



G E O D E



Monthly e-Newsletter Vol. 01, Issue 01

University Department of Geology, Ranchi University, Ranchi.

Estd:1962

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Co-Patron : Prof.(Mrs.) Kamini Kumar,
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Head of the Department.

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A Brief Profile:

The mission of this department is to create and impart knowledge in pure and applied geology to the society through teaching, research and extension services for sustainable development. The University Department of Geology of Ranchi University is one of the pioneer Geology Departments in India offering a variety of courses including Nine (09) Certificate Courses planned under Vocational Courses Scheme and undertaking research activities in a wide spectrum of potentially interesting geological areas of both basic and applied nature. Started in 1962, in a modest way to impart training to students leading to degrees in Geology it has now been one of the most relevant sought for courses in Science Faculty essentially important to the mining and industrial sectors. The department has sanctioned student intake strength of 176 in the first semester of M.Sc. course with five options of Elective papers namely- Fossil Fuel Geology, Ore Geology, Sedimentology, Hydrogeology and Environment Geology. This department has been selected for UGC-SAP and DST-FIST projects apart from many individual UGC Major Research projects and one ISRO-SAC Research Project.

In recognition to the excellent academic achievements and contributions the department has received interests from many Central Govt. / State Govt. Depts. and their labs like Council of Scientific and Industrial Research (CSIR)-CIMFR, Dept. of Science and Technology, Govt.

of India, Atomic Minerals Directorate for Exploration and Research (AMDER), Dept. of Atomic Energy, Govt. of India and Indian Council for Agricultural Research (ICAR)-IINRG, Dept. of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Govt. of India for collaborative researches and signing of Memorandum of Understanding (MOU) which are in our active consideration with R.U. administration.

The department aims at catering to the needs of national and international scientific community in education and training to undertake the problems-oriented researches for the Govt. and industries to address the socio-techno economic needs of the society.

As our University is located in the heart of mineral rich Precambrians and Gondwana belt of Eastern India we focus our researches on Ore Geology, Coal Geology, Palynology, Hydrogeology, Petrology, Gemology and Geospatial technology. Our alumni in their myriad careers have achieved proven excellence occupying several leadership positions in the industry Govt. GSI, CIL, ONGC, MECL, and IBM including amongst important public sectors and various private sectors in numerous environmental consulting natural resources and energy companies in the country and abroad. Our alumni are also holding senior positions in IIT (ISM) Dhanbad, IIT-Ropar, IISER-Bhopal, Patna University, Vikram University, Ujjain and many more institutions.

I. List of Heads of Department with their respective tenures:

S.N.	Names	From-To
1.	Dr. Raghujee Verma (BES)	01.06.1962 - 17.02.1964
2.	Sri Alakh Narayan Pr	18.02.1964 - 31.12.1964
3.	Dr. Umesh Chandra (B)	01.01.1965 - 27.02.1982
4.	Prof. Guneshwar	27.02.1982 - 30.06.2002
5.	Prof. Suresh Prasad Sin	01.07.2002 - 30.09.2003
6.	Prof. Vijay Kumar	01.10.2003 - 30.09.2005
7.	Prof. D.K. Bhattacha	01.10.2005 - 04.01.2008
8.	Prof. Vijay Kumar	04.01.2008 - 31.01.2008
9.	Prof. D.K. Bhattachar	01.02.2008 - 13.10.2009
10.	Dr. Uday Kumar	14.10.2009 - 20.10.2011
11.	Dr. V.N. Jha	21.10.2011 - 29.10.2013
12.	Prof. D.K. Bhattacharya	30.10.2013 - 06.11.2015
13.	Dr. P.K. Verma	07.11.2015 - 31.07.2017
14.	Dr. A.M. Tiwary	01.08.2017 - 31.08.2017
15.	Dr. Uday Kumar	01.09.2017 - 30.06.2019
16.	Dr. Bijay Singh	01.07.2019 - Cont'd

