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अंक : 3 वर्ष 2015

दृष्टिकोण

वाडिया हिमालय भू-विज्ञान संस्थान
भारत सरकार के विज्ञान एवं प्रौद्योगिकी विभाग के अधीन एक स्वायत्तशासी संस्थान

Drishtikon

A half yearly newsletter of research scholars
Wadia Institute of Himalayan Geology

इस अंक में

We want to hear from you

To inspire our readers and recognize your accomplishments we would like to feature your scientific/general article in our upcoming volume. Please send your articles to: drishtikon@wihg.res.in

सम्पादकीय

युवा विचारधारा, दृष्टिकोण एवम् उनके क्रिया कलापों को परिलक्षित करते हुए संस्थान के शोध छात्रों के छमाही पत्रक 'दृष्टिकोण' का तीसरा अंक आपके सम्मुख रखते हुए अत्यन्त प्रसन्नता है।

परिवर्तन और अनिश्चितता प्रकृति के नियामक हैं जो ब्रह्माण्ड में हर स्तर पर लागू होते हैं। जीवन की यात्रा में प्रारम्भ से अन्त तक जीव हर क्षण अपने चारो तरफ के निरन्तर परिवर्तनशील वातावरण से प्रभावित होता है। अपनी समझ विकसित करता है तथा भविष्य की गतिविधियों के लिये अपने को तैयार करता है। यह तैयारी चेतन और अवचेतन रूप में होती रहती है। इसी अवधारणा पर वैज्ञानिकों ने आंकडों के स्व–विशलेषण हेतु न्युरल नेटवर्क एल्गोरिथ्म का विकास किया है।

अपने चारों ओर के परिवर्तनों से, उत्तरोतर विकास की यात्रा से उपजे दृष्टिकोण को समाहित किये यह अंक विभिन्न स्तर पर विभिन्न प्रभावों को लिये हुये है। जहाँ विपिन कुमार क्रमिक विकास को रेखांकित करते हुए जीवन में प्रतिपल अनिश्चय की स्थिति को दर्शाने की कोशिश करते हैं वहीं खोगेन इन परिवर्तनों में सकारात्मक प्रेरणा ग्रहण करते प्रतीत होते हैं। दूसरी तरफ संजय चारों ओर फैली असमानता, असमाजिकता से आक्रोशित नजर आते हैं। प्राकृतिक संसाधनो में हिमनदों के महत्व को लयबद्ध शब्दों में पिरोकर पुरषोत्तम गर्ग ने इनकी आवश्यकता एवम् इनकी सुंदरता का वर्णन किया है।

इस बार फोकस में एक यक्ष प्रश्न है जो समूचे वैज्ञानिक समुदाय को झकझोरता है। जूली जायसवाल की कविता में उठा यह प्रश्न् आज निश्चित ही विकराल हो रहा है। यह प्रश्न है विज्ञान को आमजन तक पहुँचाने का। वस्तुतः इससे इन्कार तो नहीं किया जा सकता है कि विज्ञान ने आज मानव जीवन को सुख सुविधा से भर दिया है। परन्तु यह विकास, यह ज्ञान केवल व्यवसायिक हित साधते हुये उपयोग तक ही सीमित है। आमजन के दृष्टिकोण व समझ अभी भी वैज्ञानिक नही है। यह तब तक संभव नहीं है जब तक हम विज्ञान की जटिलता को सरल एवम् आम भाषा में व्यक्त न करें। 'वर्तमान में विज्ञान' इसी परिपेक्ष में सोची गयी, लिखी गयी कविता है और जिसके उत्तर में हमें अपने प्रयासों को और अधिक सार्थक करने की आवश्यकता है।

