

Curriculum Vitae

PERSONAL INFORMATION

Family name, First name:	Panthi, Krishna Kanta
Researcher unique identifier(s):	https://www.ntnu.no/ansatte/krishna.panthi https://www.researchgate.net/profile/Krishna-Panthi-3 https://www.adscientificindex.com/scientist/krishna-kanta-panthi/1795065

EDUCATION

	Name of faculty/department, name of university/institution, country
2006	Ph.D. Norwegian University of Science and Technology (NTNU), Department of Geology and Mineral Resources Engineering
1998	MSc. Norwegian University of Science and Technology (NTNU), Department of Hydraulic and Environmental Engineering
1992	MSc. Moscow Automobile and Road Construction Institute (MADI), Moscow, Russia

POSITIONS

Current Position

	Job title/name of employer/country
2018-	Professor at the Norwegian University of Science and Technology, Faculty of Engineering, Department of Geoscience and Petroleum, Trondheim, Norway
2021-	Visiting professor at the Institute of Engineering (IoE), Tribhuvan University, Nepal
2022-	International Panel of Expert for Hydropower and Underground Structures for Clean Energy Consultant (CEC), Nepal.
2023-2024	International Advisor for ISRM International Symposium and Asian Rock Mechanics Symposium (ARMS13), Delhi, India.

Previous positions held (list)

	Job title/name of employer/country
2017-2018	Associate Professor at the Norwegian University of Science and Technology (NTNU), Department of Geoscience and Petroleum, Trondheim, Norway
2008-2016	Associate Professor at the Norwegian University of Science and Technology (NTNU), Department of Geology and Mineral Resources Engineering, Trondheim, Norway
2006-2008	Leading Consultant of Engineering Geology and Tunnelling in India and Nepal - Rothang Pass Road Tunnel Project - SMEC International – Himachal India, 800 MW Parbati II Hydroelectric Project - SSJV Project, Himachal India, and 45 MW Mristi Khola Hydropower Project -Mountain Energy Nepal, 45 MW Super Madi HPP, Himal Hydro Nepal.
2002-2006	Ph.D. Research fellow at Norwegian University of Science and Technology (NTNU), Department of Geology and Mineral Resources Engineering, Trondheim, Norway
1998-2001	Construction Manager – Civil Construction Consortium, a consortium of NCC Norway and Himal Hydro Nepal for the design and construction of 60 MW Khimti I HPP - Nepal
1996-1998	NORAD fellowship for MSc education in Hydropower Development, Norwegian University of Science and Technology (NTNU), Department of Hydraulics and Environmental Engineering, Trondheim, Norway
1994-1996	Planning and Contracts Manager – Himal Hydro, Head office, Kathmandu - Nepal
1992-1995	Tunnel Engineer – Jhimruk Hydroelectric Project - Nepal
1985-1996	Ass. Tunnel Engineer – Andhikhola Hydropower and Rural Electrification Project - Nepal

PROJECT MANAGEMENT EXPERIENCE

	Project and role, funding from
2021-2026	NORHED II Project 70141 6; Capacity Building in Higher Education within Rock and Tunnel Engineering in Nepal – Project Manager, Supervising Professor for 4 PhD and many MSc students from the Institute of Engineering (IoE), Nepal. The project aims to produce 90 MSc graduates in Rock and Tunnel Engineering in 6 years period. Funding from NORAD.
2020-2024	Work Package Leader for WP 2.5 Tunnel containment and stability of the HydroCen-labs project. Funding from NRC
2017-2024	FME HydroCen – Project Manager for WP 1.1 – Hydropower Structures Innovation - Tunnels, Research Member of the Technical Committee and Supervisor of three PhD Projects within WP 1.1. Funding from NRC.
2022-2024	NTNU – Dana Khola Hydropower Project (50 MW) - Panel of Expert for Underground Works with high head (total hydrostatic head is 1000 m). Clean Energy Consultant, Nepal.
2016-2021	NTNU - Supper Dordi (54 MW) and Himchuli Dordi (59 MW) Hydropower Projects - Panel of Expert for Underground Works – People’s Hydro, Nepal.
2014-2018	TITANIA AS / SINTEF / NTNU - Decisive Parameters of Open Pit Slope (DePOPS), an innovation project – Steering Committee Member and Supervisor of PhD research. Funding from NFR and TITANIA
2010-2014	NTNU - Stability analysis of tunnels subject to plastic deformation - Project Manager and the Supervisor of the PhD research project. Funding from NTNU.
2012-2013	PEEDA – Feasibility study on GeoLab Nepal – External Advisor. Funding from NORAD
2013	SINTEF - Due Diligence Study of 250 MW Uppor Kontum Hydropower Project – Panel of Expert – Upper Kontum Hydropower Project, Vietnam
2011-2012	SINTEF / NTNU - Developing future 20 000 MW hydroelectric power in Norway – Team Member of the Committee. Funding from NFR
2009-2010	NTNU - Svandalsflona Hydropower Project - Independent evaluator on an accident that took place while cleaning inclined shaft collapse 9th May 2009 – Norsk Hydro
2009-2010	NTNU / Czech Technical University (CTU) Prague - Underground Gas Storage - Team Member of the Research Group. Funding from EU/EEA.

