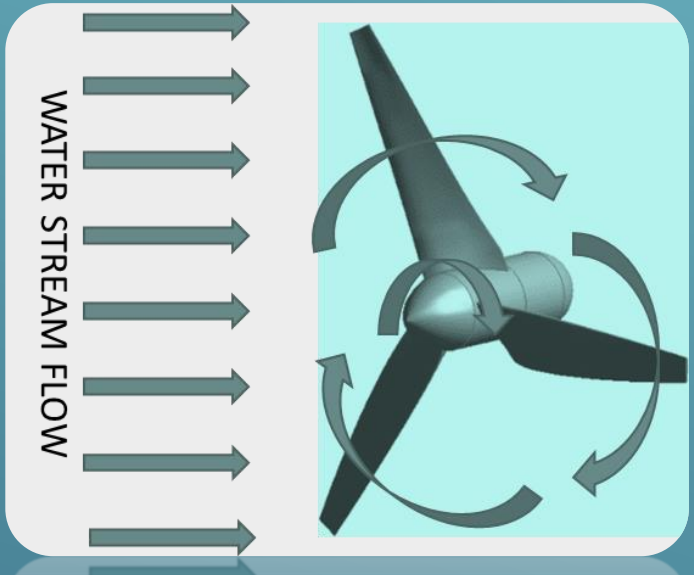
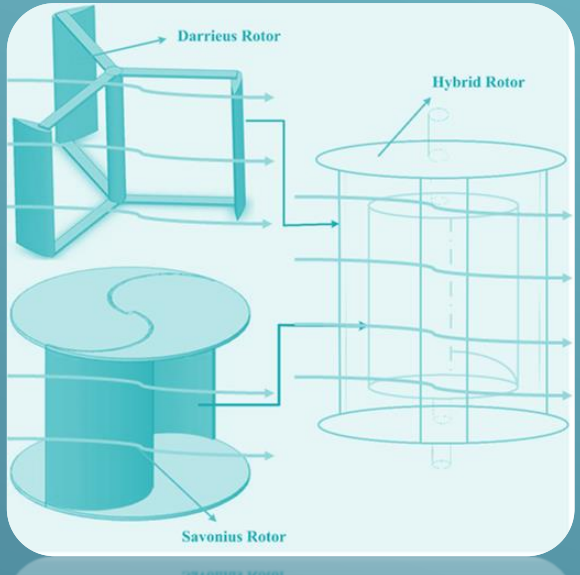
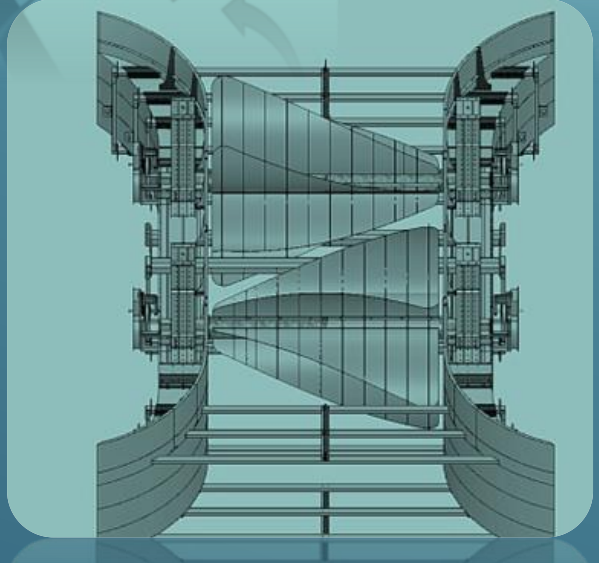
2nd Online International Workshop on

IN-STREAM HYDROKINETIC DEVICE

Sept. 27-28, 2021 at HRED, IIT Roorkee







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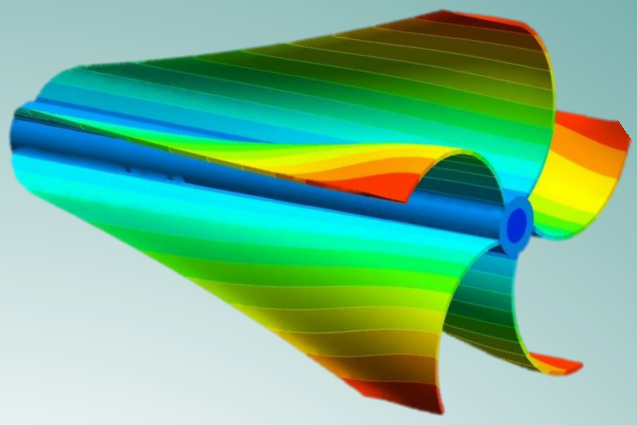
BACKGROUND