इन सबके साथ, आपकी टिप्पणीयों की प्रतीक्षा में यह अंक आपके सम्मुख प्रस्तुत है।

फोकस में

वर्तमान में विज्ञान

हर पल और हर क्षण
कर रहा विज्ञान 'मानव'
कर रहा नित नव–शोध
कुरेदता भूतकाल 'मानव'
व्यतीत करता पूरा दिन
और सुबह–शाम 'मानव'
जिजिविशा को दफन
कर देता औद्योगिकी को प्राण 'मानव'
ताक पर रखता परम्परा और संस्कृति
और करता नव–निर्माण 'मानव'
सुलझा रहा रहस्य कितने
लेकिन उलझा रहा नित आम–मानव
लिख रहा है लेख कितनें
ना समझ पा रहा इसे आम–मानव
पर्चों को कोठरी में कैद
सिसक रहा है शोध–ज्ञान 'मानव'
दूर आम–आदमी की समझ से
और कर रहा विज्ञान 'मानव'
जो समझ पाये इसे आम–मानव
तो विज्ञान है वरदान 'मानव
पहुँचे हर गली–मोहल्ले कूचे
और करे कल्याण 'मानव'
क्यों बन रहा अंजान मानव
आवश्कता इस धरा को तेरी
पहुँचा जन–जन विज्ञान 'मानव'
तभी सम्भव है इस धरा पर
सुख व समृद्ध भारत का निर्माण 'मानव'

- Jooly Jaiswal
(JRF)

नवागंतुक

Ms. Arpita Paul
Junior Research Fellow- Geophysics Group
Associated with Dr. Devajit Hazarika

Ms. Nikita G Parmar
Junior Research Fellow- Petrology & Geochemistry Group
Associated with Dr. N. Suresh & Dr. S.K. Rai

Ms. Jooly Jaiswal
Junior Research Fellow- Biostratrigraphy Group
Associated with Prof. Anil K. Gupta

Mr. Diwate Pranaya Rameshwar Rao
Junior Research Fellow- Sedimentology Group
Associated with Dr. N. K. Meena

Mr. Vipin Kumar
Junior Research Fellow- Geomorph. & Env. Geol. Group
Associated with Dr. Vikram Gupta

Mr. Aravind A., Mr. Ishwar S. and Mr. Arjun Pandey
Junior Research Fellow- Structure and Tectonics Group
Associated with Dr. R. J. Perumal

अभिव्यक्तियाँ

...This section displays an existent, living, thoughtful and immortal interface of a human, structured in words and peer through the running pen of WIHG scholars...

WORLD OF SENSES

A new born child is an obvious virtue of God because he/she is unaware of the surroundings. As we grow, our five senses start gathering information and keep them for a long time in our memory. Whatever we later sense is then influenced by the previous sensed information and thus interpretation is made by the mind. This gathering of information is made by senses consistently during our awakening and when we are not aware (sleep), all the gathered information flows randomly and we call it as a dream. Our decision making or future planning depends entirely on our sensibility. What you sense, how you sense, why you sense are some intrinsic questions we can ask ourselves when puzzled for decision making.

- Vipin Kumar
(JRF)

TALE OF NOBILITY

"Nature with its great laws created this world. But we have deviated from, disrespected and misruled these laws. Nowhere have we followed them and now the consequences of the tyranny remain to be faced."

As well said by a Greek philosopher, ***Aristotle-***
"The rule of law is better than the rule of any individual."

These words come out, seeking the wounds of nobility.
The tale of a hero, Malala Yousafzai.....

I could hardly see love,
When I gazed into the eyes.
The eyes of a stranger,
As I was newly born.

I just followed the laws of nature
and came into this so called 'The Earth'.

The perfect Earth, where we live.

I saw differences, I saw divides,
I saw crying eyes, and unbounded rage.
But, I could hardly see love.

As I grew, I saw nature's biggest mistake.
Mistake to create a specie.
A specie with no bounds, specie with no laws.
Made of self, and so called ' The Human'.

Go and search the reality, out there in the air
Air in which we live, air that we pollute.
Go and search the corners of murders and massacres.
The corners of rigid religious beliefs.
They will tear your flesh, and stab your soul.
The corners of no shame, no respect,
no meaning and no freedom.
No freedom to live nor to die.

