



# Turbine Testing Lab

Monthly Bulletin June, 2016

## KETEP 2015- 2017 Project

- Experimental test rig for the 5 kW cross- flow turbine under fabrication.
- Experiments on the RDA with the variation of sediment concentration being conducted.
- Correspondence with the Korean partners for the procurement of ultrasonic flowmeter for site installation.

## EnergizeNepal Project

- Participation by Mr. Bidhan Rajkarnikar in the meeting held at Royal Norwegian Embassy on 10<sup>th</sup> June.
- Awaiting final decision from the embassy.

## Workshop/ Training

- Dr. Hari Prasad Neopane, Member Secretary TTL participated in the Hydropower Project Techno- Economic Assessment Training (Module I) organized by USAID South Asia Regional Initiative for Energy Integration (SARI/EI) in Delhi, India from 30<sup>th</sup> May to 3<sup>rd</sup> June which was followed by Module II training on 20- 24 June.

## Lab activities

- Repair and maintenance of the electrical components in EOT crane completed.
- Maintenance of pump & VFD and the single pump process started with local control mode.
- Study of the incorporation of remote mode for the control of pumps under way.

## Exchange Program

- Mr. Ravi Koirala, MS by research student at TTL completed his one year exchange as a part of his studies at Tsinghua University, Beijing, China and rejoined the lab from 13<sup>th</sup> June.
- Currently working on the fabrication of the test rig for experiments as a part of his master's thesis.

## Publications

- Sailesh Chitrakar, Hari Prasad Neopane, Ole Gunnar Dahlhaug, June 2016, Study of the simultaneous effects of secondary flow and sediment erosion in Francis turbines, Renewable Energy, [doi:10.1016/j.renene.2016.06.007](https://doi.org/10.1016/j.renene.2016.06.007)



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- Ravi Koirala, Bhola Thapa, Hari Prasad Neopane, Baoshan Zhu, June 2016, A review on flow and sediment erosion in guide vanes of Francis turbines, International Journal of Rotating Machinery (in press )

## Academic Projects/ Works

- Sediments from Trishuli HEP brought to TTL and sieve analysis, PSD & mineral analysis conducted on the sediment sample.
- Master student from Pharmacy conducting her project works on the stereo zoom microscope available at TTL.
- Lecture on the basics of hydropower, hydraulic turbines and the existing facilities of TTL to UNG students (Environment Science Group) as a part of their coursework at TTL.
- Discussion with the UNG students (Mechanical group) of Institute of Engineering (IOE), Pulchowok about the wind turbine and probable co- ordination with TTL.
- Briefing of the lab overview, facilities and activities to the mechanical undergraduate final year students of Purbanchal University (1<sup>st</sup> batch) as a part of their educational tour.