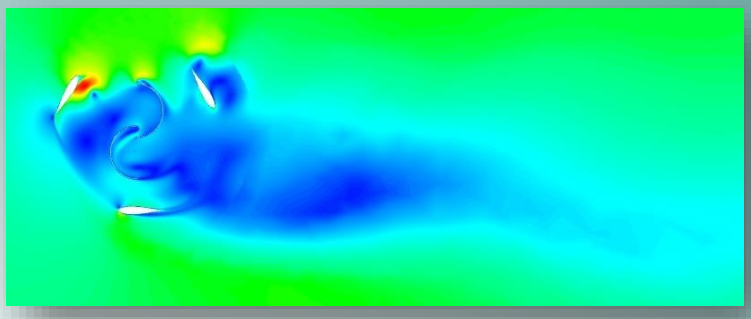
Technological advancements lead to the development of new and innovative ideas for harnessing the renewable energy sector. These advancements in technology have opened up new avenues to tap the unexplored renewable energy sites. The energy of the flowing water had always been ignored due to the availability of large potential head-based hydropower sites and having low power density. In recent years, technology to harness hydrokinetic energy has been given attention significantly.

Hydrokinetic systems are the devices or energy converters to transform the kinetic energy of the flowing water stream into a mechanical energy for power generation. The extraction of kinetic energy depends on the type of hydrokinetic device used and works on the principle of lift and drag force generation, which may further helps to rotate the turbine. The Darrieus and the Savonius are the primary rotors that come under the category of lift and drag force, respectively.



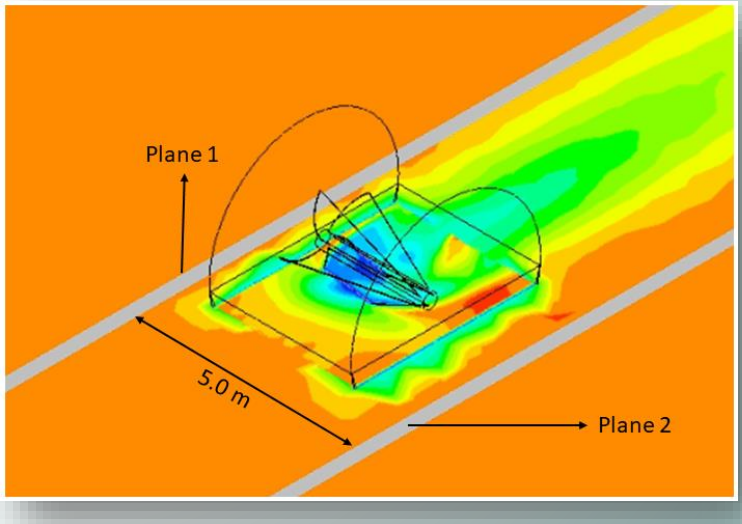
The working principle of the hydrokinetic turbine plays a significant role in the conversion efficiency of the rotor. Lot of R&D are being carried out to investigate the performance of different hydrokinetic devices. Further, the specific rotors are associated with certain limitations such as high depth requirement and alignment. The operating and site conditions for the hydrokinetic turbine deployment vary from site to site. Therefore, it is desired to select a hydrokinetic turbine rotor appropriately based on the site and rotor characteristics. The installations of different types of hydrokinetic devices require more investigations to make this technology more effective. There are different deployment strategies for hydrokinetic devices and therefore, the selection of appropriate installation techniques also govern the conversion efficiency of hydrokinetic devices.

The focus of the workshop is to cater the worldwide information on the modifications on hydrokinetic devices and to overview the R&D programs. Various groups from industries, academia, manufacturers, and governments working and exploring hydrokinetic technology are expected to come together to discuss the recent trends. The key barriers hindering the development of hydrokinetic technology will be discussed and solutions for the same will be shared on the common platform.



OBJECTIVES

To accelerate the interest and awareness of hydrokinetic devices among developers, governments, manufacturers, and policymakers.



TOPICS FOR WORKSHOP

- Hydrokinetic Technology - an overview
- Classifications of Hydrokinetic devices
- R&D on hydrokinetic devices
- Manufacturers to demonstrate their products
- Key barriers for the deployment of hydrokinetic devices

HOW TO REGISTER

Participation in the workshop will be made by submitting the google form before the due date. The organizer will confirm the participation through email.