II. Names of the teachers working at present:

- Regular:
 1. Dr. Bijay Singh : Head of the Univ. Department (Ex. Pro. Vice Chancellor, N.P. University, Medininagar)
 2. Dr. Prakash Kumar Verma : Associate Professor, Presently DSW & FO
 3. Dr. Bacha Ram Jha : Assistant Professor (SS) & (NSS Program Officer)
 4. Mr. Suresh Kumar Samad : Assistant Professor
 5. Mrs. Neelu Priya Tirkey : Assistant Professor
 6. Mr. Amit Kumar : Assistant Professor
 7. Dr. Mrs. Chanchal Lakra : Assistant Professor
- Contractual:
 1. Dr. Nitish Priyadarshi
 2. Dr. Ms. Jugnu Prasad
 3. Dr. Mrs. Jinia Nandi
 4. Dr. Mrs. Neha Mallick

III. Achievements of the University Departments in terms of:

- Academic publication (Books and Articles of the faculty members):**

Research Papers (Approx.)

Journals		Proc. Conferences/Seminars	
Intl	Natl.	Intl	Natl.
45	25	18	28
(2019-2020 Academic year only)			
08	00	10	05

- Research and Development Activities carried on so far:**

- Total No. of Ph. D. Theses produced = 72 (Seventy-Two)
- Major ISRO-SAC Project completed = 01 (One) under Principal Investigatorship of Dr. Bijay Singh
- U.G.C. Major Research Projects completed = 03 (Three) under the Principal Investigatorship of Prof.

Dr. D. K. Bhattacharya (Retd.), Dr. Bijay Singh (presently Head) and Dr. B. R. Jha. one each.

- Gemology Lab. Development Project sponsored by Dept. of Mines and Geology, Govt. of Jharkhand = 01(One) with Dr. Bijay Singh as the Nodal Officer.
- DST-FIST Project** awarded to the Univ. Dept. of Geology with **Prof. D. K. Bhattacharya** as Principal Co-ordinator.
- UGC-SAP Project** awarded to this Department.

IV. Activities carried on during 2019-20:

- Induction and Research Interaction Programme** held on 11th July 2019 (One day)
- Faculty Development Programme** 24th August to 03rd September 2019 (Two weeks) held in this department sponsored by **Ministry of Electronics and Information Technology organized in collaboration with N.I.T. Patna** - 64 (Sixty-four) participants attended.
- Laboratory upgradation and skill development programmes launched for the strengthening of the Electives and Research labs. of:
 - Research and Development Lab.
 - Thin Section studies Lab.
 - Gemology Lab.
 - RS-GIS Lab.
- Geological Museum Awareness Programme.
- Three (03) Ph. D. Course work students registered for Ph. D. program.
- Three Phase Electricity connection provided to Elective lab. of Fossil Fuel Geology.
- More than One hundred and Fifty-five (155) participants including faculty, research scholars, post M.Sc. of sessions 2016-18, 2017-19 and 2018-20 and regular M.Sc. students of sessions 2019-21 and 2020-2022) were nominated for G.S.I. Training Institute, Hyderabad sponsored E-Training courses on diverse topics of geological interest.
- Our Department has been enlisted on 15th July 2020 for the first time as Nodal Center/Network Center by the **Indian Space Research Organization (ISRO) - Indian Institute of Remote Sensing (IIRS), Dehradun** for imparting online Training to our students.
- As a novel Research and Development initiative in this department **Active Research Groups** have been constituted in the frontier/thrust areas of research fields involving **One Research Group Mentor** (Experts from Foreign UNIV./IITS/IISC/IISER/Central Univ./NIT/CSIR Labs. etc.),
- Two Research Group Advisors** (Drawn from academics of the State Univ./Field and Lab professionals from different Geo-Scientific organisations/ Retired persons etc.),
- Two Research Group Advisors** (Drawn from academics of the State Univ./Field and Lab professionals from different Geo-Scientific organisations/ Retired persons etc.),
- Research Group Co-ordinator** (from the regular faculties of this department and
- Research Group Members** (comprising of desirous post M.Sc. and M.Sc. Regular students) - Nearly 40

(Forty) students have opted for joining under this initiative.

• **Accomplishments of Students in the field of sports and cultural activities:**

- Mr. Debashish Singh Sardar (Session 2019-21) participated in Inter College Youth Festival 2019 organised by Gossner College Ranchi during 7th- 8th November 2019 and secured 2nd position in “Installation” under Fine Arts category”.

