# UQ Winter Research Project Description

## School of Civil Engineering

<table>
<thead>
<tr>
<th>Project title:</th>
<th>Wave setup in shallow river entrances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project duration:</td>
<td>4-6 weeks</td>
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<tr>
<td>Description:</td>
<td>The ocean water level induced by tides, storm surge and waves at the entrance to estuaries and creeks is a critical tailwater boundary condition for flood models. Uncertainty remains as to the contribution from wave setup in shallow entrances, typical of the Gold Coast and NSW coasts. This project will build a physical scale model in the 20m long and 2m wide random wave flume in the Hydraulics lab to measure wave setup for such river entrances. A range of wave conditions and water depths in the river entrance will be used to determine if the wave setup is similar to that observed on open coast beaches without river entrances. Manometer tubes will be used to measure differential water levels to high accuracy. May include fieldwork at Tallebudgera Creek, wave conditions and time permitting.</td>
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</table>
| Expected outcomes and deliverables: | Experience in physical modelling in hydraulics laboratory  
Data collection and analysis skills  
Report and communications skills  
Working with research students and academics  
Potential fieldwork |
| Suitable for: | UQ students with background in hydraulics and fluid mechanics. Prior experience useful. |
| Primary Supervisor: | Prof Tom Baldock |
| Further info: | t.baldock@uq.edu.au; please contact prior to submitting application. |
## UQ Winter Research Project Description
School of Civil Engineering

| **Project title:** | Please insert name of project  
**Physical modelling in hydraulic engineering** |
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<tbody>
<tr>
<td><strong>Project duration:</strong></td>
<td>5 weeks (29 June-31 July)</td>
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<tr>
<td><strong>Description:</strong></td>
<td>Physical modelling will be conducted in the AEB Hydraulics Laboratory to investigate the turbulent flow conditions in specific well-controlled boundary conditions. Using state of the art equipment, facilities and instrumentation, detailed measurements will be performed in hydraulic flumes.</td>
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<td><strong>Expected outcomes and deliverables:</strong></td>
<td>Students will gain a first hand experience into physical modelling in a leading hydraulic laboratory, as well as may gain skills in data collection. Students might also be asked to produce a report or oral presentation at the end of their project.</td>
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| **Suitable for:** | The applicant must have a engineering background and successfully completed a basic fluid mechanics course and a basic open channel hydraulic course.  
3rd-4th year students, UQ enrolled students only. |
| **Primary Supervisor:** | Prof Hubert Chanson |
| **Further info:** | Hubert CHANSON, PhD DEng  
Professor, School of Civil Engineering, The University of Queensland, Brisbane QLD 4072, Australia  
Ph.: (61 7) 3365 3516 / 3365 3619 - Fax: (61 7) 3365 4599  
Email: h.chanson@uq.edu.au - Url: http://www.uq.edu.au/~e2hchans/  
Highlight if the supervisor wishes to be contacted by students prior to submitting an application. YES |