



---

## News & Views

---

### PM Modi conducts 'first blast' of Shinkun La tunnel

Prime Minister Narendra Modi carried out the "first blast" for the construction of a tunnel that aims to provide all-weather connectivity between Himachal Pradesh and the Union Territory of Ladakh.

Mr. Modi carried out the "first blast", marking the start of construction of the Shinkun La tunnel, remotely from Ladakh's Drass.

The project consists of a 4.1 km twin-tube tunnel, to be constructed at an altitude of around 4816m (15,800 ft). on the Nimu-Padum-Darcha Road, to provide all-weather connectivity to Leh.

"Once completed, it will be the highest tunnel in the world. The Shinkun La tunnel will not only ensure swift and efficient movement of our armed forces and equipment but also foster economic and social development in Ladakh," a spokesperson said.

*Source: The Hindu, 26.7.2024*

### Mumbai's 9.7 km water tunnel nears finish

The Brihanmumbai Municipal Corporation (BMC) is making significant strides towards improving water supply in several Mumbai localities through the construction of a 9.7 km water tunnel. This infrastructure project, which commenced excavation from Amar Mahal to Wadala and further to Parel, is expected to ensure a reliable and high-pressure water supply to Matunga, Wadala, Parel, Byculla, and Kurla by 2026.

The breakthrough of the second phase of this project, covering a 5.25 km stretch between Wadala and Parel, was marked by Municipal Commissioner and Administrator Bhushan Gagrani on 21 June 2024. This milestone places Mumbai among the top cities globally in terms of water tunnel length, second only to New York City, USA. The completion of this tunnel is poised to benefit parts of the F North (Matunga, Wadala), F South (Parel), E (Byculla), and L (Kurla) wards.

According to a senior BMC official, approximately 74% of the total project has been completed, with full completion slated for 30 April 2026. The first phase, a 4.3 km stretch between Hedgewar Garden and Pratiksha Nagar, began on 8 October 2021 and was completed by 8 August 2022. The second phase commenced on 1 September 2022, overcoming significant challenges such as groundwater seepage, changing geological layers, and rock falls to finish on schedule.

"Despite encountering substantial groundwater seepage, frequently changing geological layers, and rock falls within the tunnel, we successfully completed the second phase on schedule," the official stated. The project continued uninterrupted even during the COVID-19 pandemic, showcasing BMC's resilience and dedication. Upon completion, Mumbai will boast 100 km of water tunnels, solidifying its status as a global leader in water infrastructure.

Municipal Commissioner Gagrani emphasised that the project's success is a testament to BMC's meticulous planning, efficient management, and technical expertise. He noted, "Mumbai's water supply system is among the largest globally, and the BMC is the first local self-government institution in India to build water tunnels for water transport." He also urged citizens to use water judiciously and avoid wastage.

The new tunnels are designed to mitigate issues such as leakage and water theft, with water being transported through 90 km of reinforced cement concrete water tunnels daily. This now includes the new 9.7 km stretch from Amar Mahal to Wadala and Parel. BMC's continuous efforts to manage and distribute water resources effectively play a crucial role in ensuring a consistent water supply for Mumbai households.

Key features of the project include ensuring sufficient water supply to residents of F North, F South, partially E, and L wards until 2061. The tunnel, constructed at a depth of 100 to 110 meters, has a digging diameter of 3.2 meters and a final internal diameter of 2.5 meters after being lined with in-situ concrete. Additionally, three shafts have been constructed: 109 meters deep at Hedgewar Garden, 103 meters deep at Pratiksha Nagar, and 101 meters deep at Parel.

The project has set new records for the BMC, including the completion of the RCC lining of the 96.15-meter deep shaft at Hedgewar Garden in just 29 days, the record excavation of 605 meters of water tunnel in a single month in January 2022, and the successful excavation of a maximum of 34.5 meters in a single day.

