the presence of TiO2 and palladium nanoparticles; application on electroanalysis of ascorbic acid, J. Electroanal.Chem., 729 (2014) 95–102.
- P C Pandey, D. Pandey and G. Pandey, 3-Aminopropyltrimethoxysialne and organic electron donors mediated synthesis of functional gold nanoparticles and their bioanalytical applications, RSC Advances, 4 (2014) 60563-60573.
- P. C. Pandey, Ashish K. Pandey. Functionalized Alkoxysilane Mediated Synthesis of Nano-Materials and their Application, Ceramic Transactions Series, https://doi.org/10.1002/9781118771587.ch15.
- P C Pandey and Richa Singh,. Controlled Synthesis of Functional Silver Nanoparticles Dispersible in Aqueous and Non-Aqueous Medium," J. Nanosci. Nanotechnol., 15 (2015) 5749-5759.
- P C Pandey and Richa Singh,. Controlled Synthesis of Pd, Pd-Au, nanoparticles; effects of organic amine and silanol groups on the morphology and polycrystallinity of nanomaterials, RSC Advances, 5 (2015) 10964-10973.
- P C Pandey, Richa Singh, and Yashawa Pandey. Controlled synthesis of functional Ag, Ag-Au/AuAg nanoparticles and its nanocomposite with Prussian blue for bioanalytical applications, RSC Advances, 5 (2015) 49671-49679.
- P C Pandey, and G. Pandey. Role of organic functionalities linked to alkoxysilane precursors in nanomaterials synthesis and their biomedical applications. MRS Online Proceedings Library 1719, 11–20 (2014). https://doi.org/10.1557/opl.2015.635
- Ishwar Das, Namita Rani Agrawal, Avinash Kumar Pandey,1 Rinki Choudhary, P. C. Pandey, "Controlled Electrochemical Synthesis of Conductive Nanopolypyrrole and Its Application in the Design of a Solid-State Ion Sensor" J. Appl. Polym. Sci. 132 (2015)12777-12786.
- P C Pandey, and G. Pandey, Novel Syntesis of gold nanoparticles mediated by polyethylenimine and organic reducing agents for Biomedical applications; Adv. Sci. Eng. Med. 8, 43-48 (2016).
- P C Pandey, and S. Shukla,2-(3-, 4-Epoxycyclohexyl)ethytriethoxysilane intervened synthesis of functional PdNPs and heterometallic nanocrystallite; deployed into catalysis, Adv. Sci. Eng. Med. 8, 271-283 (2016).
- P C. Pandey. Gunjan Pandey, J. Haider and Govind Pandey, Role of organic carbonyl moiety and 3- aminopropyltrimethoxysilane on the synthesis of gold nanoparticles specific to ph and salt tolerance" J. Nanosci. Nanotechnol., , 16 (2016) 6155-6163.
- P C Pandey, G. Pandey and Roger J. Narayan, controlled Syntesis of polyethylenimine coated gold nanoparticles; Application in glutathione sensing and nucleotide delivery; J. Biomed. Mater. Res. Part B, 105B (2017) 1191-1199.9
- P. C. Pandey, Shubhangi Shukla and Yashashwa Pandey, 3-Aminopropyltrimethoxysilane and graphene oxide/reduced graphene oxide-induced generation of gold nanoparticles and their nanocomposites electrocatalytic and kinetic activity, RSC Advances, 56(2015) 80549-805569.
- P. C. Pandeyand Gunjan Pandey, One-pot two-step rapid synthesis of 3-aminopropyltrimethoxysilane mediated highly atalytic Ag@(PdAu) trmetallic nanoparticles, Catal.Sci.Technol., 6(2016) 3911-3917.
- P C Pandey and D. Pandey, Tetrahydrofuran and hydrogen peroxide mediated conversion of potassium hexacyanoferrate into Prussian blue nanoparticles; spplications to hydrogen peroxide sensing. Electrochimica Acta, 190 (2016)758-765.
- P C Pandey and D. Pandey, Novel Synthesis of nickel-iron hexacyanoferrate nanoparticles and its application in electrochemical sensing. Electroanal.Chem., 763(2016) 63–70.

