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| <b>Name</b>            | <b>Dr. Pradeep Kumar Samantaroy</b> |
| <b>Designation</b>     | Lecturer in Chemistry               |
| <b>Date of Joining</b> | 07-10-2016                          |
| <b>Qualification</b>   | MSc, PhD                            |

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#### Professional Experience

- Oct 2016 onwards [Lecturer in Chemistry](#) at Rayagada Autonomous College, Rayagada, Odisha.
- Sep 2015-Sep 2016 [Assistant Professor-Chemistry](#) at Gandhi Group of Institutions, Gunupur, Odisha.
- Oct 2013-Jun 2015 [Assistant Manager-Technical Support](#) at Harita-NTI Ltd.(TVS group), Chennai.
- Aug 2008-Sep 2013 [Research Scholar](#) at Corrosion Science & Technology Group, Indira Gandhi Centre for Atomic Research, Department of Atomic Energy, Kalpakkam.
- Aug 2007-Jul 2008 [Lecturer-Chemistry](#) in at Gandhi Institute of Engg. & Technology, Gunupur, Odisha.
- Jul 2006-Jul 2007 [Lecturer](#) at Vikas Educational Institution, Vishakhapatnam, Andhra Pradesh.

#### Educational Qualifications

- 2008-2014: Doctor of Philosophy (Chemistry – Physical/Applied chemistry), Homi Bhabha National Institute, IGCAR Campus, Kalpakkam
- 2003-2005: Master of Science (Chemistry – Analytical Chemistry), First division, Berhampur University, Berhampur
- 1999-2002: Bachelor of Science (Chemistry Hons), First division with Distinction, Berhampur University, Berhampur

#### Ph.D. Thesis.

- Title of thesis: **Corrosion behaviour of materials for nuclear high level waste storage application**
- Weblink to thesis: [http://www.hbni.ac.in/students/dsp\\_ths.html?nm=chem/CHEM02200804008.pdf](http://www.hbni.ac.in/students/dsp_ths.html?nm=chem/CHEM02200804008.pdf)
- Shodhganga Ref: <https://shodhganga.inflibnet.ac.in/handle/10603/37684>
- Supervisor: Prof. (Dr.) U. Kamachi Mudali, Homi Bhabha National Institute, Chairman & Chief Executive, Heavy Water Board, Mumbai, India.

#### Fellowships

- Department of Atomic Energy-JRF in 2008
- Department of Atomic Energy-SRF in 2010
- International Travel Fellowship to attend conference at Taiwan, awarded by Department of Science & Technology, Government of India in 2012

#### Students Guided

- Lopamudra Maharana**, PG project, “*Analysis of ground water quality: A case study of Rayagada and Kolnora block*” during July 2020.
- Aditya Sahu**, PG Project, “*Monitoring of sulphur dioxide, nitrogen dioxide, PM10 and PM2.5 present in ambient air of residential area of Rayagada*” during July 2020.
- Saron Sananayak**, PG project, “*A study on estimation of nitrogen, sulphur and some micronutrients in the fertilizers received at district Agriculture Office, Rayagada*” during July 2020.
- Patenge Ipsita**, PG Project, “*Ground water quality testing of Rayagada and Kashipur block*”, during July 2020.
- Buri Lavanya**, PG Project, “*A study on estimation of phosphorus, potassium and some micronutrients in the Fertilizers received at district agricultural office, Rayagada*” during July 2020.
- Asmita Jena**, PG Project, “pulping technology in pulp & paper industry” during July 2021
- Shaik Badiruddin**, PG Project, “pulp bleaching process in paper industry” during July 2021
- Sibani Hota**, PG Project, “A study on estimation of nitrogen and some micronutrients in the fertilizers received at fertilizer quality control laboratory under chief district agriculture office, Rayagada” during July 2021
- Anjali Panigrahi**, PG Project, “Study on the Bark of *Pterocarpus Marsupium* as Green Corrosion Inhibitor for the Protection of Mild Steel”, during June 2022
- Sekhar Suman Panda**, PG Project, “Study on *Diospyros melanoxylon* leaf as Green Corrosion Inhibitor for the Protection of Mild Steel” during June 2022
- Rajesh Kumar Swain**, PG Project, “Study on *Diospyros Melanoxylon* Bark as Green Corrosion Inhibitor for the Protection of Mild Steel” during June 2022
- Ipsa Mishra**, PG Project, “Study on *Pterocarpus marsupium* Leaf as Green Corrosion Inhibitor for the Protection of Mild Steel” during June 2022
- Subhrakeshi Das**, PG Project, “ECF bleaching process and principle in pulp and paper making process”during June 2022

#### Experimental and Analytical Skills

- Corrosion study using potentiodynamic polarization and electrochemical impedance spectroscopy techniques
- Intergranular corrosion study using Huey Test
- Characterization of passive film by X-ray Photoelectron Spectroscope
- Microstructural characterization by optical and Scanning Electron Microscope
- Development of rust preventives and corrosion inhibitors for industrial application
- Jar test for evaluation of corrosion prevention ability of VCI papers and films
- Testing of industrial components for corrosion study in salt spray chamber, humidity chamber etc.