As Mumbai continues to grow, the completion of this tunnel marks a significant step towards ensuring the city's sustainable water management and infrastructure development. (The cover photo of this issue of JRMTT is from this tunnel)

*Source: www.urbanaces.in, 22.6.2024*

## **Uttarakhand plans tunnel parking lots**

A tunnel parking each will be built in Gangotri and Yamunotri – two of the four revered Dhams (pilgrimage sites) in Uttarkashi district of Uttarakhand state, India – to address shortage of parking space amid increasing pilgrim footfall, state government officials said on Monday.

Experts decried the move as heavily detrimental to the fragile ecology of the region. Each tunnel will have a capacity to park 400 vehicles. The construction is part of the state government's plan to build 12 tunnel-based parking lots in the hills, the officials said.

A road map for 158 parking facilities with a capacity of 10,000 vehicles in all is being prepared in the state, which includes 50 surface parking, 88 multi-level, nine automated and 12 tunnel parking facilities.

Y. P. Sundriyal, an Uttarakhand based geologist, said, "The government should be cautious with such projects. It should be built in areas where the rock quality is good and not weak. If such projects come up in areas like Silkyara, where a tunnel collapsed last year, it could pose significant safety and stability issues."

Slots for 22 parking facilities have been identified in Almora district, eight in Bageshwar district, 16 in Chamoli district, 7 in Champavat district, 4 in Dehradun district, 5 in Haridwar district, 6 in Nainital district, 17 in Pauri district, 16 in Pithoragarh district, 4 in Rudraprayag district, 25 in Tehri district, 16 in Uttarkashi district and 2 in Udham Singh district.

According to officials, 108 parking lots will be developed on priority and have been put in the 'A' category and the other 58 in the 'B' category. 'A' category projects are given priority, while 'B' category will come up later.

Uttarkashi district magistrate Dr. Meharban Singh Bisht said, "We have planned to build two tunnel parking in Gangotri and Yamunotri Dhams. In Gangotri, the site has been finalized. Its detailed project report is being prepared. In Yamunotri, the site selection process is underway."

The Gangotri region is prone to glacial movements, landslides, and seismic activity, which can affect infrastructure and accessibility.

The Yamunotri Dham area is also subjected to glacial melt and landslides. Its high-altitude location makes it vulnerable to extreme weather conditions.

Both regions face challenges related to infrastructure development. According to experts, building roads, bridges, and tunnel in such high-altitude, fragile environments requires careful planning to avoid exacerbating environmental degradation or increase risk of natural disasters.

Vineet Rastogi, an engineer at Uttarkashi district development authority, said. "The project (tunnel parking) aims to address the parking woes in Gangotri and Yamunotri Dhams. Since we don't have open land in hills, it is difficult to accommodate the vehicles."

Giving details of the project, he said, "Each parking lot would have a capacity of 400 vehicles. The government agency NHIDCL has been authorized to prepare a DPR (detailed project report) of the two parkings. In Gangotri, they (NHIDCL) have finalized the site, while it is yet to be done in Yamunotri. An amount of ₹77 lakh has been released to NHIDCL for preparation of the DPR, acquiring an NOC from the departments concerned and other aspects."

An official of the NHIDCL, who didn't wish to be named, said, "The project is in the design stage. We are conducting the feasibility study of the project. Aspects like geology, geomorphology, and physics will be taken into consideration before. But, prima facie, it seems that we can go ahead with the projects with certain precautions and safety features."

*Source: The Hindustan Times, 30.07.2024*

## **Einstein's theory unveils spiritual realities!**

Albert Einstein's Theory of Relativity might be scientifically recondite to many, it finds application in the realm of spirituality, and is of profound significance especially in turbulent times, when every faith asserts that it's the only 'true' belief system and every ideology claims to be the only perfect way of life.

