COHERENT FLOW STRUCTURES IN GEOPHYSICAL FLOWS AT EARTH'S SURFACE

August 3-5, 2011

Simon Fraser University in Burnaby, British Columbia

The interaction between flow structure, mobile sediment and the surface morphology has become of central importance in understanding the dynamics of the Earth's surface. Additionally, managing such flows is a key component of sustainable engineering design/ construction as well as in the maintenance of ecological habitats. All such flows, in environments ranging from deserts to rivers to the oceans, are structured across a wide range of spatio-temporal scales, from small-scale turbulent vortices generated at the bed and responsible for grain-motion, to large-scale circulation patterns that generate geomorphic features visible from space. Substantial advances have taken place in the last decade in theoretical/numerical modeling, physical experimentation and field instrumentation, which have greatly expanded our understanding of the dynamics of these flows across this wide range of scales.

This conference will bring together the research community who use numerical simulations, laboratory modeling and field observation to study coherent flow structures, their interaction with sediment, vegetation, and benthic communities, the manipulation of such flow structures for managing sedimentary environments, and the key role they play in Earth surface dynamics. We seek to draw contributions from researchers working on the links between flow structure and the larger scale morphodynamics of sedimentary features within different geomorphic environments, and from across the Earth, environmental and engineering sciences.

ORGANIZING COMMITTEE

Jeremy G Venditti, Simon Fraser University (jeremy_venditti@sfu.ca); Jim Best, University of Illinois (jimbest@illinois.edu); Mike Church, University of British Columbia (mchurch@ubc.ca); Richard J Hardy, Durham University (r.j.hardy@durham.ac.uk); Ian J Walker, University of Victoria (ijwalker@uvic.ca)

SCIENTIFIC ADVISORY COMMITTEE

Phil Ashworth, University of Brighton, UK (P.Ashworth@brighton.ac.uk); Sean Bennett, University of Buffalo, USA (seanb@buffalo.edu); Jim Best, University of Illinois, USA (jimbest@uiuc.edu); Michael Church, University of British Columbia, CAN (mchurch@ubc.ca); Alexander R. Horner-Devine, University of Washington, USA (arhd@u.washington.edu); Ray Kostaschuk, University of Guelph and Simon Fraser University , CAN (rkostasc@uoguelph.ca); Stuart Mclelland, University of Hull, UK (s.j.mclelland@hull.ac.uk); Rich Hardy, Durham University, UK (r.j.hardy@durham.ac.uk); Jeremy G Venditti, SFU (jeremy_venditti@sfu.ca); Ian Walker, University of Victoria, CAN (ijwalker@uvic.ca)

KEYNOTE SPEAKERS

1) Structure of Turbulent Boundary Layers, Ron Adrian, Arizona State University
2) The Universe of Coherent Turbulent Structures in Gravity Current Flows, Marcelo Garcia, University of Illinois
3) Coherent Flow Structures and Vegetation, Heidi Nepf, Massachusetts Institute of Technology
4) Interrelations Between Coherent Flow Structures, the Eddy Cascade, and Secondary Flows, Vladimir Nikora, University of Aberdeen
5) Modeling of Coherent Flow Structures in Aqueous Flows, Thorsten Stoesser, Georgia Institute of Technology
6) Coherent Flow Structures in Atmospheric Flows, Gabriel Katul, Duke University

PARTICIPATION

We welcome contributions for oral presentations and poster sessions. A formal call for abstracts will be issued in December with a submission deadline of March 1, 2011.

PUBLISHING PLAN

Our publication plan for the conference is evolving, but we intend to produce a peer-reviewed, SCI-rated book, in the tradition established by the conference on Coherent Flow Structures in Open Channel Flows held at Leeds University in 1995. The book will consist of select research papers based on conference presentations and contributions from keynote speakers. Invitations to contribute to the book will be extended by the organizers following the abstract submission deadline in January. The paper submission deadline will be 2 months after the conference.

CFSII SFU 2011

CoherentFlowStructures@sfu.ca

www.sfu.ca/CoherentFlowStructures

SFU