#### Publications in International Referred Journals

- P. K. Samantaroy, S. Girija, R. Paul, U. Kamachi Mudali, Baldev Raj: Corrosion behavior of Alloy 690 and 693 in simulated nuclear high level waste medium, [Journal of Nuclear Materials](#), Vol. 418, Issue: 1-3 (2011) p: 27-37. ISSN: 0022-3115
- P. K. Samantaroy, S. Girija, U. Kamachi Mudali: Effect of heat treatment on corrosion behavior of Alloy 690 and 693 in simulated high level waste medium, [Corrosion](#), Vol. 68, Issue: 4, (2012) p: 046001-1 to 046001-13. ISSN: 0010-9312
- P. K. Samantaroy, S. Girija, N. G. Krishna, U. Kamachi Mudali, Corrosion behavior of Alloy 600 in simulated high level waste medium, [Journal of Materials Engineering and Performance](#), Vol. 22, (2013) p: 1041-1053. ISSN: 1059-9495
- P. K. Samantaroy, S. Girija, R. Kaul, U. Kamachi Mudali, Enhancement of corrosion resistance of nickel based superalloys by laser surface melting, [Surface Engineering](#), Vol: 29 (2013) p: 522-530. ISSN: 0267-0844
- P. K. Samantaroy, Girija Suresh, U. Kamachi Mudali, Effect of heat treatment on pitting corrosion resistance of nickel based superalloys in acidic chloride medium”, [International Journal of Material Science](#), Vol: 3 (2013) p: 170-178. ISSN: 2226-4531
- P. K. Samantaroy, S. Girija, Corrosion investigation of nickel base superalloys in simulated high level waste medium using electrochemical impedance spectroscopy, [Indian Journal of Chemical Technology](#), Vol: 27 (2020), pp-67-72. ISSN : 0975-0991
- P. K. Samantaroy, Intergranular corrosion behavior study of nickle base superalloys Alloy 600, 690, 693, International Journal of Engineering Research & Technology, Vol: 9, Issue 1 (2020), p: 470-474. ISSN: 2278-0181

#### Books & Reports

- Strategies for Corrosion Prevention (CORSYM-2013), Editors: U. Kamachi Mudali, **Pradeep Kumar Samantaroy**, Rani P. George, N. Rajendran & Baldev Raj.
- Application of Indigenous nickel alloys for storage of nuclear high level waste, IGC Annual Report, 2010, Article: IV.19, Page 132-133.

#### Papers presented in Conferences/Symposiums

- P. K. Samantaroy, S. Girija, R. Paul, U. Kamachi Mudali, Corrosion resistance of Ni 690 and Ni 693 alloys in simulated nuclear high level waste, Oral presentation at [Surface Modification and Technologies – XXIII](#), Nov. 2-5, 2009, Mamallapuram.
- P. K. Samantaroy, S. Girija, N. G. Krishna, U. Kamachi Mudali, Corrosion behavior of Inconel 600 alloy in simulated nuclear high level waste medium, Oral presentation at [Chemistry Research Scholars Meet 2011](#), 14-15 July, 2011, IGCAR, Kalpakkam.
- P. K. Samantaroy, S. Girija, U. Kamachi Mudali, Effect of heat treatment on corrosion behavior of Alloy 690 and Alloy 693 in simulated nuclear high level waste medium, Poster presentation at [International Conference on Advanced Materials-2011](#), 12-16 Dec 2011, Coimbatore.
- P. K. Samantaroy, S. Girija, U. Kamachi Mudali, Pitting corrosion behavior of heat treated nickel based superalloys in acidic chloride medium, Oral presentation at [16<sup>th</sup> National Congress on Corrosion Control](#) (16<sup>th</sup> NCCC), 23-25 Aug, 2012, Kolkata.
- P. K. Samantaroy, S. Girija, U. Kamachi Mudali, Corrosion behavior of Alloy 600 in simulated nuclear high level waste medium, Poster presentation at [5<sup>th</sup> training program on Paints and Coating](#), 13-15 July 2012, Chennai.
- P. K. Samantaroy, S. Girija, R. Kaul, U. Kamachi Mudali, Corrosion behavior of laser surface melted nickel based superalloys in simulated nuclear high level waste medium, [16<sup>th</sup> Asian Pacific Corrosion Control Conference](#), 21-24 Oct. 2012, Kaohsiung, Taiwan.
- P. K. Samantaroy, S. Girija, U. Kamachi Mudali, Studies on nickel base superalloys for nuclear high level waste storage application, [International Corrosion Prevention Symposium for Research Scholars](#), 28 Feb-02 Mar 2013, Chennai.
- P. K. Samantaroy, Material selection for nuclear high level waste storage application and its impact on environment, [National Seminar on Eco-friendly Approaches to Control Biohazards](#), 22-23 June, 2019, Rayagada, Odisha.