- P.C. Pandey , D. Panday, Ashish Kumar Pandey, Polyethylenimine mediated synthesis of copperiron and nickel-iron hexacyanoferrate nanoparticles and their electroanalytical applications, Electroanal.Chem., 780(2016)90-102..
- Prem C. Pandey, Govind Pandey. Synthesis of gold nanoparticles specific to pH- and salt-tolerance for biomedical applications. MRS Advances 1, 729–735 (2016). https://doi.org/10.1557/adv.2016.146
- P. C. Pandey, and G. Pandey, Synthesis of gold nanoparticles resistant to pH and salt for biomedical applications, J. Mater. Res. 31(2016) 3313-3321.
- P. C. Pandey, and G. Pandey. Synthesis and characterization of bimetallic noble metal nanoparticles for biomedical applications. MRS Advances , Volume 1 , Issue 11: Nanomaterials and Synthesis , 2016 , pp. 681 - 691 DOI:https://doi.org/10.1557/adv.2016.47.
- P C Pandey, G. Pandey and Roger J. Narayan. Polyethylenimine-mediated synthetic insertion of gold nanoparticles into mesoporous silica nanoparticles for drug loading and biocatalysis. Biointerphases 12, 011005 (2017); https://doi.org/10.1116/1.4979200.
- P C.Pandey, G. Pandey, A. Walcarius. 3-Aminopropyltrimethoxysilane mediated solvent induced synthesis of gold nanoparticles for biomedical applications. Materials Science and Engineering: C Volume 79, 1 October 2017, Pages 45-54.
- P. C. Pandey, S. Shukla, Y. Pandey. Mesoporous silica beads encapsulated with functionalized palladium nanocrystallites: Novel catalyst for selective hydrogen evolution. J.Mater.Res. 32(2017)3574-3584.
- P. C. Pandey, S. Shukla. Solvent dependent fabrication of bifunctional nanoparticles and nanostructured thin films by self assembly of organosilanes. J.Sol-Gel Sci.Technol. 86(2018)650- 663.
- P. C. Pandey, S. Singh, Shilpa N Sawant. Functional alkoxysilane mediated controlled synthesis of Prussian blue nanoparticles, enablin g silica alginate bead development; nanomaterial for selective electrochemical sensing. Electrochimica Acta, 287 (2018)37-48.
- P.C. Pandey , S. Singh, A. Walcarius, Palladium-Prussian blue nanoparticles; as homogeneous and heterogeneous electrocatalysts Electroanal.Chem., 780(2018)747-754.
- A. K. Pandey, P. C. Pandey, N. R. Agrawal, I. Das. Synthesis and characterization of dendritic polypyrrole silver nanocomposite and its application as a new urea biosensor. J. App.Polym.Sci. 135(2018)45705-457016
- P C Pandey and G. Pandey. 3-Aminopropyltrimethoxysilane Mediated Controlled Synthesis of Functional Noble Metal Nanoparticles and Its Multi- Metallic Analogues in the Presence of Small Organic Reducing Agents for Selective Application. MRS Advances 3, 789–801 (2018). https://doi.org/10.1557/adv.2018.93.
- A. K. Mishra, N.R. Agrawal, I. Das, Ishwar, P. C. Pandey, Development of dendritic growth patterns of polythiophene copper composite during electropolymerization: Characterization and bidirectional sensing applications. Indian Journal of Chemical Technology Vol 25, No 5 (2018)421-430.
- P. C. Pandey, S. Shukla, S. A. Skoog, R. D. Boehm, R. J. Narayan. Current Advancements in Transdermal Biosensing and Targeted Drug Delivery. Sensors 2019, 19(5), 1028; https://doi.org/10.3390/
- S. Singh, P.C.Pandey, Synthesis and application of functional Prussian blue nanoparticles for toxic dye degradation Journal of Environmental Chemical Engineering. Volume 8, Issue 3, June 2020, 103753 s19051028.

- P C Pandey, G. Pandey and Roger J. Narayan, Microneedle-based transdermal electrochemical biosensors based on Prussian blue-gold nanohybrid modified screen printed electrodes, J Biomed Mater Res. 2021;109:33–49, DOI: 10.1002/jbm.b.34678.10
- P C Pandey, G. Pandey and Roger J. Narayan Solid-state ion sensor for on-chip determination of potassium ion in body fluid, Med Devices Sens. 2020;00:e10110, https://doi.org/10.1002/mds3.10110.