• **Exemplary extracurricular activities:**

- Academic, logistic and mentorship supports to all the new post graduate departments of Geology under N. P. Univ., Medininagar, SKM Univ., Dumka, Kolhan Univ. Chaibasa, DSPM Univ. Ranchi and BBKM Univ. Dhanbad are extended regularly for their institutional development.
- Various industries, mining and exploration departments of the Govt. and private sectors are frequently soliciting our faculties for academic advice and problem-solving suggestions.

• **Notable achievements in any other field:** In recognition of the academic excellence and quality research works of this Department in the past

- **An M.O.U. with CSIR-CIMFR**, Dept. Of Science and Technology, Govt. of India has been signed on **18th January, 2021 at CIMFR**, Dhanbad in the august presence of Hon'ble Vice Chancellor, R.U. and the Director General of C.S.I.R. Govt. of India
- Department has received request for M.O.U. from **AMDER, Dept. of Atomic Energy**, Govt. of India Hyderabad –very soon to be signed.
- Department has received request for M.O.U. from **ICAR- IINRG Lab. Namkum, Ranchi**, Dept. of Agriculture, Govt. of India, Ranchi –very soon to be signed.
- **Development–Connect** a start-up developmental organization in Jharkhand has also evinced interest in partnership with this department followed by a M.O.U. in due course.
- Signing of several other M.O.U.s. are under active consideration of the Department and R.U. Administration.

• **Teachers who earned distinction in their fields (mention achievements):**

- Prof. S. P. Singh was appointed as the Hon'ble Vice-Chancellor of Veer Kunwar University, Arrah (erstwhile united Bihar) and later on Prof. Singh was also appointed as the Member Bihar State Universities (Const. Colleges) Service Commission, Patna.
- Dr. Bijay Singh appointed as **Professor of Geology** through **Direct Recruitment** process of **J.P.S.C. Jharkhand** in N.P. University, Medininagar where he held various administrative posts as: Head of the Univ. Dept. of Geology, Dean, Faculty of Science, Finance Officer (F.O.), Dean of Students Welfare (D.S.W.), Dean, Faculty of Engineering, Dean, Faculty of Education
- Dr. Bijay Singh was appointed as Hon'ble Pro. Vice Chancellor of Nilamber Pitamber University for

three years tenure by H.E. Governor-cum-Chancellor of Universities of the State of Jharkhand.

- Dr. Bijay Singh was selected as the Member of the Jharkhand State Higher Education Council, RUSA by the Dept. of Higher Technical Education and Skill Development, Govt. of Jharkhand.
- Dr. Bijay Singh was appointed as the Director, Institute of Legal Studies, Ranchi University.

• **Students who earned distinction in any other field (mention achievements):**

- Four students selected through **UPSC conducted combined Geo-Scientist and Geologists Examination, 2019** for Geologist posts namely: 1. Ms. **Moni Oraon** 2. Ms. **Anisha Priya Xalxo** 3. Ms. **Neha Dadel** and 4. Mr. **Fredrick Ronald Kispotta**.
- Six students selected through **J.P.S.C Ranchi** for the post of Geologists namely: 1. Mr. **Avinesh Kumar Singh** 2. Mr. **Keshav Kumar Pathak** 3. Mr. **Sharvesh** 4. Mr. **Ashish Kachhap** 5. Mr. **Amber Xavier Kerketta** and 6. Ms. **Anubha Tigga**.
- Mr. **Satyajit Gorain** has been selected as geologist for D.C.S. limited Malanjkhanda Copper Project, M.P.
- Mr. **Anup Kumar Sinha**, M. Phil. student selected as Geologist for M/S Prabha Energy Systems, Ranchi.
- Miss **Sapna Xaxa** has been selected for **National Fellowship for Higher Education of S.T. students (N.F.S.T)** in March 2020 under the guidance of Dr. Bijay Singh, Head of the Department of Geology, Ranchi University.
- Miss **Neha Dadel** has been selected for **National Fellowship for Higher Education of S.T. students (N.F.S.T)** in 2019 under the guidance of Dr. B.R.Jha, Ranchi University.
- Mr. **Vikram Yadav** awarded RU Ph.D. research fellow 2020, Ranchi University, Ranchi.