I hate the land.
The land where people get hated.
Hated by their own race.
Hated for their caste, creed, colour and gender.

I hate the land.
The land with no respect for mother.
The land where she is stoned to death.
The land where she is kept away, away from education.
The land where she cries, and is beaten to death.

I warn you all, everything is watched.
The wrath will soon fall upon.
No flesh and soul will be spared.
History too admits; every daemon and cruel reign falls.
And all in vain, will turn to ashes.

- Sanjay Singh Negi
(SRF)

हिमनद

हे हिमनदा तू सदा रहे,
हिम की नेमत से भरा रहे।
तुझसे सरिता आप्लावित हो
कल–कल से गुन्जित धरा रहे।।

कोटि कोटि जन जल खातिर,
निर्भर तुझ पर हे उज्ज्वल।
है आज सुरक्षित तुझसे ही,
है आस यही हो बेहतर कल।।

गंगा पाती तुझसे जीवन,
जो जीवन–रेखा भारत की।
समृद्ध कृषि, प्रमुदित जीवन,
मंगल आशीष भागीरथ की।

तू शीश–मुकुट हिम–आलय का,
विस्तार तेरा नभ तक उन्नत।
है हृदय–मनोरम दृश्य तेरे,
भूतल पर जैसे हो जन्नत।।

–पुरुषोत्तम कुमार गर्ग

अंतर्दृष्टि

WAY OF LIFE

Uncertainty in our life grows with us since our birth. Neither we have control on our birth nor can we ignore death. In between, we observe, understand, respond, react and do many more things. After few years of birth, as a conscious soul, when we start to find joy in things, foundation of habits is laid. We initiate to do selection of like minds and fear/ignore from rest around. So far, we have started to climb education stairs which are going to land us in future in a materialistic world. Advice of parents has already started to interfere with suggestion from friends.

We were just mentally growing that somehow chaos has occupied a place in our minds. Growing up with all ups and downs, we become much aware of our surroundings in the presence of opposite genders.

With all together, we have climbed enough education stairs and now find ourselves on a broad platform towards which our family and relatives are gazing with hope. Actually, they are eager to listen that we are going to earn in a socially acceptable format. But, this platform is also looking at us and trying to say that "you have grown with inheritance & now will reproduce with natural or social struggle, comprising variability in order to survive." In short, it is just expressing that, "pick a domain carefully; it is going to design your finite path of life."

- Vipin Kumar
(JRF)

A SONG OF A LAYMAN

Now that summer turns to winter,
With blankets of fog piling at dawn.
Stones from mountains reach to coast
Hundreds of mile they travel a day.
Nothing on Earth takes a rest.
So as I, work at noon and dream at night,
Hoping to live for another day.

Seeds you throw, blossom into flowers
Spraying fragrance to the winds of cold.
Nothing on Earth grows so fast
Without a reason or a cause.
So as I, aging so soon
From a child of yesterday
To a man of present day.
Get to learn and learn to work,
Hoping to earn and feed my kin.

Waters of oceans have no sleep.
Rather they rise with the sun,
They die as clouds and reach to heaven
Leaving the tides down the sea.
Nothing on Earth lives for long.
Even the ice melts with time.
So as I, a mortal on Earth
Born to live and live to die.

But before I do, I will sail against the tide
Just to reach islands of hope.
I will climb against the slope
Till I sweat and bleed my foot
On the mountain they say, there is success.

