

PRADIP KUMAR BISWAS

Senior Scientific Officer
Institute of Mining, Mineralogy and Metallurgy
Bangladesh Council of Scientific and Industrial Research
Khanjanpur, Joypurhat 5900, Bangladesh
Cell No.: +880 1716240071
E-mail ID.: Pradip_immm@yahoo.com



AREAS OF SPECIALIZATION

Mining and Mineralogy

CURRENT POSITIONS

2010/June - present Senior Scientific Officer, Institute of Mining, Mineralogy and Metallurgy project, BCSIR, Joypurhat, Bangladesh

PREVIOUS POSITIONS

2007/Sept.-2010/ June Scientific Officer, Establishment of Institute of Mining, Mineralogy and Metallurgy project, BCSIR, Joypurhat, Bangladesh

2006/Apr - 2007/Sep. Geologist/Project coordinator, Falgu Sandhani Ltd. Bangladesh

2005/Nov - 2006/Mar. Quality Control Processor, Petroleum Geo-services (PGS) Onshore, Inc.

EDUCATION

2002 MS in Geology & Mining, University of Rajshahi, Bangladesh

2001 B.Sc. (Hon's) in Geology & Mining, University of Rajshahi, Bangladesh

DEVELOPED PROCESS/PATENTS

Process

2015 **Biswas, P. K**, Rahman, M. A., Sultana, M. S, Zaman, M. N., "Preparation of Gem Stones/precious stone from different rocks and minerals." Bangladesh Council of Scientific and Industrial Research.(2015) Ref No: 39.373.03.09.00.266.2015/486 Date:03/08/2015

2016 Sultana, M. S, Rahman, M. A., **Biswas, P. K**, Nandy, P. K., "Development of cost effective and low temperature method for the production of Ceramic Tiles from Sitakunda Shale (Clay)." Bangladesh Council of Scientific and Industrial Research. (2016) Ref No: 39.373.037.09.00.00.275.2015/367 Date 23/03/2016.

2017 Dr. Mohammad Nazim Zaman, Md. Aminur Rahman, **Pradip Kumar Biswas** and Dr. Abdul Gafur "Recovery of Rutile mineral from Arc electrode waste.". Ref. No. 39.373.037.09.00.292.2016.902 Dated: 15.05.2017

Patent

- 2018 Dr. Mohammad Nazim Zaman, Md. Aminur Rahman, **Pradip Kumar Biswas** and Dr. Abdul Gafur, Recovery of rutile mineral from ARC electrode waste, Patent No: 1006036 Ref No: 39.02.0000.043.37.157.18/1022 date:16.09.2018

BOOKS, CHAPTERS/EDITORSHIPS AND POPULAR ARTICLES

- 2012 Mohammad Nazim Zaman, Md. Aminur Rahman, **Pradip Kumar Biswas**, “Sands of the Brahmaputra River Basin” LAMBERT Academic Publishing, ISBN 978-3-659-28730-5, AV Akademikerverlag GmbH & Co. KG, Germany, 2012, p. 1-61, www.lap-publishing.com
- 2014 Md. Aminur Rahman, , **Pradip Kumar Biswas**, Mohammad Nazim Zaman, “River Sands of Bangladesh” LAMBERT Academic Publishing, ISBN 978-3-659-56385-0, AV Akademikerverlag GmbH & Co. KG, Germany, 2014, www.lap-publishing.com

PUBLICATIONS

Journal Article

- 2019 Tanjil, H.A., Akter, S., Ahmed, M.T., Biswas, P.K., Water Quality Assessment in Maddhapara Granite Mine, Bangladesh. International Journal of Environmental Protection and Policy. Vol. 7, No. 2, 2019, pp. 39-45. doi: 10.11648/j.ijep.20190702.11
- 2019 Rahman, M.S., Hossain, I., Biswas, P.K., Rahim, M.A., Hasan, A. S. M.M., Adham, M.I., 2019. Geochemistry of subsurface Late Quaternary ironstones in Rajshahi and Bogra Districts, Bangladesh: implications for genetic and depositional conditions. Acta Geochim . <https://doi.org/10.1007/s11631-018-00310-0>.
- 2018 Biswas, P.K., Ahmed, S.S., Pownceby, M.I., Haque, N., Alam, S., Zaman, M.N., Rahman, M.A. 2018. Heavy mineral resource potential of Tista River sands, Northern Bangladesh. Applied Earth Science, Transactions of the Institutions of Mining and Metallurgy. v, 127(3), p. 94-105 DOI: 10.1080/25726838.2018.1488357
- 2018 Hasan, A. S. M. M., Hossain, I., Rahman, M. A., Rahman, M. S., Zama, M. N., Biswas, P. K., 2018. FEG-EPMA mapping and Fe-Ti oxide mineral chemistry of Brahmaputra River sediments in Bangladesh: provenance and petrogenetic implications. Arab J Geosci. 11:567 <https://doi.org/10.1007/s12517-018-3905-8>.
- 2018 Sultana, M.S., Zaman, M.N., Md. Rahman, M.A., Biswas, P.K. and Nandy, P.K. 2018. Mineralogical and Physical Characterization of Clay of Sitakunda

