

**Thesis title:**

Nearshore Wave Energy Resource Assessment for Sri Lanka

**Abstract:**

Ocean wave energy is being increasingly regarded as a promising renewable energy resource for the growing demand for electricity. From previous studies, it has been identified that a significant potential exists in south-western, southern and south-eastern offshore areas of Sri Lanka for ocean wave energy generation. While a significant transformation of offshore wave characteristics take place in shallower nearshore areas, it's more suitable for the installation of wave energy harnessing devices than the deeper offshore areas. However, still no extensive investigations on the wave generation potential in near-shore waters of Sri Lanka has been carried out which is a necessity for implementation of wave energy harnessing devices and a strong need thus exists for such investigations for effective utilization of the wave energy resource. From this research, wave energy potential in south-western southern and south-eastern nearshore areas of the country is assessed and a nearshore wave energy resource map is developed, identifying energy hotspots and the potential of producing wave energy wave energy in those areas of the country.