- S. Khogen Singh
(JRF)

अंर्तदृष्टि

PH. D THESIS SUBMITTED/ DEFENDED

1. **Matsayendra Shukla**
   University: Jammu University (JU)

2. **Mayank Joshi**
   University: Hemwati Nandan Bahuguna Garhwal University (HNBGU)

3. **Koushick Sen**
   University: University of Petroleum & Energy Studies (UPES)

4. **Souvik Das**
   University: University of Petroleum & Energy Studies (UPES)

5. **Aditya Kharya**
   University: University of Petroleum & Energy Studies (UPES)

PROMOTIONS

1. **Dr. Vyshnavi Shekhar**
   Joined as Research Associate
   w.e.f : January, 2014
   Associated with Dr. R. Islam

2. **Mr. Arun Prasath R.**
   Upgraded as Senior Research Fellow
   w.e.f : 01 January 2014
   Associated with Dr. Ajay Paul

3. **Ms. Watinaro Imsong**
   Upgraded as Senior Research Fellow CSIR (NET)
   w.e.f : 01 June 2014
   Associated with Dr. Swapnamita Choudhury

4. **Mr. Rakesh Singh Gosain**
   Upgraded as Senior Research Fellow (WIHG)
   w.e.f : 10th of April 2014
   Associated with Dr. Ajay Paul

5. **Mr. Koushick Sen**
   Received Extended Senior Research Fellowship (WIHG)
   Associated with Dr. B. K. Mukherjee

PUBLICATIONS

1. Bishnupriya Basak, Pradeep Srivastava, Sujit Dasgupta, **Anil Kumar** and S.N. Rajaguru (2014). Earliest dates and implications of Microlithic industries of Late Pleistocene from Mahadebbera and Kana, Purulia district, West Bengal. **Current Science,** 107 (7), 1167-1171.
2. Amit Kumar, Akshaya Verma, D.P Dobhal, Manish Mehta, **Kapil Kesarwani** (2014). Climatic control on extreme sediment transfer from Dokriani Glacier during monsoon, Garhwal Himalaya (India). **Journal of Earth System Science,** 123(1), 109-120.
3. Mehta, M., Dobhal, D.P. **Kesarwani, K., Pratap, B.**, Kumar, A. and Verma, A. (2014). Monitoring of glacier changes and response time in Chorabari Glacier, Central Himalaya, Garhwal, India. **Current Science**, 107 (2), 281-289.
4. **NEWS ARTICLE: Tanuj Shukla, Jairam Yadav and Shipika Sundriyal** (2014). Field Training in Glaciology: A way to touch, feel and understand"; **Current Science**, Vol No. 107.
5. Mehta, M., Dobhal, D.P. , **Pratap, B.**, Majeed, Z., Gupta. A.K., Srivastava P., (2014). Late Quaternary glacial advances in the Tons River Valley, Garhwal Himalaya, India and regional synchronicity. **The Holocene**, 1-15 (DOI: 10.1177/0959683614540947).
6. **Negi, S. S.**, Paul, A., Joshi, A., Kamal (2014). Body Wave Crustal Attenuation Characteristics in the Garhwal Himalaya, India. **Pure and Applied Geophysics**. (DOI:10.1007/s00024-014-0966-9).
7. **Negi, S. S.**, and Paul, A., (2014). Space time clustering properties of seismicity in the Garhwal-Kumaun Himalaya, India. **Himalayan Geology (In Press)**.