• **Honors/Recognition/Appointed:**

- Head of Department, University Dept. of Geology, Ranchi University, Ranchi has been nominated as member of the Ranchi Univ. Sennet under section 18(9) of JSU Act 2000, for the period of three years. vid memo no. RU/R/6514/21 dated 06/01/2021.

• **Meetings of the month:** MoU meeting held on 18th Jan 2021 at CSIR-CIMFR Dhanbad.

- Attended the meeting 24th half yearly J.S.G.P.B (Dept. of Mines and Geology, Govt. of Jharkhand) meeting held on 28th Jan 2021 at 11.00 a.m. through video conferencing.

- HOD participated as external expert in the Ph.D. JRF to SRF promotion interview held online at Central University of Jharkhand on 25th Jan 2021.

- **Research Groups:** Five active research groups are operational in the fields of Fossil Fuel Geology, Sedimentology, Hydrogeology, Ore Geology and Environmental Geology in which 40-45 research students have joined.

• **New admission (2020- 2022):**

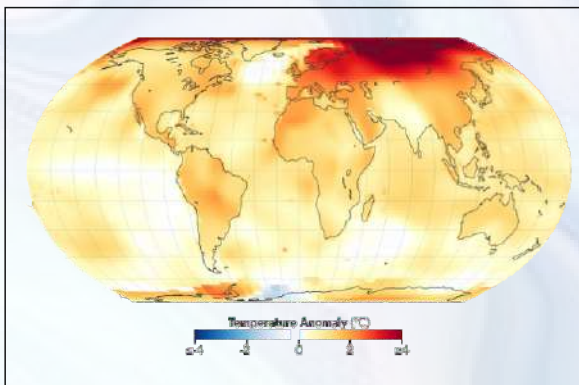
Sanction seats: 80 (1st shift) + 80 (2nd shift) + 16 (EWS)
= 176 seats

• **Trainings/workshop:**

- Three Faculty members named: Mr. Suresh Kumar Samad, Mrs. Neelu Priya Tirkey, Mr. Amit Kumar,

One research scholar (Mr. Vikram Yadav), 7 students of 2019-2021 and 29 students from 2020-2022 batch attended the e-training of basics of GIS and its application from 06/01/2021- 08/01/2021 organized by GSI-TI, Hyderabad.

- Three faculty members named Dr. Chanchal Lakra, Mrs. Neelu Priya Tirkey and Mr. Suresh Kumar Samad attended training/workshop on “**Basic Concept in Coal Petrology**” during 18-20 Jan 2021 at CSIR-CIMFR.
- **Online Classes:** Online classes for Semester I session 2020-2021 students have started from 22nd of December 2020 and is ongoing.
- **Certificate Courses:** Altogether six certificate courses are being launched from this academic session (2020-21) and three more certificate courses to be launched from the next academic session (2021-22).
- **Field/Research Visits:**
 - Ms. Sapna Xaxa (Research Scholar) : 16th Jan 2020.
 - Mr. Shashank Kumar (Research Scholar) : 18-19th Jan 2020.
- **GLOBAL GEOLOGICAL NEWS:**
 - **2020 Tied for Warmest Year on Record:**



Nasa recorded the Earth's global average temperature in 2020 was 1.02 degree Celsius (1.84-degree Fahrenheit) which is much more than the baseline 1951 -1980. A separate, independent analysis by the National Oceanic and Atmospheric Administration (NOAA) concluded that 2020 was the second-warmest year in their record, behind 2016. NOAA scientists use much of the same raw temperature data in their analysis, but have a different baseline period (1901-2000) and methodology. They noted that 2020 was the 44th consecutive year with global land and ocean temperatures above the 20th-century average. A separate, independent analysis by the National Oceanic and Atmospheric Administration (NOAA) concluded that 2020 was the second-warmest year in their record, behind 2016. NOAA scientists use much of the same raw temperature data in their analysis, but have a different baseline period (1901-2000) and methodology. They noted that 2020 was the 44th consecutive year with global land and ocean temperatures above the 20th-century average.

Courtesy: NASA TV

• **Earth's ice loss now in worst-case zone:**



Activist Mya-Rose Craig, 18, sits on an ice floe in the middle of Arctic Ocean demanding action on climate crisis. (REUTERS File)

Earth's ice is melting faster today than in the mid-1990s, according to new research that shows the loss is now following the worst-case scenarios for climate change, which has nudged global temperatures ever higher.