- A. K Tiwari, G. Pandey, M. Gupta, Roger J. Narayan. P C Pandey. Molecular weight of polyethylenimine-dependent transfusion and selective antimicrobial activity of functional silver nanoparticles, Journal of Materials Research , 35 (2020)2405- 2415, DOI: 10.1557/jmr.2020.183.
- P C Pandey, S. Shukla, G. Pandey and Roger J. Narayan Organotrialkoxysilane-mediated controlled synthesis of noble metal nanoparticles and their impact on selective fluorescence enhancement and quenching, J. Vac. Sci. Technol. B 38, 052801 (2020); https://doi.org/10.1116/6.0000334.
- P C Pandey, N. Katiyal, G. Pandey and Roger J. Narayan Synthesis of self-assembled siloxane–polyindole–gold nanoparticle polymeric nanofluid for biomedical membranes, MRS Communications 10, 482–486 (2020). https://doi.org/10.1557/mrc.2020.50.
- P C Pandey, A. K. Tiwari, G. Pandey and Roger J. Narayan Effect of the Organic Functionality on the Synthesis and Antimicrobial Activity of Silver Nanoparticles, Nano LIFE 10, No. 3 (2020) 2050002, DOI: 10.1142/S1793984420500026.
- P C Pandey, G. Pandey and Roger J. Narayan. Minimally Invasive Platforms in Biosensing, Frontiers in Bioengineering and Biotechnology August 2020 | Volume 8 | Article 894, doi: 10.3389/fbioe.2020.00894.
- P C Pandey, S. Shukla, G. Pandey and Roger J. Narayan.Organotrialkoxysilane-mediated synthesis of functional noble metal nanoparticles and their bimetallic for electrochemical recognition of L-tryptophan, MRS Advances 5, 2429–2444 (2020). https://doi.org/10.1557/adv.2020.305.
- P C Pandey, G. Pandey and Roger J. Narayan. Polyethylenimine-mediated controlled synthesis of Prussian blue-gold nanohybrids for biomedical applicationsJ Biomater Appl, 36, 26-35(2021). https://doi.org/10.1177/0885328220975575
- P C Pandey, P. Pandey Synthesis and Applications of Processable Prussian Blue Nanoparticles. Nanoarchitectonics [Internet]. 2020Jul.17 [cited 2021May13];2(1):1-17. Available from: http://ojs.wiserpub.com/index.php/NAT/article/view/443
- P C Pandey, M.D.Mitra, A. K.Tiwari, S. Singh Synthetic incorporation of palladium-nickel bimetallic nanoparticles within mesoporous silica/silica Journal of Environmental Science and Health, Part A, DOI: 10.1080/10934529.2021.1886793.
- P C Pandey, G. Pandey and Roger J. Narayan. Nanostructured diamond for biomedical applications, Nanotechnology 32 (2021) 132001(22pp),
- P C Pandey, M.D.Mitra, A.K Pandey and R. J. Narayan. Organotrialkoxysilane Mediated Rapid and Controlled Synthesis Metal Nanoparticles in Both Homogeneous and Heterogeneous Phase and heir Catalytic Applications, MRS Advances 6, 43–53 (2021). https://doi.org/10.1557/s43580-021-00011-6
- P C Pandey, M.D.Mitra, S. Shukla and R. J. Narayan Organotrialkoxysilane-Functionalized Noble Metal Monometallic, Bimetallic, and Trimetallic Nanoparticle Mediated Non-Enzymatic Sensing ofGlucose by Resonance Rayleigh Scattering. Biosensors 2021, 11, 122. https://doi.org/10.3390/bios11040122.

- P.C. Pandey, M.D.Mitra, S. Shukla and R. J. Narayan Organotrialkoxysilane-functionalized mesoporousPd–Ni nanocatalyst for selective hydrazine decomposition and sensing. MRS Communications(2021). https://doi.org/10.1557/s43579-021-00018-y
- P.C. Pandey, M.D.Mitra, S. Shukla and R. J. Narayan. Organotrialkoxysilane-mediated synthesis of Ni–Pd nanocatalysts at lower concentrations of noble metal: Catalysts for faster hydrogen evolution kinetics. J. Vac. Sci. Technol. B 39, 032802 (2021); https://doi.org/10.1116/6.0000881.