SEMINARS/CONFERENCES/SYMPOSIUMS

1. **Shukla, T.,** Dobhal, D.P., Mehta, M., Nainwal, H.C. (2014): Heavy Metal Resistance Pathogen Study Along. The Coromandel Coast, Southern India. International conference on 'Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment: Challenges, Processes and Strategies'. International Association for Mathematical Geosciences 16th conference scheduled to held on October 17-20 at Jawaharlal Nehru University, New Delhi.
2. **Kesarwani, K.**, Dobhal, D.P., Durgapal, A., Mehta, M. and **Misra, A.** (2014): Precipitation variability over the glacierized basin of Central Himalaya, India. National conference on Himalayan Glaciology, October 30-31 at H.P. State Centre on Climate Change, Shimla, Himachal Pradesh.
3. **Kesarwani, K.**, Dobhal, D.P., Durgapal, A., Karakoti, I. and Mehta, M. (2014): Surface Energy and Mass Balance on the Ablation Zone of Chorabari Glacier, Central Himalaya, India. International conference on 'Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment: Challenges, Processes and Strategies'. International Association for Mathematical Geosciences 16th conference scheduled to held on October 17-20 at Jawaharlal Nehru University, New Delhi.
4. **Kesarwani, K.**, Mehta, M., Dobhal, D.P., Durgapal, A. (2014): Effect of Wind speed and direction on valley glaciers of Himalaya: A case study of Chorabari Glacier, Central Himalaya, India. National Conference on Climate Change and its Implications on Himalayan Environment" at Central University Himachal Pradesh, Dharamshala, Himachal Pradesh, March 20-21.
5. **Bhanu P. Thakur** presented a paper "Quantification of changes in Epiglacial Morphology and Annual Mass Balance of Dokriani Glacier, Central Himalaya, India" in National Conference on Himalayan Glaciology (NCHG), 30-31 October, 2014, Shimla.
6. **Bhanu P. Thakur** participated in workshop "Hindu Kush Himalayan Cryosphere Data Sharing Policy Workshop" and the second International Conference on "Cryosphere of the Hindu Kush Himalayas: State of the Knowledge", 13–16 May 2014, ICIMOD, Kathmandu, Nepal.
7. **Bhanu P. Thakur** participated in training workshop on "Glacier Water Resource Assessment and Monitoring in the Hindu Kush Himalaya" 21 April-12 May 2014, ICIMOD, Kathmandu, Nepal.
8. **Bhanu P. Thakur** presented a paper "Indian Himalayan Glaciers and Associated Natural Hazards: A Consequence of Climate Change" in National conference on Implications of Climate Change on Himalayan Environment (ICHE-14), 20-21 March, 2014, CUHP, Dharamshala, India.
9. **Shivani Pandey** attended Field workshop on "Post - collisional Palaeogene tectono- sedimentary framework of the Ladakh fore arc basin", organised by the Paleontological Society of India and Centre of Advanced Study in Geology, Lucknow University, 28th July to 4th August, 2014.

TRAINING/FIELD

1. **Ms. Shipika Sundriyal** attended "Training course in Glaciology" conducted by Geological Survey of India, at Hamtah Glacier Himanchal Pradesh, during 4th Aug to 7th Sept, 2014.
2. **Mr. Tanuj Shukla** attended "Training course in Glaciology" conducted by Geological Survey of India, at Hamtah Glacier Himanchal Pradesh, during 4th Augto 7th Sept, 2014.
3. **Mr. Jai Ram Singh Yadav** attended "Training course in Glaciology" conducted by Geological Survey of India, at Hamtah Glacier Himanchal Pradesh, during 4th Aug to 7th Sept, 2014.
4. **Ms. Jooly Jaiswal** visited the field area to collect the data samples from Shastradhara and Chakrata, located in district, Dehradun, Uttarakhand, INDIA.
5. Dr. Amit Kumar and **Anshuman Misra** visited Dunagiri Glacier, 13 sept to 22 Sept.

ACHIEVEMENTS/RECRUITMENTS

1. **Ms. Shalini Gupta** joined Geological Survey of India, as a Geologist.
2. **Ms. Cristabell** joined Geological Survey of India, as a Geologist.
3. **Ms. Richa Gautam** qualified Geological Survey of India, as a Geologist.
4. **Ms. Priyanka Singh Rao** qualified Geological Survey of India, as a Geologist.
5. **Dr. Vyshnavi Shekhar** qualified Hydrogeology (2012).
6. **Mr. Anil Kumar** qualified the post of Scientist - B, Wadia Institute of Himalayan Geology, Dehradun.
7. **Mr. Somdutt** qualified the post of Scientist - B, Wadia Institute of Himalayan Geology, Dehradun.
8. **Mr. Vipin Kumar** qualified Joint CSIR-UGC TEST for J.R.F and Eligibility for Lectureship (NET), June 2014, AIR-19, JRF-NET (UGC).
9. **Mr. Tanuj Shukla** qualified Joint CSIR-UGC TEST for J.R.F and Eligibility for Lectureship (NET), June 2014, AIR-96, JRF-NET (UGC).