SUPERVISION OF GRADUATE STUDENTS AND RESEARCH FELLOWS

	No. of	Master’s students/ Ph.D./Postdocs	Name of faculty/department/centre, name of university/institution/country
2008-2023	78	MSc	72 completed and 6 under supervision MSc students at the Department of Geoscience and Petroleum (IGP), NTNU
2022-2023	8	MSc	Completed MSc students at the Institute of Engineering (IOE), Tribhuvan University, Nepal
2010-2023	6	PhD	6 ongoing PhD research projects at NTNU
2010-2021	5	PhD	5 completed PhD research projects and NTNU

INSTITUTIONAL RESPONSIBILITIES

Member of a committee/graduate student advisor etc.

	Name of university/institution/country
2013-to date	Department representative for Norwegian Hydropower Centre (NVKS) established in 2013.
2011-2018	Executive Leader and Board Member for Bergringen - an organization helping students to interact with the industry and increase cooperation between IGP-NTNU and the industry.

SCIENTIFIC ADVISORY, EDITORIAL AND REVIEW BOARD

	Name of university/institution/country – and role
2023-2024	International Advisor for ISRM International Symposium and Asian Rock Mechanics Symposium (ARMS13), Delhi, India
2023-2024	Scientific Committee Board Member for World Tunnel Congress (WTC2024), China
2020-present	Editorial Board Member for Bulletin of Engineering Geology and the Environment. A highly ranked international journal in Engineering Geology published by Springer Nature
2020-2021	Chair, Curriculum Development Board of Tribhuvan University (TU), Nepal for MSc Program in Rock and Tunnel Engineering
2021	Scientific Committee Board Member for World Tunnel Congress (WTC2021), Denmark
2019	Scientific Committee Board Member for ISRM Congress 2019, Brazil
2017	Scientific Committee Member for World Tunnel Congress (WTC2017), Norway
2016	Scientific Committee Member for Asian Rock Mechanic Symposium (ARMS9), Indonesia
2015	Organizing Committee Chair of 1st National Conference of Nepal Society for Rock Mechanics (NSRM), Nepal
2014	Organizing Committee Member for Asian Rock Mechanic Symposium (ARMS8), Japan
2012-present	Review Board member for journals: Rock Mechanics and Rock Engineering, Rock Mechanics and Geotechnical Engineering, and Tunnelling and Underground Space Technology, Engineering Geology.

COMMISSIONS OF TRUST IN ACADEMIC AND PUBLIC ORGANISATIONS

Member of
Norwegian Academy of Science and Technology (NVTa)
International Society of Rock Mechanics (ISRM)
International Tunneling Association (ITA)
International Hydropower Association (IHA)
Norwegian Tunneling Association (NFF)
Norwegian Rock Mechanic Group (NGB)
Nepal Tunneling Association (NTA)
Nepal Society for Rock Mechanics (NSRM)
Nepal Geological Society (NGS)

MAJOR COLLABORATIONS

Name of universities/ institutions/ centers/ companies/ governmental or non-governmental organizations	Topics
SINTEF, NGI, Norwegian Hydropower Industry, Norwegian Road Authority, Norwegian Railway Authority, Norwegian Consulting and Construction Industry, Tribhuvan University, Kathmandu University, Nepalese Hydropower Industry etc.	Rock Engineering, Tunneling, Rock Slope Engineering, Hydropower Technology, Infrastructure Development, Mining Engineering etc.

INTERNATIONAL JOURNALS AND BOOK CHAPTERS (selected ones 2010-2023)

Ghimire S., Panthi K. K. and Vereide K. 2023. Hydraulic Transient Impact on Surrounding Rock Mass of Unlined Pressure Tunnels. *Water* 2023 (15), 3894, 25p. <https://doi.org/10.3390/w15223894>.

Panthi K. K. 2023. Methods applied for the stability assessment in rock engineering. *Journal of Nepal Geological Society (JNGS)*, vol. 65, pp. 29-34.

Panthi K. K. 2023. *Engineering Geology in Hydropower Engineering. I: The IV Nordic Symposium on Rock Mechanics and Rock Engineering. The Icelandic Geotechnical Society, ISRM National Group, The Icelandic Tunneling Society.* ISBN 978-9935-9436-2-0.