- P.C. Pandey, S. Shukla and R. J. Narayan. Organotrialkoxysilane-Functionalized Prussian Blue Nanoparticles-Mediated Fluorescence Sensing of Arsenic(III). Nanomaterials 2021, 11, 1145. https://doi.org/10.3390/nano11051145
- P.C. Pandey, H. P. Yadav, S. Shukla and R. J. Narayan, Electrochemical Sensing and Removal of Cesium from Water Using Prussian Blue Nanoparticle-Modified Screen-Printed Electrodes, Chemosensors 2021, 9, 253.https://doi.org/10.3390/chemosensors9090253
- S. Shukla, P. C. Pandey and R. J. Narayan, Tunable Quantum Photoinitiators for Radical Photopolymerization, Polymers 2021, 13, 2694. https://doi.org/10.3390/polym13162694.
- A. K. Tiwari, A. Mishra, G. Pandey, M. K. Gupta, P. C. Pandey, Nanotechnology: A Potential Weapon to Fight against COVID-19, Part. Part. Syst. Charact. 2021, 2100159.
- A K Tiwari, M K Gupta · G Pandey · S Pandey4 · P C. Pandey, Amine-Functionalized Silver Nanoparticles: A PotentialAntiviral-Coating Material with Trap and Kill Efficiency to Combat Viral Dissemination (COVID-19), Biomedical Materials & Devices (2022). https://doi.org/10.1007/s44174-022-00044-x
- A K Tiwari, M K Gupta · G Pandey · R. Tilak · P C. Pandey, R J Narayan, Size and Zeta Potential Clicked Germination Attenuation and Anti-Sporangiospores Activity of PEI-Functionalized Silver Nanoparticles against COVID-19 Associated Mucorales(Rhizopus arrhizus), Nanomaterials 2022, 12, 2235. https://doi.org/10.3390/nano12132235
- P C Pandey, M.D.Mitra, Functional trialkoxysilane mediated controlled synthesis of fluorescent gold nanoparticles and fluoremetric sensing of dopamine, Optical Materials, 132, 2022, 112810, https://doi.org/10.1016/j.optmat.2022.112810
- A K Tiwari, M K Gupta · G Pandey , P C. Pandey, Siloxane-Silver Nanofluid as Potential Self-Assembling Disinfectant: A Preliminary Study on the Role of Functional Alkoxysilanes, Nanoarchitectonics, 4 Issue 1|2023| http://ojs.wiserpub.com/index.php/NAT/
- P C Pandey et al, Bone tissue engineering application of 3-aminopropyltrimethoxysilane functionalized Au/Ag bimetallic nanoparticles incorporated hydroxyapatite bioceramic Published: 17 August 2023 in Journal of Materials Research, https://doi.org/10.1557/s43578-023-01132-4
- P C Pandey et al Synthesis of vancomycin functionalized fluorescent gold nanoparticles and selective sensing of mercury (II), Published: 01 August 2023 in Frontiers in Chemistry, https://doi.org/10.3389/fchem.2023.1238631
- P C Pandey, Properties, Applications and Toxicities of Organotrialkoxysilane-Derived Functional Metal Nanoparticles and Their Multimetallic Analogues, Published: 02 March 2023 in Materials, https://doi.org/10.3390/ma16052052
- P C Pandey et al, A whole cell fluorescence quenching-based approach for the investigation of polyethyleneimine functionalized silver nanoparticles interaction with Candida albicans, Published: 28 February 2023 in Frontiers in Microbiology, https://doi.org/10.3389/fmicb.2023.1131122
- P C Pandey et al, Synthesis and in vitro antibacterial behavior of curcumin-conjugated gold nanoparticles, Published: 27 February 2023 in Journal of Materials Chemistry B, https://doi.org/10.1039/d2tb02256g

- C. Singh, K singh and P C Pandey, Synthesis and Properties of Organotrialkoxysilane Functionalized Palladium-Cobalt Heterogeneous Catalysts for Oxygen Evolution Reaction, Russian Journal of Electrochemistry, 59. 604-615(2023). https://doi.org/10.1134/s1023193523080074