- Anticline: Used for ceramic Industries. *Journal of Minerals and Materials Characterization and Engineering*, v 6(3), p. 333-344.
- 2017 Biswas, P.K, Uddin, N., Alam,S., Sakib,T.U., Sultana, S., Ahmed, T., 2017. Evaluation of Heavy Metal Pollution Indices in Irrigation and Drinking Water Systems of Barapukuria Coal Mine Area, Bangladesh *American Journal of Water Resources*, , v. 5(5), 146-151
- 2017 Sultana, S., Ahmed, A.N., Sultana, S., Biswas, P.K., Saha, B. and Alam, S. 2017.Assessment on Water Quality of Waste Water in Sugar Industry and Its Impact on Environment, *Open Access Library Journal*, v.4, e3455.
- 2017 Rahman, M.A., Zaman, M.N., Biswas, P.K. and Sultana, M.S. 2017, “Economic Viability of the Tista River Sand Deposits in Bangladesh - An Overview”. *J. Sci. Res.* v. 9(2), p. 219-233
- 2017 Islam, M.S., Alam, M.M., Biswas, P.K., 2017. Petrography and geochemical analysis of Fenchuganj Well-2, Sylhet, Bangladesh” *SUST Journal of Science and Technology*, v27(1), p.59-70
- 2016 Sultana, S., Biswas, P.K., Rahman, M.A., Sultana, M.S. and Zaman, M.N.2016 Risk factor Assessment of coal mine drainage water on surrounding agricultural Soil: a case study at Barapukuria in Bangladesh.*Journal of Geoscience and Environment Protection*, v. 4, p. 7-17.
- 2016 Ahamed, S., Monir, M.U., Biswas, P.K. and Khan, A.A. 2016. Investigation the Risk of Spontaneous Combustion in Barapukuria Coal Mine, Dinajpur, Bangladesh. *Journal of Geoscience and Environment Protection*, v.4, p.74-79. <http://dx.doi.org/10.4236/gep.2016.44010>
- 2015 Rahman, M.A., Zaman, M.N., Biswas, P.K., Sultana, M.S., Nandy, P.K., 2015. Physical Separation for Up gradation of Valuable Metals from the Sand of Someswari River, Bangladesh, *Journal of Bangladesh Council of Scientific and Industrial Research*.v. 50(1), p. 53-58.
- 2015 Sultana, M.S., Ahmed, A. N., Zaman, M.N., Rahman, M.A., Biswas,P.K. and Nandy, P.K. 2015. Utilization of hard rock dust with red clay to produce roof tiles. *Journal of Asian Ceramic Societies.* v. 3(1), p.22-26.
- 2014 Hossain, I., Roy, K.K., Biswas, P.K., Alam, M., Moniruzzaman, M. and Deeba, F. 2014. Geochemical Characteristics of Holocene Sediments from Chuadanga District, Bangladesh: Implications for Weathering, Climate, Redox Conditions, Provenance and Tectonic Setting. *Chinese Journal of Geochemistry* ,33:336–350, DOI: 10.1007/s11631-014-0696-9
- 2013 Rahman, M.A., Zaman, M.N., Uddin, M.N., Biswas, P.K. and Sultana, M.S. 2013. Beneficiation of Ilmenite from Ultramafic Lamprophyre Rock, Mithapukur, Rangpur District, Bangladesh. *International Journal of Mining Engineering and Mineral Processing*, SAP Publishing v.2(1), p.1-7.
- 2013 Hossain,I., Ahmed,S.S., Islam,M.N., Biswas,P.K. and Rahman, M.A.2013. Glass sand potentiality of bar sediments from Tista and Dharla rivers, *Bangladesh Journal of Life & Earth and Agricultural Sciences*, v.41,pp.41-48.