Panthi K. K. 2022. *Capacity Enhancement in Rock and Tunnel Engineering in Nepal.* *Nepal Journal of Science and Technology (NJST)*, vol. 20(2), pp. 67-74.

Panthi, K. K. and Broch E. 2022. *Underground Hydropower Plants. I: Comprehensive Renewable Energy, Second Edition*, pp. 126-146. Elsevier 2022 ISBN 978-0-12-819734-9.

Panthi K. K. 2021. *Assessment on the 2014 Jure Landslide in Nepal – a disaster of extreme tragedy.* *IOP Conference Series: Earth and Environmental Science (EES)* 2021, vol. 833, pp. 1-8.

Panthi K. K. and Basnet C. B. 2021. *Fluid Flow and Leakage Assessment Through an Unlined/Shotcrete Lined Pressure Tunnel: A Case from Nepal Himalaya.* *Rock Mechanics and Rock Engineering*, vol. 54, pp. 1687-1705.

Neupane B. and Panthi K. K. 2021. *Evaluation on the Effect of Pressure Transients on Rock Joints in Unlined Hydropower Tunnels Using Numerical Simulation.* *Rock Mechanics and Rock Engineering*, vol. 54, pp. 2975-2994.

Neupane B., Panthi K. K. and Vereide K. 2021. *Cyclic fatigue in unlined hydro tunnels caused by pressure transients.* *International journal on hydropower and dams*, vol. 2021(5), pp 46-54.

Neupane B., Panthi K. K. and Vereide K. 2021. *Operation of Norwegian Hydropower Plants and Its Effect on Block Fall Events in Unlined Pressure Tunnels and Shafts.* *Water* 2021, vol 13(11), 1567, 20p.

Neupane B., Panthi, K. K and Vereide K. 2020. *Effect of power plant operation on pore pressure in jointed rock mass of an unlined hydropower tunnel: An experimental study.* *Rock Mechanics and Rock Engineering*, vol. 53, pp. 3073-3092.

Selen L., Panthi K. K. and Vistnes G. 2020. *An analysis on the slaking and disintegration extent of weak rock mass of the water tunnels for hydropower project using modified slake durability test.* *Bulletin of Engineering Geology and the Environment*, vol. 79, pp. 1919-1937.

Basnet, C. B. and Panthi, K. K. 2020. *Detailed engineering geological assessment of a shotcrete lined pressure tunnel in the Himalayan rock mass conditions: a case study from Nepal.* *Bulletin of Engineering Geology and the Environment*, vol. 79, pp. 153-184

Panthi K. K and Basnet C. B. 2019. *Evaluation of earthquake impact on magnitude of the minimum principal stress along a shotcrete lined pressure tunnel in Nepal.* *Journal of Rock Mechanics and Geotechnical Engineering*, vol. 11, pp. 920-934.

Basnet C. B. and Panthi K. K. 2019. *Evaluation on the Minimum Principal Stress State and Potential Hydraulic Jacking from the Shotcrete-Lined Pressure Tunnel: A Case from Nepal.* *Rock Mechanics and Rock Engineering*, vol. 52, pp. 2377-2399.

Panthi K. K. and Shrestha P. K. 2018. *Estimating Tunnel Strain in the Weak and Schistose Rock Mass Influenced by Stress Anisotropy: An Evaluation Based on Three Tunnel Cases from Nepal.* *Rock Mechanics and Rock Engineering*, vol. 51, pp. 1823-1838.

Basnet C. B. and Panthi K. K. 2018. *Analysis of Unlined Pressure Shafts and Tunnels of Selected Norwegian Hydropower Projects.* *Journal of Rock Mechanics and Geotechnical Engineering.* Vol. 10, pp. 486-512.

Panthi K. K. and Basnet C. B. 2017. *Design review of the headrace system for the Upper Tamakoshi project, Nepal.* *International journal on hydropower and dams*, vol. 24, pp. 60-67.

Panthi K. K. 2014. *Analysis on the Dynamics of Burst Debris Flood at the Inclined Pressure-Shaft of Svandalsflona Hydropower Project, Norway.* *Rock Mechanics and Rock Engineering*, vol. 47, pp. 923-932.

Panthi K. K. 2012. *Evaluation on rock bursting phenomena in a tunnel of the Himalaya.* *Bulletin of Engineering Geology and Environments*, vol. 71, pp. 761-769.

Panthi K. K. and B. Nilsen 2010. *Uncertainty analysis for assessing leakage through water tunnels: a case from Nepal Himalaya.* *Rock Mechanics and Rock Engineering*, vol. 43, pp. 629-639.