- P C Pandey et al, Prussian blue nanoparticles–mediated sensing and removal of ^{137}Cs, Published: 30 August 2023 in Frontiers in Environmental Science, https://doi.org/10.3389/fenvs.2023.1230983
- P C Pandey et al, Organotrialkoxysilanes Mediate the Syntheses of Fluorescent Gold Nanoparticles and TiO2-Supported Ag−Ni Nanocatalysts for Selective Hydrazine Sensing and Decomposition, Published: 25 October 2023 in ChemistrySelect, https://doi.org/10.1002/slct.202302161
- P C Pandey et al, Aggregation-Resistant, Turn-On-Off Fluorometric Sensing of Glutathione and Nickel (II) Using Vancomycin-Conjugated Gold Nanoparticles, Published: 16 January 2024 in Biosensors, https://doi.org/10.3390/bios14010049
- P C Pandey et al, Molecular Weights of Polyethyleneimine-Dependent Physicochemical Tuning of Gold Nanoparticles and FRET-Based Turn-On Sensing of Polymyxin B, Published: 27 March 2024 in Sensors, https://doi.org/10.3390/s24072169
- P C Pandey et al, Studies on porous nanostructured Palladium-Cobalt-Silica as Heterogeneous Catalysts for Oxygen Evolution Reaction, Russian Journal of Electrochemistry, 2024, in press
- P C Pandey et al. Synthesis and Applications of Clove Essential Oil Functionalized Gold Nanoparticles, Frontiers in Bioscience-Elite, 2024 in Press

- List of Patents
  - P C Pandey, A process for TCNQ mediated glucose biosensor U. S. Patent, 5, 378, 332, 1995
  - P C Pandey,An amperometric flow injection analysis biosensor for glucose based on graphite paste modified with tetracyanoquinodimethane" PCT Patent, WO1994024548. A1.
  - P C Pandey, Novel solid-state Biosensor and a process for producing the same, Indian Patent 191792, 2002.
  - P C Pandey A Biosensor for dopamine and Acetylcholine, Indian Patent, 196763, 2004.
  - P C Pandey, A process for the preparation of novel enzyme encapsulated organically modified sol-gel glass based glucose biosensor, Indian Patent 190841, 1999.
  - P. C Pandey, A process for making ferrocene encapsulated ormosil, Indian Patent, 196900, 1999.
  - P C Pandey et al. AN IMPROVED ION-SELECTIVE ELECTRODE USEFUL FOR SENSING POTASSIUM ION FLUIDS Indian Patent, 215512 filed on 26/08/1998 and granted 14/03/2008.
  - P C Pandey et al All solid-state Cu++ ion sensor, Indian Patent, 221601. Filed on 27-05-1999 and granted on 18-07-2008.
  - P C Pandey et al. A PROCESS FOR THE PREPARATION OF A SOLID-STATE METAL BASED PH ELECTRODE r, Indian Patent, 218340., filed on 23-09-1999 and granted on 14-05-2008.

- P C Pandey et al. A PROCESS FOR THE PREPARATION OF A SOLID-STATE BIO-SENSOR FOR UREA. Indian Patent, 215383., filed on 23-09-1999 and granted on 04-03-2008.
- P C Pandey et al. Calcium ion-sensor comprising ionophore/carrier ion –free polyindolecamphorsulphonic acid composite, Indian Patent 317867. filed on 04-10-2010 and granted on 07-08-2019
- P C Pandey. A process for making disposable glucose sensor strips and a glucose biosensor made therefrom, Indian Patent, 377267 granted on 24-9-2021.
- P C Pandey A process for making improved glucose sensor strips and a glucose biosensor made therefrom, Indian Patent, Indian Patent 361156. filed on 10-10-2010 and granted on 15-03-2021.
- P C Pandey et al. A process for insitu generation of noble metal nanoparticles and thereafter coreshell of the same, Indian Patent, 331496. filed on 04-10-2010 and granted on 07-02- 2020.