Nothing in this world is perfect and can be called the ultimate truth. There exist only subjective truths and relative realities. Once, Ananda, a disciple of the Buddha, addressed him as the 'Enlightened' master. The Buddha gave an epic reply to him. "Ananda, my so-called 'enlightenment' is my subjective 'enlightenment'. It is my 'truth' which could even be Mayaprat, delusional. When you cannot exactly relate to my 'enlightenment' and empathise with my 'truth', how can I be truly enlightened to you? You call me enlightened because you love me. But in reality, my 'enlightened' state is an enigma even to myself."

Therefore, it is a known fact that the Buddha never wanted to be called 'the Buddha', an enlightened one, because he believed that enlightenment was a subjective experience that was impossible for others to relate to.

Once this realization of the relativity of truth dawns, we will stop claiming and clamoring for our respective ideological and religious 'truths'. Einstein's scientific theory of relativity was an outcome of his personal belief that there was no Universal Truth in this world. He also believed that no theory, idea, ism, doctrine, or belief was universally and collectively acceptable to each and every individual. Spinoza said that even if one person in the entire world doubts the veracity of something, that thing loses its universality. This is important. Doubt of even one person can shake the foundations of an established truth. Nietzsche believed that there are no facts, only interpretations. What we call truth is a matter of subjective interpretations and what we define as reality is an individual's perceptions. Truth comes in fractions. It is like looking at a faraway mountain from different angles. Every angle will provide a different image of the mountain. Those images are fractionally true but not wholly true.

The same can be said about all man-made faiths. None is universally true but could be partially true. When all partial and half-truths come together, a complete Truth may emerge. But all religions suffer from spiritual hubris and labour under the erroneous belief that each one is the best. This is practically impossible and pragmatically infeasible. The very definition of objective certainty is but an illusion. Our insistence on a universal truth is a chimera. 'Har zarra apni jagah pe aaftaab hai' - Every particle is the sun in its own right.

The acceptance of the limitations of Truth makes us humble and enables us to look at every phenomenon as a part of a larger reality but never the one and only reality. We need to imbibe the spirit of acceptance and avoid insistence in all matters. As Einstein says, "Truth is also like the Universe. It expands continuously and never remains static."

- Sumit Paul

*Source: Speaking Tree, Times of India, 14.03.2024*

## **Raising children of the light**

The process of childbirth is a miracle of Nature, and a child's arrival into a family is a blessing from God. Still untainted by the material world, the purity and innocence of a newborn captivate the parents, enveloping the whole family in newfound heights of joy and happiness and rendering them oblivious to life's problems. The child is loved by all as they see God's divine attributes reflected in him. Whether it be a girl or a boy, when a child comes into our lives, it is because God has selected their soul to receive a human form, wherein they can be dyed in divine love, attain self-knowledge, and merge back into the Source. Parents of a newborn should recognise their good fortune and the opportunity that God has given them to raise the embodied soul and help them fulfill their life's purpose.

Children can be described as a blank paper for parents to write on. Parents must mould the child into a loving, caring person. For this, it is important that they love the child and create an atmosphere of peace, love, and harmony at home, striving to settle any differences away from the child. If disciplining is required, it must be done lovingly without any verbal or physical violence. It will enrich the lives of the child as well as parents.

It is the responsibility of the parents to focus on their children's upbringing with love and not regard it as an obligation. In addition to ensuring their physical health and well-being, it is paramount that parents help the child understand his true SELF - the Soul. Rather than asking the child to meditate, it is advised that parents teach by example and meditate regularly themselves. Children will naturally emulate their parents and start meditating, too. When these children grow up, they will not be enamoured by the attractions of the physical world but will be fully conscious of the true purpose of human life.

People are happy on their birthdays; their faces beam with joy on their special day. We should consider every day as our birthday. When we go to sleep at night, we do not know if we will awaken the next morning, when we do get up the next morning, we should consider that new day to be our birthday. This means living each day as if it were the most special day of our lives. Thus, every morning is a new birth and a fresh opportunity to know ourselves and to realise God. We should celebrate our physical birthdays by thanking the divine and spreading the fragrance of His love. Apart from embracing guests at our birthday parties, we need to embrace the Supreme within through meditation.