REGISTERED/PROVISIONAL ADMISSION TO Ph.D. PROGRAMME

A. Indian Institute of Technology, Roorkee

1. Arun Prasath R.
   Status- Continuing the course work
2. Sanjay Singh Negi
   Status-Course work and Comprehension completed.

B. Kumaun University, Nainital

1. Priyanka Singh Rao
   Status- Registration in process
2. Shraddha N Jagtap
   Status- Registration in process

C. Department of Geology, University of Jammu, Jammu

1. Diwate Pranaya Rameshwar Rao
   Status- Course work to be done
2. Jooly Jaiswal
   Status- Course work to be done
3. Purusottam Kumar Garg
   Status- Course work to be done

STUDENTS' THURSDAY FORUM

"*The difference between stupidity and genius is that genius has its limits.*"

-Albert Einstein...

The Students' Thursday Forum is a first step towards a self preparatory and self appraising platform for young minds, involved in research at Wadia Institute of Himalayan Geology. It was initiated a year back on June 20, 2013 by the Research Scholars of Wadia Institute of Himalayan Geology.

The Thursday Forum successfully has completed its first phase, involving subjective talks in the respective field of earth sciences. In the first phase of this forum, the topics of presentations were defined and delivered under broad heads.

The freedom of variability in forum talk was provided to the scholars, which in a way allowed the newly joined scholars to share the wider topics viz., the M.Sc. Dissertations and other, carried in their post graduation time. The talks in the forum were technically sound and explained the researchers depth of knowledge. Some presentations highlighted strong deliverance and were pleasant to observe. Now as we see the outcome, we believe we gained a lot added with some limitations. To

suffice these limitations and to pair up the missing links, we are heading towards the second phase of Students' Thursday Forum, where we will approach to narrow down the limitations and will achieve success with full momentum.

PRIZES/AWARDS

Ms. Jooly Jaiswal won 2nd prize in Hindi Essay competition during Hindi Pakhwara.

Mr. Bhanu P. Thakur won best Poster Presentation award at National Conference on Himalayan Glaciology (NCHG-Shimla), 30-31 October, 2014.

जिज्ञासांऐ

Q. Can plate tectonics really explain the emplacement of high density ultramafic mantle rocks on to lighter continents? Is the causative stress exerted by the two convergent lithospheric plates enough to force the high density rocks get placed on the lighter continents? Or there are any other forces like upward flow of asthenospheric mantle (for example) take part in emplacement of mantle rocks.

Ans. Yes, Plate tectonics explain the emplacement of mantle rocks on lighter continents through the convergent plate boundary such as in Himalaya. Two– and three–dimensional imaging of the Earth's interior shows that there is a laterally varying density distribution throughout the mantle. The manifestation of this varying lateral density is mantle convection from buoyancy forces. This mantle convection leads to form energy. This energy must be transferred to the lithosphere for tectonic plates to move. There are essentially two types of forces that are thought to influence plate motion through friction. However still it is debatable topic.

The other theory is plume tectonics concept of mantle convection currents is used, related to super plumes rising from the deeper mantle. The mantle plumes in the mantle which remain fixed are overridden by oceanic and continental lithosphere plates during time.

Another suggestion is that the mantle flows neither in cells nor large plumes, but rather as a series of channels just below the Earth's crust, which then provide basal friction to the lithosphere. This theory is called "surge tectonics" and became quite popular in geophysics and geodynamics during the 1980s and 1990s. So, now you can think over which theory fits better to explain the emplacement of mantle rocks.

GALLERY: FIELD PHOTOS

"The old English rule : All summer in the field, and all winter in the study."

- Ralph Waldo Emerson...