- P C Pandey et al A process for the development of photochromic thin film of purple membrane of variable thickness and isolation of purple membrane for the same" Indian Patent 414218. filed on 31-12-2011 granted 12-12-2022
- P C Pandet et al. A process for 3-aminopropyltrimethoxy silane and cyclohexanone mediated synthesis of Prussian blue nanoparticle sol and nanocomposite of the same. Indian Patent 295327. filed on 02-02-2011 and granted on 31-03-2018.
- P C Pandey et al.A process for the organic hydroperoxide-mediated synthesis of noble metal nanoparticles, bimetallic nanosol and prussian blue nanoparticles" Indian Patent 335772 filed on18-07-2013 and granted on 22-04-2020.
- P C Pandey et al.A process for the polyethylenimine and organic reducing agent mediated synthesis of noble metal nanoparticles, and Prussian blue nanoparticles therefrom, Indian Patent 340262 filed on 31-12-2014 and granted on 2-07-2020
- P C Pandey et al. A process for making silica beads encapsulated functionalized palladium nanoparticles for selective hydrogen evolution, Indian Patent 341050 filed on 19-08-2016 and granted on 09-07-2020.
- PC Pandey et al. A process for polyethylenimine and organic reducing agent mediated synthetic insertion of gold nanoparticles within mesoporous silica nanoparticles and their biomedical applications. Indian Patent 343222 filed on 11-12-2016 and granted on 03-08- 2020.
- P C Pandey et al. A process for making functional alkoxysilane stabilized nickel-palladium bimetallic nanocrystallite for catalytic hydrogen evolution therefrom; Indian Patent 357915 filed on 08-12-2016 and granted on 05-02-2021
- P C Pandey et al. A process for making enzyme immobilized mesoporous silica-alginate beads and novel clinical assay system therefrom, Indian Patent 201711008944 filed on 15-03-2017 and FER submitted on 04-010-2020.
- P C Pandey et al.A process for making self assembled siloxane-polyindole-gold nanoparticles nanocomposite, Indian Paten 343403 filed on 09-12-2017 and granted on 05-08-2020.
- P. C. Pandey et al.A process for synthetic insertion of palladium and prussian blue noparticles within mesoporous silica nanoparticles, and their application in selective dopamine sensing, Indian Paten 201811006295. filed on 09-12-2017 and published on 15-03-2019.

- P C Pandey et al. A process for 2-(3,4)epoxy-cyclohexyl)ethyltrimethoxysilane mediated synthesis of prussian blue nanoparticles, Indian Paten 201811004873 filed on 08-02-2018 and published on 15-03-2019.12
- P C Pandey et al. A process for making functional alkoxysilane mediated silica zeolite supported nickel-palladium bimetallic nanocrystallite for catalytic hydrogen evolution therefrom, Indian Paten 201811021635 filed on 09-06-2018 and published on 29-03-2019.
- P C Pandey. A process for making screen printed electrodes in three electrodes configurations and electrochemical detector for the same. Indian Paten 201811035930 filed on 24-09-2018 and published on 15-03-2019,
- P c Pandey A Novel solid-state Biosensor and a process for producing the same, Indian Patent 285905 filed on 06-10-2000 and granted on 31-07-2017.
- P C Pandey, G. Pandey and Roger J. Narayan. A process for making solid-state ion sensor for on-chip determination of potassium ion in body fluid Indian Patent 201811041978 filed on 06- 11-2018 and published on 29-03-2019.
- P C Pandey, G. Pandey and Roger J. Narayan A process for making microneedle-based transdermal biosensor involving poyethylenimine-modified prussian blue-gold nanohybridsenzyme ink for on-chip electrochemical biosensing in body fluid Indian Patent 201811044930 filed on 28-11-2018 filed on 06-11-2018 and published on 29-03-2019,
- P. C. Pandey et al. A process for functional alkoxysilanes functionalized metal nanoparticles induced fluorescence of selective fluorophore Indian Patent 201811044934 filed on 28-11- 2018 and published on 14-08-2020
- P C Pandey. A process for making screen printed electrode derived reference electrode for conventional electroanalytical applications Indian Patent 201911004221 filed on 03-02-2019 and published on 07-08-2020.
- P. C. Pandey. A PROCESS FOR MAKING ALL SOLID-STATE pH SENSOR. Indian Patent 201911004218 filed on 03-02-2019 and published on 07-08-2020.