Children are our future; we should nurture them lovingly. As parents, we must do so in the right manner so that children are equipped to lead spiritually enriched lives and fulfill their highest purpose. We should show them the path of meditation and spirituality early so they can reach the goal of self-knowledge and God-realisation in this very lifetime. The better the lives of the children, the more loving and peaceful this world will become.

*- Sant Rajinder Singh*

*Source: Times of India, 30.03.2024*

## **Getting away from the emotional mayhem**

No matter how old, wise, and psychologically sorted we feel, there are times when we get trapped in an emotional mayhem. We feel horrible, ruminate over irrational thoughts and end up engaging in dysfunctional behaviour - the reactions which we regret later. But in that moment, there is no reasoning or intervention that seems to assuage our pain. Although we often believe that negative emotions arise within us in response to painful external stimuli, this is far from truth. In fact, there is a part of our mind that always plays a very active role in creating and perpetuating these emotions.

Neuropsychological research has proven that most emotions are naturally programmed to last no more than 90 seconds. If we feel anger, sadness, grief, or envy for minutes, hours, days or months, it simply indicates that we are doing something actively to re-stimulate the negative emotional circuit and fall into the mayhem again and again.

Let us imagine that we are driving on the road and a motorist nearly bumps into us. We feel intense anger and this anger stays for a few seconds before automatically dissipating. But before this anger can dissipate, we focus all our attention on our pain and think about it repeatedly. We recall our past pain, traumas, and unfortunate experiences and produce new angry feelings and thoughts in the present moment. Our self-dialogue runs on these lines: 'Why I'm destined to receive such nuisance in all spheres of my life? Why do people always trouble me? Why does everyone take advantage of my niceness? Wait, this has to stop and I need to teach everyone a lesson and this self-dialogue ensures that our anger is kept alive and simmering.

To transcend this mayhem, we need to stop justifying our reactions and shift our focus from the emotional baggage that we are carrying. We must look for new pathways to deal with our feelings so that we do not create repetitive chaos in our existence. The starting point can be achieving stability in our breath. Once we learn to control our breath, we learn to control our sympathetic and parasympathetic nervous system, which in turn help us in regulating our emotional reactions. Practicing deep abdominal breathing several times during the day wherein our stomach bulges out gently as we breathe in and contracts peacefully as we breathe out is very helpful in this process. As we master the art of breathing peacefully, we can use it to modulate our sharp emotional reactions.

When we feel overwhelmed by an emotion, we can focus on the body part where the emotion is manifesting as pressure. We keep a gentle focus on the particular body part and breathe mindfully and peacefully. Our deep, rhythmic, and conscious breathing will slowly take away all the intensity from our chain of thoughts until it recedes into the background of our consciousness. By practicing this technique regularly, we will attain freedom from the spirals of emotions that we often feel dragged into. Then our latent potential for peace, happiness, and harmony will blossom and manifest in our consciousness.

*Source: Times of India, 01.04.2024*

## **News about JRMTT Editorial Board**

Two new members have been inducted in the Editorial Board of JRMTT in Oct. 2024. Brief biography of these members is given below.

**Prof. Jae-Joon Song** is an academician at Seoul National University having specialisation in rock mechanics, rock engineering. In recent years his main interests have been in effect of confining and pore pressure on permeability of super-critical CO<sub>2</sub> into sandstone, application of 3D printing technology to rock mechanics, block stability around a tunnel, joint size estimation around a tunnel, joint surface modeling and shear behavior, 3D discontinuous deformation analysis (DDA), water jet equipment for building remodeling, stereo-photogrammetry for joint survey. He is presently holding the position of Head, Department of Energy Resources Engineering, Seoul National University, Seoul, South Korea. He completed his PhD in 2000 in Rock Mechanics from Seoul National University, Korea. He has published about 130 papers in various journals and symposium proceedings. He has various prestigious awards to his credit, with latest being the Science & Technology Best Paper Award, Korean Federation of Science and Technology Societies in 2020.