#### Orientation Courses/ Workshops/Refresher Courses/Seminars Attended

- UGC Sponsored Orientation Programme at Jawaharlal Nehru Technological University, Hyderabad, from 20<sup>th</sup> Jan to 8<sup>th</sup> Feb, 2020
- One Year Orientation Coursework of Ph.D. Programme during Sep 2008 to Jun 2009 in Training School, IGCAR, Kalpakkam, India.
- Science Academy’s refresher course in recent advances in chemistry held at BIT Mesra (Deoghar Campus, Deoghar), Jharkhand from 14<sup>th</sup> to 26<sup>th</sup> 2015.
- National workshop on “Radiochemistry and Application of Radioisotopes”, 5<sup>th</sup> to 10<sup>th</sup> Sept 2015 at Amity University, Noida Campus, NCR Delhi.
- Two days conclave on “Steel Technology and its Application”, 13-14 Feb. 2015 at Chennai.
- Workshop on “Advanced Electron Microscopy”, 12-13 Oct. 2009 at IGCAR Kalpakkam, organized by IIM Kalpakkam Chapter.
- NAAC sponsored two days national seminar on “Quality assurance and quality enhancement in higher education” held at Rayagada (Auto) College, Rayagada during 12<sup>th</sup> & 13<sup>th</sup> January 2018.
- National Science Day Seminar-2018 at Institute of Physics, Bhubaneswar on 28<sup>th</sup> Feb’ 2018.
- National Science Day Seminar-2019 at Rayagada Auto College, Rayagada, Odisha on 28<sup>th</sup> Feb’ 2019.
- Two Day Online Workshop on “Online Tools & Software for Remote Teaching – Learning”, 24<sup>th</sup> & 25<sup>th</sup> April, 2020 organized by UGC-HRDC, JNTUH, Hyderabad.
- National level FDP-webinar on “Fundamentals of Writing Research Paper”, 06<sup>th</sup> May, 2020.
- International web conference on Science, Engineering & Technology IWCSET-2020, 15<sup>th</sup> and 16<sup>th</sup> May, 2020

#### Invited Talks

- “Material Challenges in Nuclear Industries for Waste Storage” – National Conference on Innovative Structural Materials, 24<sup>th</sup> and 25<sup>th</sup> Dec’2018, held at Bhubaneswar, Odisha.
- “Enhancement of corrosion resistance by laser surface melting” – National Conference on Advanced Engineering Materials, 23<sup>rd</sup> and 24<sup>th</sup> July 2016, held at GIET, Gunupur, Odisha.
- “Corrosion Management Summit” – 4<sup>th</sup> Industrial Maintenance Expo-2014, 20<sup>th</sup> Sep’2014 held at Codissia Trade Fair Complex, Coimbatore.
- Certification Workshop on “Corrosion Audit Methodology & Corrosion Management”, held on 21<sup>st</sup> Sep’2014 at Coimbatore.
- “Corrosion management in auto-component manufacturing at industries” at various auto-component manufacturing industries.
- “Career opportunities in Chemistry” at Centurion University at Rayagada Campus.

#### Awards and Achievements

- International Travel Fellowship by Department of Science & Technology, India to attend 16<sup>th</sup> Asian Pacific Corrosion Control Conference at Taiwan in 2012.
- 1st prize for oral presentation: P. K. Samantaroy, S. Girija, U. Kamachi Mudali, “Pitting corrosion behavior of heat treated nickel based superalloys in acidic chloride medium”, 16<sup>th</sup> National Congress on Corrosion Control, 23-25 Aug. 2012, Kolkata.
- Department of Atomic Energy-Junior Research Fellowship in 2008.
- Appreciation Award from National Association of Corrosion Engineers, USA for Special Contribution by Serving as Chairman to NIGIS-South Zone-Student Section.
- Nominated as Expert Member to Zilla Bigyan Prasara Samiti by Odisha Bigyan Academy

#### Additional Information

- Served as Chairman**, NACE International Gateway India Section (South Zone) Student Section from August, 2011 to July, 2013.
- Served as Convener** of International Corrosion Prevention Symposium for Research Scholars, Chennai, India during 28 Feb – 02 Mar, 2012.
- Served as organizing secretary** of National Seminar on Eco-friendly Approaches to Control Biohazards, held at Rayagada (Auto.) College, Rayagada during 22<sup>nd</sup> & 23<sup>rd</sup> June, 2019.
- Visited more than 50 industries as Corrosion & Application Specialist, conducted extensive process audits and provided technical solutions to resolve corrosion issues & given presentations to professionals on awareness on corrosion protection.
- Member, Examination Section at Rayagada Autonomous College, Rayagada from April 2017 onwards.
- Co-Ordinator for Odisha State Open University-RAC Study Centre from July 2018 onwards.