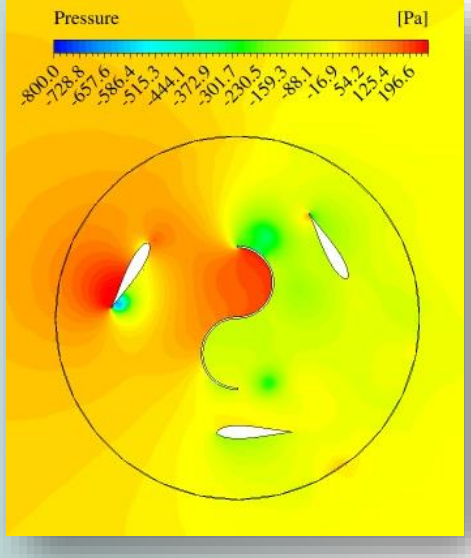
GOOGLE FORM

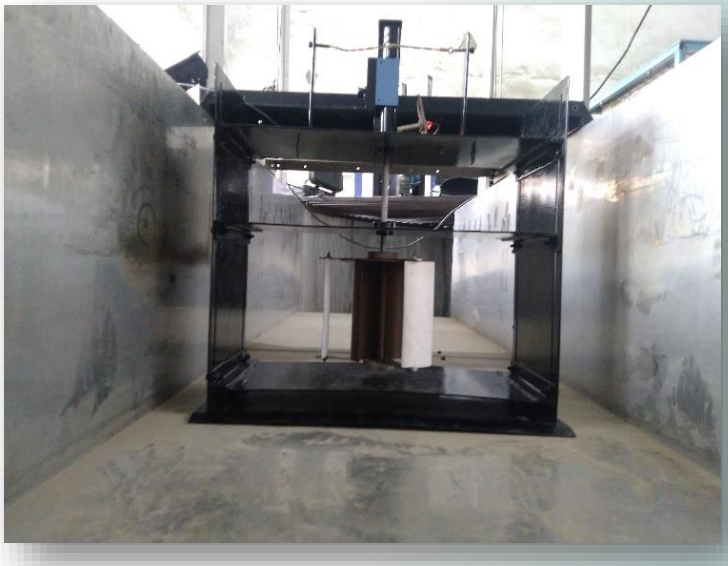
https://docs.google.com/forms/d/e/1FAIpQLSfSv4VmBH5GoEW52d6UuIKCC9sZr92qimXMzdJ0urKce8YytA/viewform

PROGRAMME SCHEDULE

Day 1: Sept. 27, 2021 (Monday)

Time	Particulars
10:00 - 10:30	Inaugural Session
10:30 - 11:30	Speaker 1 (45 min +15 min Q/A)
11:30 - 12:30	Speaker 2 (45 min +15 min Q/A)
12:30 - 13:30	Lunch Break
13:30 - 14:30	Speaker 3 (45 min +15 min Q/A)
14:30 - 15:30	Speaker 4 (45 min +15 min Q/A)
15:30 - 16:30	Speaker 5 (45 min +15 min Q/A)
16:30 - 17:00	Conclusion for Day 1





Day 2: Sept. 28, 2021 (Tuesday)

Time	Particulars
10:00 - 10:30	Welcome for Day 2
10:30 - 11:30	Speaker 6 (45 min +15 min Q/A)
11:30 - 12:30	Speaker 7 (45 min +15 min Q/A)
12:30 - 13:30	Lunch Break
13:30 - 14:30	Speaker 8 (45 min +15 min Q/A)
14:30 - 15:30	Speaker 9 (45 min +15 min Q/A)
15:30 - 16:00	Conclusion for Day 2
16:00 - 17:00	Panel discussion and recommendations
17:00 - 17:15	Closing remarks

INVITEES PARTICIPANTS	
Government	UJVNL, ONGC, HPGCL, State Power Generation Corporations, State Irrigation Departments, etc.
EPC	IMP Powers Ltd. (India), DLZ Corp., MTPL Pvt. Ltd. (India), etc.
Manufacturers/ Turbine developers	Smart Hydro power (Germany), Alternative Hydro solution Ltd. (Canada), Kirlosker integrated Technologies Pvt. Ltd.(lndia), Andritz Hydro Hammerfest (Norway), Lucid Energy (USA/Portland), Verdant Power (USA), Eclectic Energy Ltd.(UK), BIue Energy (Australia), New Energy Corporation lnc. (Canada), Kinetic NRC (Australia), etc. NYSERDA (New York), lnstream Energy Systems (Canada), Hydro-volts (USA), Design Pro Ltd. (Ireland), C-Kinetic Energy Ltd. (Ireland), etc.
Academia	IIT Roorkee, IIT Madras, IIT Bombay, IIT Delhi, IIT Guwahati, IIT Dhanbad, NIT Hamirpur, NIT Silchar, SVNIT Surat, etc. University of Michigan (USA), University of Washington (USA), University of Manitoba (Canada), Shinshu University (Japan), University of South Australia (Australia), Central University of Technology (South Africa), University of Malaya (Malaysia), Memorial University (Newfound land), University Technology Malaysia (Malaysia), etc.

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