Altogether, an estimated 28 trillion metric tons of ice have melted away from the world's sea ice, ice sheets and glaciers since the mid-1990s. Annually, the melt rate is now about 57% faster than it was three decades ago, the researchers say in a study published in the journal *The Cryosphere*.

“The ice sheets are now following the worst-case climate warming scenarios set out by the Intergovernmental Panel on Climate Change. Sealevel rise on this scale will have very serious impacts on coastal communities this century,” said researcher Thomas Slater of the Centre for Polar Observation and Modelling, University of Leeds, according to a statement by the university.

News agency Reuters quoted Slater as adding: “It was a surprise to see such a large increase in just 30 years”. While the situation is clear to those depending on mountain glaciers for drinking water, or relying on winter sea ice to protect coastal homes from storms, the world's ice melt has begun to grab attention far from frozen regions, Slater noted.

The melting of land ice - on Antarctica, Greenland and mountain glaciers - added enough water to the ocean during the three-decade time period to raise the average global sea level by 3.5 centimetres.

Ice loss from mountain glaciers accounted for 22% of the annual ice loss totals, which is noteworthy considering it accounts for only about 1% of all land ice atop land, Slater said.

• **Kernowite : New mineral found on rock mined in Cornwall:**



Trustees of The Natural History Museum, London

New type of mineral has been discovered by scientists analysing a rock mined in Cornwall about 220 years ago. The dark green mineral has been named Kernowite after Kernow, the Cornish language word for Cornwall. A group led by Natural History Museum (NHM) mineralogist Mike Rumsey made the discovery while studying a rock taken from Wheal Gorland mine in St Day. Mr Rumsey said: "It's amazing that in 2020 we are adding a new mineral." For centuries, mineralogists believed the green crystals to be a variation of another mineral, liroconite, but Mr Rumsey and his team found it has a different chemical composition. Blue liroconite is highly prized by collectors around the world, and the majority of it comes from the Wheal Gorland site. Cornwall has a rich mining history with UNESCO world heritage status and is known globally for the discovery of minerals.

Courtesy: BBC News

• **NATIONAL GEOLOGICAL NEWS**

- **14-year-old geology prodigy receives PM Bal Puraskar**



Sonit Sisolekar, who turns 14 on Republic Day, received his birthday present a day early when he was named among the recipients of Pradhan Mantri Rastriya Bal Puraskar. Sonit is among the youngest volcanologist and planetary geologist in India. His research on the effect of ionizing radiations on the reddening of soil on Mars helped him win the NASA-CIS competition.

Courtesy: Times of India

- **GSI Finds Vanadium in Arunachal Pradesh:**



A truck carries Vanadium ore. File | Photo Credit: AFP

Geological Survey of India (GSI) has found promising concentration of vanadium in the palaeo-proterozoic carbonaceous phyllite rocks in the Depo and Tamang

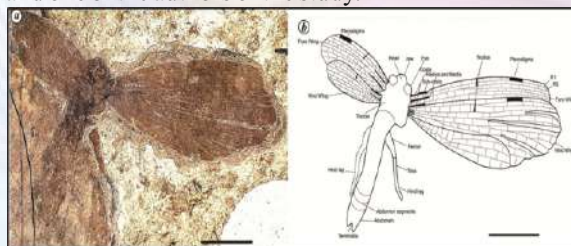
areas of Arunachal Pradesh's Papum Pare district. "Good prospects" of vanadium for a cumulative length of 15.5 km and an average thickness of 7 m were found in the Deed, Saiya and Phop areas of Lower Subansiri district. Vanadium content was also found in the Pakro area of Pakke-Kesang district, Palin-Sangram in Kra Daadi, Kalamati in West Siang, Kalaktang in West Kameng and Kaying in Siang district.

