RASHMIRANJAN BARIK
Scientist
Design & Project Engineering Department
CSIR-Institute of Minerals & Materials Technology
Acharya Vihar, Bhubaneswar - 751 013, Odisha, INDIA
Telephone: +91-674-237 9407, Mob: 9439864707
E-mail: rbarik@immt.res.in, rbarik31@gmail.com
Date of Birth: 04-03-1980

Research Interest:

- Design Engineering
- Thermal Application
- Industrial Rheology
- Appropriate/Rural Technologies.

Research Experience:

- Scientist, September 2010 to till date.
  Design & Project Engineering Department, CSIR- Institute of Minerals and Materials Technology, Bhubaneswar

- Jr Scientist, September 2007 - September 2010
  Design & Rural Technology Department, CSIR- Institute of Minerals and Materials Technology, Bhubaneswar

Education:

- B.Tech. Mechanical Engg. from BPUT, Rourkela.
- M.Tech. Thermal Engg. from NIT, Rourkela.
- Advance course on “Materials & Heat Balance in Metallurgical processes” from IIT Kanpur.

Projects Completed: 24 nos.

- “Transfer of Technology and Dissemination of Energy Efficient ‘HARSHA” Multi-fuel Cook Stove in Mid-day Meal Programme (MDMP) for Reduction of Fuel Consumption & Pollution”.
- **“**Development of integrated ultrasonically aided bio-methanation plant with pre & post treatment of materials for enhance & faster biogas generation from leafy biomass & kitchen vegetable wastes**”**
- “Technology Transfer, capacity building and dissemination of Terafil Water filters in a pilot scale for sustainable supply of clean drinking water in rural sector of the country”
- “Development & Popular-ization of cost effective & efficient Technologies for Sustainable Rural Develo-pment”.
- “Studies on pipeline disposal of fly ash, bottom ash & fly ash mixture slurry at high concentration”.
- Design, development and field evaluation of 30 Liter capacity Terafil assisted water filter with food grade plastic containers in different districts of Odisha.
- “Cook Stove Test Centre for evaluation of various biomass cook stove and carry out R&D for development of effective test protocol for improved cook stoves of newer designs”.
- “Rheological studies and hydraulic transportation of seabed mineral resources”.
- “Rheological and other miscellaneous tests for NTPC-Simhadri, Stage-II fly ash samples”.
- “Establishment of facility for pipe loop test rig for iron ore slurry transportation at high solids concentration”.
- “Optimisation of Entrained Flow biomass Gasification process using CFD modelling.
- “Establishment of Techvil at Koraput”.
- “Characterization and Rheological studies for 210 MW Mejia Thermal Power Station, Damodar Valley Corporation Fly ash samples”.
- “Characterization and Rheological studies for 8X135 MW Bhadresh Lignite Thermal Power Plant fly ash samples”.
- “Rheological and other Miscellaneous Tests On Dry Fly Ash Samples For NTPC Kudgi HCSD System”.
- “Development of an Entrained flow Gasification System using non-cooking coal (F-Grade) blended with Dolochar for thermal applications.”

- "Assessment of leaching and rheological characteristics of high concentration JSPL Power Plant Ash slurry through selective additives for eco-friendly mine back-fill system design."
- "Characterization and Rheological studies on Fly Ash Samples For High Concentration Slurry Disposal (HCSD) System at Butibori coal based 2x300 MW Thermal Power Plant, Nagpur".
- "Rheological Test studies on Fly ash and Bottom Ash Samples for the proposed High Concentration Slurry Disposal (HCSD) System at Steam & Power Plant, Mines & Refinery Complex, NALCO, Damanjodi."
- "Characterization and Rheological studies on Fly Ash Samples for High Concentration Slurry Disposal (HCSD) System at 1x50 MW Thermal Power Plant, Korba, Chhattisgarh".
- "Training, Demonstration and supply of rural technologies in the district of Balangir".
- "Manganese Nodule Slurry characterization and pumping study for vertical transport".
- "Rheological Studies and other Characteristics Studies of Mix Slurry (Fly Ash + Bottom Ash + Coarse Ash) for HCSD System at NTPC North Karanpura TPP 3x660 MW Thermal Power Project".
- "Basic Design & Engineering of High Concentration Slurry Disposal (HCSD) System for M/s IND Bharat Utkal Energy Limited, Jharsuguda, Odisha".

Projects Ongoing:

- "Combustion studies & Evaluation of Pollution Load on Petroleum Coke and coalsamples with Lime dosages for M/s HINDALCO Industries Ltd., Sambalpur, Odisha" funded by M/s HINDALCO Industries Ltd., Sambalpur, Odisha
- "Fabrication and Installation of 3 Hybrid dryer & 4 Mobile dryer at different PESA (Panchayats - Extension to Scheduled Areas) States on trial run basis" funded by TRIFED, Ministry of Tribal Affaires, New Delhi.
- "Modeling & Optimization of High Concentration Iron Ore fines/ concentrate slurry Pipelines for Indian Iron Ore Processing Industries" funded by MoS, Govt. of India & NMDC Ltd., Hyderabad.
- "Development & installation of FRP based 1000 LPD capacity community size Terafil water purification system at Chinndwara district, M.P." funded by CSIR-AMPRI,Bhopal.
- Rheological and other chracteristics studies of fly ash for NTPC Telengana Super thermal Power Plant.
- Rheological test of Maitree Super thermal power project (2x660 MW) for HCSD System Design.

Publications:

- R.Barik, D.Singh, S.Khuntia* "Development of Energy Efficient devices for Conservation of Bio-mass and Up-gradation of Environment in Domestic Sector" at International Conference-Renewable Energy Asia-2008.

- R.Barik, J.Mallick*, D.Singh, S.Khuntia, "Biogas Generation from Leafy biomass & vegetable wastes by application of ultrasound" at International Conference on the Developments in Renewable Energy Technology. December 2009. Dhaka, Bangladesh.

- P.K.Senapati,**R.Barik**, T. Subbaiah, A.Mishra and B.K.Mishra "Performance Evaluation of a helical ribbon mixer with high concentration manganese nodule slurry" at Mineral Processing Technology Conference (MPT)-2013

- Senapati P.K, Mishra B.K, **Barik R**, Mohanty DP "Evaluating the head loss of coal ash slurry pipelines at high solids concentration using rheological data for mine back filling" Energy Sources, Part A Recovery, Utilization and Environmental Effects VOL 00, ISS 00, 1-8, 2015

- G.K.Pani . P.Rath . **R.Barik** . P.K.Senapati "The Effect of Selective Additives on the Rheological Behaviour of Power Plant Ash Slurry '' Particulate Science and Technology, vol 33, pp. 418–422, 2015

- G.K.Pani . P.Rath . **R.Barik** . P.K.Senapati "Assessment of heavy metals and rheological characteristics of coal ash samples in presence of some selective additives" Int. J. Environ. Sci. Technol,2015