- 2012 Rahman, M.A., Zaman, M.N., Biswas, P.K., Miah, M.Y., Hossain, T. and Huq, S.M.I. 2012. Characterization of Magnetic Minerals of Brahmaputra River Sand, Bangladesh Journal of Scientific and Industrial Research. v. 47(2), p.167-172.
- 2010 Zaman, M.N, Miah, M.Y., Ahmed, S.S., Uddin, M.N., Alam, A.K.M.B. and Biswas, P.K. 2010. Mineralogy and geochemistry of the sub-surface Lamprophyres of Mithapukur, Rangpur District, Bangladesh". Bangladesh Geoscience Journal. v. 16, p. 39-56.
- 2010 Hossain, M.R., Hossain, I., Hossain, A.S.M.Z. and Biswas, P.K."2010. Petrology of the metamorphic rocks (Gravels) from Bhanjanpur area in Panchagarh district, Bangladesh." J. Life Earth Sci.,RU, v.5, p. 91-96.
- 2010 Ahmed, S.S., Miah, M.Y., Quamruzzaman, C., Zaman, M.N., Alam, A.K.M.B. and Biswas, P.K. 2010. Alteration and exsolution characteristics of Ilmenites of Moheshkhal Island, Chittagong, Bangladesh". Bangladesh J. Sci. Ind. Res. v. 45(1), p. 17-26

Conference Proceedings

- 2012 Zaman, M.N., Rahman, M.A., Biswas, P.K., and Sultana, S., 2012 "Beneficiation of Ilmenite, Magnetite and Garnet from sands of the Tista River, Bangladesh". The 22nd Bangladesh Science Conference, Bangladesh Association for the Advancement of Science (BAAS), Dhaka, September 27-29, Section-5, p. 3. (Abstract).
- 2017 Mst. Shanjida Sultana, Mohammad Nazim Zaman, Pradip Kumar Biswas and Md. Aminur Rahman, Possibility of Using Industrial Wastes with Portland cement to Develop Concrete. Presented at 15th Annual Conference of Bangladesh Ceramic Society held on 6 to 7th April, 2017 Dhaka (Abstract)
- 2018 Biswas, P.K., Ahmed, S.S., Pownceby, M.I., Haque, N., Alam, S., Zaman, M.N., Rahman, M.A. Techno-economic evaluation of mineral sand recovery from the Rajpur bar, Tista river, Bangladesh, Presented and published in International Conference on Geosciences and Environment August 4th-6th, 2018, University of Rajshahi, Bangladesh.
- 2018 A.S.M. Mehedi Hasan, Ismail Hossain,*, Md. Aminur Rahman, Mohammad Nazim Zaman, Pradip Kumar Biswas, Geochemical Study of Single-grain Minerals in Brahmaputra River Sediments: Petrogenetic Implications, Presented and published in International Conference on Geosciences and Environment August 4th-6th, 2018, University of Rajshahi, Bangladesh.

LIST OF R&D PROJECTS

- 2009-10 Magnetic properties of Brahmaputra River sand, Bangladesh.
- 2011-14 Determination Geo-engineering properties and preparation of Gemstones from Maddhapara Hard rocks.

2011-13	Mineral Beneficiation from Ultramafic lamprophyres of Mithapukur, Rangpur District of Bangladesh.
2010-14	Determination of coal mine drainage water quality, its effects on soil and environment and remedial measures.
2010-13	Development of Mineral Processing Method for separation of Valuable Heavy Minerals and Light Mineral Silica from River sand of our country (e.g. Padma, Someshori, Dhorla)
2011-12	Preparation of Titania (Titanium Di-oxide: TiO ₂) Nano Powder.
2014-15	Characterization of the tertiary sediments of the Sitakund Anticline, Chittagong Hill Tracts and its application in Industry
2014-15	Development of a process for recovery of quartz mineral from the sands of Bramaputra river and its industrial application as glass sand.
2015-16	A proposal for the study on the possible mineral resources and apprehended hazard in coal ash
2015-16	Process Development for recovery of rutile mineral from arc electrode waste
2015-17	Industrial process development for mineral separation from Padma and Tista River.
2017-18	Assessment of Economic Importance of Quaternary Gravel Deposits in and around Joypurhat, Bangladesh.
2017-19	Recovery of precious metals (i.e. gold) from electronic wastes.

TRAINING/ WORKPLACE INFORMATION

2018/Feb – 2018/May	Evaluation of spirals for mineral sand, Commonwealth Scientific and Industrial Research Organisation, Australia
2012 (4 Oct. - 23 Oct.)	Completed training on Colored Stone and Gem Identification Course at Indian Institute of Gemology, New Delhi, India
2008 (19 Sep. - 3 Oct.)	Participated in the course on Ore Mineralogy and Mining under the auspices of the executive development program in Indian School of Mines University, Dhanbad, India.

STUDENT SUPERVISION

Supervised more than 15 MSc, BSc research students of RU, JU, SUST, JUST on Geology, Mineralogy, Geochemistry of mineral sands, peat, coal, hardrock, limestone etc.

MEMBERSHIP OF SCIENTIFIC BODIES

Member, Geological Society of Bangladesh.
Member, BCSIR Scientist Association