A-

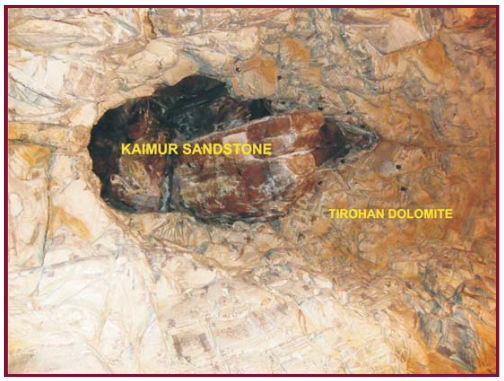

Image info.: Collapse Structure In Gupt Godawari, Chitrakoot, Uttar Pradesh

Geological Importance: Collapse structure locally known as Khatkhata ji Maharaj or Khatkhata Chor is present in the cave with wide entrance. A block of Kaimur Sandstone is surrounded by Tirohan Dolomite on the ceiling. It is formed by collapsing Kaimur Sandstone in the Tirohan Dolomite. Kaimur Sandstone makes space for itself in Tirohan dolomite due its soluble nature and appears to be collapse in Tirohan Dolomite.

By: ***Jooly Jaiswal (JRF-WIHG)***

B-

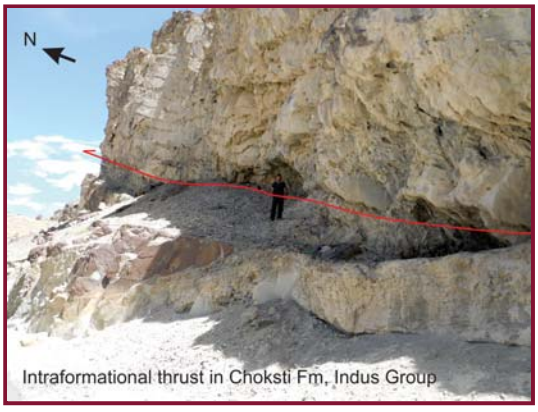

Image info.: The Intraformation thrust located in Zanskar valley within the Choskti formation, Indus Group.

Geological definition: Intraformation thrust is a thrust where, both the hanging and the footwall cuts off the same beds.

By: ***Anil Kumar (SRF-WIHG)***

C-

Image info.: A large scale over-turned fold. The normal limb is 35-40 degrees inclined while the overturned/ inverted limb is ~50 degrees inclined. (Location- Ladakh).

Geological definition: Overturned fold: A fold in which the axial plane is tilted and beds may dip in same direction on both sides of the axial plane.

By: ***Reetam Chaudhury (JRF-WIHG)***

D-

Image info.: An angular unconformity. A highly deformed and metamorphosed sedimentary rocks forming an asymmetric fold overlain by a sequence of horizontal undeformed sedimentary beds. (Location- Ladakh).

By: ***Reetam Chaudhury (JRF-WIHG)***

E-

Image info.: The panoramic view of intensely folded Indus Molasses.

Geological definition: The term "molasse" refers to the sandstones, shales and conglomerates formed as terrestrial or shallow marine deposits in front of rising mountain chains.

By: ***Anil Kumar (SRF-WIHG)***

F-

Image info.: Hemis conglomerate exposed in its type locality Hemis Village in Ladakh.

Geological definition: Conglomerate is a rock consisting of individual clasts within a fine-grained matrix that have become cemented together.

By: ***Shivani Pandey (RA-WIHG)***

G-

Image info.: An Elastica fold having negative interlimb angle (i.e. the limbs of an antiform converging downward) found in a lacustrine sedimentary deposit (Location- Ladakh).

By: ***Reetam Chaudhury (JRF-WIHG)***

Cover photo Info: *"Countless Defeats: Challenge for Science"*

A damaged road near Govindghat in Uttarakhand, India, after heavy monsoon rain caused landslides. Photograph: AFP/Getty Images