- P. C. Pandey A process for making all solid-state pH sensor Indian Patent 201911004219 filed on 03-02-2019 and published on 07-08-2020.
- P. C. Paney et a. A PROCESS FOR CONTROLLED SYNTNHESIS OF PRUSSIAN BLUE NANOPARTICLES FOR TOXIC DYE DEGRADATION, Indian Patent 201911016184 filed on 03-02- 2019 and published on 30-10-2020.
- P. C. Paney et a. A PROCESS FOR MICROWAVE ASSISTED FUNCTIONAL ALKOXYSILANES MEDIATED SYNTHESIS OF MONOMETALLIC, BIMETALLIC AND TRIMETALLIC NOBLE METAL NANOPARTICLES, Indian Patent 201911021365 filed on 29-05-2019 and granted on 10-01-2021.
- P. C. Paney et a. A PROCESS FOR FUNCTIONAL ALKOXYSILANE STABIILIZED NANOCATALYST FOR TOXIC DYE DEGRADATION, Indian Patent 378521 201911021861 filed on 02-06-2019 and published on 04-12-2020.
- P. C. Paney et a. A PROCESS FOR MICROWAVE ASSISTED SYNTHESIS OF NOBLE METAL NANOPARTICLES BASED PRINTING INK AND A DEVICE FOR HYDROGEN PEROXIDE SENISNG, Indian Patent 201911042984 filed on 23-10-2019 and published on 30-04-2021.
- P. C. Paney et a. A PROCESS FOR MAKING All SOLID-STATE CESIUM ION SENSOR Indian Patent 201911048932 filed on 28-11-2019.

- P. C. Paney et a. A PROCESS FOR PRUSSIAN BLUE NANOPARTICLES BASED REMOVAL OF ARSENIC (III) ION AND SENSING OF THE SAME BASED ON FLUORESCENCE 201911053517 filed on 23-12-2019.
- P. C. Paney. A PROCESS FOR SYNTHESIS OF Pd-Ni BIMETALLIC NANOPARTICLES BASED PRINTING INK AND A DEVICE FOR HYDROGEN PEROXIDE SENISNG 202000038 filed on 01-01- 2020.
- P. C. Paney. A process for Fluorescence imaging of functional silver nanoparticles and multi drug resistant Bacteria202000218 filed on 03-01-2020.
- P. C. Paney. A PROCESS ON AMINE-FUNCTIONALIZED ALKOXYSILANE DERIVED SILVER NANOPARTICLES AS POTENTIOAL ANTIMICROBIAL AND ANTIVIRAL AGENGTS 202014527 filed on 01-04-2020.
- P. C. Paney. PROCESS FOR MAKING METAL HEXACYANOFERRATE NANOPARTICLES MODIFIED SCREEN PRINTED ELECTRODES FOR SELECTIVE RECOGNITION OF CESIUM AND ARSENIC AND13 THEREAFTER REMOVAL OF THE SAME APPLICANT Indian Patent 202028801 filed on 07-07- 2020.
- P. C. Paney. A PROCESS FOR AMINE FUNCTONALIZED NOBLE METAL NANOPARTICLES MEDIATED NON-ENZYMATIC SELECTIVE SENSING OF CLINICALLY SIGNIFICANT ANALYTES USING RESONANCE RAYLEIGH SCATTERING SPECTROSCOPY Indian Patent 202041905 filed on 26-09-2020.
- P. C. Paney. A PROCESS FOR MAKNIG FUNCTIONAL NANOPARTICLES FOR SELECTIVESENSING OF HYDRAZINE BASED ON RESONANCE RAYLEIGH SCATTERING AND SELECTIVE DECOMPOSITION OF THE SAME FOR HYDROGEN EVOLUTION 202051899 filed on 28-11-2020 published on 18-12-2020.