**Dr. Chhatra Bahadur Basnet** is a rock engineering expert who has completed PhD degree in Rock Engineering in 2018 and MSc in Hydropower Development in 2013 from the Norwegian University of Science and Technology (NTNU), Norway. He has over 16 years of experience in research, design and implementation of hydropower projects in Himalayan Geological conditions. He is the author of many scientific papers published in internationally recognized journal and conference proceedings. He has design experience in Hydropower Projects, having capacities ranging from 1 MW to 1900 MW. Currently, Dr. Basnet is the Board of directors/ CEO and an active Geotechnical/Tunnel Expert of Clean Energy Consultants Pvt. Ltd.

## **Workshop and General Body Meeting (GBM) of ISRMTT for Electing New Executive Committee**

Indian Society for Rock Mechanics and Tunneling Technology (ISRMTT) in association with Central Soil and Materials Research Station (CSMRS), New Delhi and Norwegian Geotechnical Institute, Norway organized a Workshop on 'Norwegian Method of Tunneling' on 8<sup>th</sup> October, 2024 at India International Centre, Max Muller Marg, New Delhi. More than 70 Life Members of the society attended the workshop. Lectures were delivered by Dr. Rajinder Bhasin, Norwegian Geotechnical Institute (NGI), Mr. Vebjorn Rovde, NGI and Mr. Sumit Jain, Rail Vikas Nigam Ltd. (RVNL). Some photographs of the workshop are shown below.



Inauguration of Workshop on 'Norwegian Method of Tunnelling'



Lecture on 'NMT with Emphasis on the Mechanism and Functioning of Reinforced Ribs of Shotcrete as Rock Support' by Dr. Rajinder Bhasin, NGI, Norway



Lecture on 'Recent Experiences on Rock Support using the NMT method' by Mr. Vebjorn Rovde, NGI, Norway



Lecture on 'Experiences with application of NMT and with TBM - Rishikesh Karnprayag New Rail Project' by Mr. Sumit Jain, RVNL, India



Discussions during and after lectures

The Workshop was followed by the General Body Meeting (GBM) of the Indian Society of Rock Mechanics and Tunnelling Technology (ISRMTT). Elections were held during GBM for new executive body for 2024-2026. Here are a couple of glimpses of the GBM.



Dignitaries on the dias during the General Body Meeting Newly elected ISRM TT Executive Committee Members for the term 2024-2026

The following members were elected for 2024-2026 ISRM TT Executive Committee.

Sl. No.	Post	Name	Organisation
1	President	Dr. Rajinder Bhasin	NGI, Norway
2	Immediate Past President	Mr. Hari Dev	CSMRS
3	Vice President (1)	Mr. Amitabh Tripathi	WAPCOS
4	Vice President (2)	Dr. Manish Gupta	CSMRS
5	Honorary Secretary	Dr. D.V. Sarwade	CSMRS
6	Treasurer	Dr. Altaf Usmani	EIL
7	Member (1)	Dr. Rajbal Singh	WAPCOS
8	Member (2)	Dr. R.K. Goel	Former Chief Scientist CIMFR Roorkee
9	Member (3)	Prof. Mahendra Singh	IIT Roorkee
10	Member (4)	Mr. Vachaspati Pandey	NHPC
11	Member (5)	Mr. Sumit Jain	RVNL
12	Member (6)	Mr. Sanjeev Garg	IGS
13	Member (7)	Mr. Prashant Rai	NHPC
14	Member (8)	Mr. Shubham Handa	ATKINS
15	Member (9)	Dr. Sandeep Potnis	Professor & Head, Tunnel Engineering Programme World Peace University
16	Member (10)	Dr. Ashok Kumar Singh	CIMFR
17	Member (11)	Mr. Rajesh Gupta	Gauge Geotechnique
18	Member (12)	Mr. Sharique Khan	ATKINS