Courtesy: The Hindu

• **STATE GEOLOGICAL NEWS:**

- **Scientists find dragonfly fossil, 2.5mn years old, in Jharkhand:**

A team of scientists from West Bengal has discovered the first dragonfly fossil found in India in Jharkhand's Latehar district, according to a study published in Current Science. The fossil is said to be at least 2.5 million years old. "This is the first dragonfly fossil from India. It is a well-preserved one. The fossil belongs to the late Neogene period which dates between 2.5 million and five million years ago," said Subir Bera, a professor with the Centre for Advanced Study in the botany department of Calcutta University, and one of the authors of the study.



Recovered fossil dragonfly specimen (SKBUH/PPL/JH/12) b. line drawing of fossil specimen (scale bar=1cm) Source: Current Science, Vol. 119, No. 7, 10 October, 2020. (Manoshi Hazra)

- **Cryogenic Engine will be made in India: Mecon has started work on ISRO project:**



Photo Credit: Ranchi Updates

India is continuously increasing its capacity in the field of space. Earlier the cryogenic engine used to come from abroad, now its manufacturing has started in India as well. Ranchi-based MECON Company has developed a semi-cryogenic engine testing facility. The domestic engine testing facility will increase the rocket carrying capacity in space. The rocket is being prepared to get launched by August 2021. The Chandrayaan-2 launchpad was also designed by the Mecon, Ranchi.

Courtesy: Ranchi Updates

"Geologists have a saying, rocks remember."

- Neil Armstrong

Faculties of the Department

1. Name : Dr. Bijay Singh
 2. D.O.B. : 04.07.1958
 3. Qualifications : M.Sc., Ph.D.
 4. Experience :
 • Research : 40 Years
 • Teaching : 38 Years
 5. Publications : 50
 6. Date of joining : 15.03.1982



1. Name : Dr. Chanchal Lakra*
 2. D.O.B. : 15.04.1989
 3. Qualifications : Ph.D., NET(LS),
 Awarded National
 Fellowship for
 Higher Studies
 (M.PHIL./Ph.D.)



4. Experience:
 • Research Topic: Coal characteristics,
 Petrography, Palynology.
 • Teaching : 2 years, 2 months
 5. Publications : 03
 6. Date of Joining in Institution : 18.11.2020.

1. Name : Dr. Prakash Kumar Verma
 2. D.O.B. : 08.03.10956
 3. Qualifications : M.Sc., Ph.D., PGDRD,
 4. Experience :
 • Research : 38 Years
 • Teaching : 38 Years
 5. Publications : N.A.
 6. Date of joining : 08.03.1982



1. Name : Amit Kumar*
 2. D.O.B. : 21.01.1996
 3. Qualifications : M.Sc.,
 Ph.D. (Pursuing)



4. Experience :
 • Research Area : Ore Geology
 • Teaching : 2 Months
 5. Publication : Nil
 6. Date of Joining in Institution : 18.11.2020

1. Name : Dr. Baccha Ram Jha
 2. D.O.B. : 25.02.1958
 3. Qualifications : M.Sc., Ph.D.
 4. Experience :
 • Research : Coal Petrology, Coal
 Palynology
 • Teaching : 35 Years
 5. Publications : ~30
 6. Date of joining : 12.09.1985



1. Name : Neelu Priya Tirkey*
 2. D.O.B. : 02.11.1989
 3. Qualifications : M.Sc.(Tech.),
 NET (JRF)



4. Experience:
 • Research : Exploration and
 Economic Geology, Remote Sensing
 • Working: MECL, NMDC
 • Teaching : 2 Months
 5. Publications : Nil
 6. Date of Joining in Institution : 23.11.2020.

1. Name : Suresh Kumar Samad*
 2. D.O.B. : 14.11.1989
 3. Qualifications : M.Sc., M.Tech.
 (Mineral Exploration),
 Ph.D. (Thesis Submitted)
 4. Experience:
 • Research Area: Coal Geology and Organic
 Petrology, Shale Gas
 • Teaching: 2 Months
 5. Publications: 9
 6. Date of Joining in Institution: 18.11.2020



* Newly Appointed Teachers Directly Through JPSC

Obituary:

- Late Prof. J. Singh (01/01/1942- Feb 2020) excellent alumni of Patna University Department of Geology and a great teacher of Ranchi University left us for his heavenly abode last year.
- Late Prof. J.C. Pathak (09/09/1937- 03/08/2020) as illustrious teacher and motivator who passed away last year.