- P C Pandey and G. Pandey, A process for siloxane-silver nanoparticle nanofluid as potential self-assembling disinfectant , Indian Patent 202111033827
- P C Pandey and G. Pandey , and Shilpa N Sawant, A PROCESS FOR MICROWAVE ASSISTED SYNTHESIS OF HYBRID NANOPARTICLES BASED ELECTROCATALYTIC PRINTING INK FOR HYDROGEN PEROXIDE SENISNG, Indian Patent 202111047038
- P C Pandey, A PROCESS FOR MAKING OXYGEN SENSOR FOR MONITORING OXYGEN PRESENT IN ENVIRONMENT, Indian Patent, 202111051223
- A PROCESS FOR ORGANOTRIALKOXYSILANE FUNCTIONALIZED PALLADIUMCOBALT P C Pandey, Chitra Singh and Kulveer Singh, NANOPARTICLES AS POTENT CATALYSTS FOR OXYGEN EVOLUTIONS REACTION , Indian Patent 202111060340
- P C Pandey, Indian Patent Application No. 202211016696 ||PD038945IN-SC|| Process for Metal Hexacyanoferrate nanoparticles based Removal of Cesium Ion and Fluorescence Sensing of the Same.
- P C Pandey, PROCESS FOR PRUSSIAN BLUE NANOPARTICLES MEDIATED SENSING OF CESIUM IONS AS A FUNCTION OF MAGNETIC MOMENT, Indian Patent Application No. 202211035260
- P C Pandey, A PROCESS MAKINGPOROUS NANOSTRUCTURED SILICA WITH OPTION OF TUNING CARBON, NITROGEN, PALLADIUM, COBALT/NICKEL IN DESIRED RATIO FOR POTENTIAL CATALYTIC APPLICATIONS WITH EXAMPLE IN WATER SPLITTING, Indian Patent Application No. 202211058096.
- P C Pandey, A PROCESS For MAKING POROUS NANOSTRUCTURED SILICATE ENCAPSULATED PALLADIUM-COBALT-NICKEL TRIMETALLIC NANOPARTICLES FOR GREEN HYDROGEN PRODUCTION, Indian Patent 202311002062

- P C Pandey , A PROCESS FOR MAKING OPTOELECTRONIC SENSOR FOR CLINICALLY SIGNIFICANT ANALYTE AS CLINICAL DIAGNOSTICS, Indian Patent 202311049769
- P C Pandey, A PROCESS FOR MAKING NON INVASIVE OPTOELECTRONIC SENSOR FOR
- CLINICALLY SIGNIFICANT ANALYTE AS CLINICAL DIAGNOSTICS, Indian Patent 202411007499
- P C Pandey, A PROCESS FOR MAKING pH SENSOR FOR SIMULTANEOUS SENSING OF BOTH pH AND RELEVANT CHANGE IN POTENTIAL WITH TARGETTED TIME DISPLAY HOLD USEFUL FOR BUFFER FREE SENSING OF pH, BLOOD CREATININE AND BLOOD UREA THROUGH MOBIL PHONE AS CLINICAL DIAGNOSTICS Indian Patent 202411037272
- P C Pandey , A PROCESS FOR MAKING OPTOELECTRONIC SENSOR FOR CHROMIUM (VI), FLUORIDE IONS, WATER TURBIDITY AND OTHER TOXIC ANALYTES , Indian Patent 202413037432

- Book Chapter/Encyclopedia

  - P. C. Pandey, New Organically modified Sol-Gel glasses and their Applications in Sensors Construction in "Chemical and Biological Sensors for Environmental Monitoring" ACS Symposium Series 762. Muchandani and Sadik (Eds), 2000 pp 139b 157. ACS Symposium Series; American Chemical Society: Washington, DC, 2000.
  - P.C. Pandey. Enzyme Biosensors Based on Mediator-Modified Carbon Paste Electrode, in ENZYME AND Microbial Biosensors: Techniques and Protocols, A.Mulchandanai and K.R Rogers (Eds), Humana Press, 1998, pp 81-92; https://www.springer.com/in/book/9780896034105
  - P.C.Pandey et al. Electrochemical Sensors: Innovations in Mediated Bioelectrochemistery, in Encyclopedia of Sensors, Volume 3, Grime, Dickey Pishko (Eds), 2006 pp 255-299; http://www.aspbs.com/eos.html
  - P.C.Pandey et al. Recent advances in the role of nanostructured networks as analytical tools for biological systems, Encyclopedia of sensors for biomedical applications, Frontiers in Bioscience (Elite edition) 5: 2013 pp 622-642, DOI No:10.2741/E644.

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