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RIVER, COASTAL AND
ESTUARINE MORPHODYNAMICS

RCEM2021

<https://coastalhub.science/rcem-2021>

CALL FOR PROPOSALS RCEM2023

2021 virtual

2019 Auckland, New Zealand

2017 Trento/Padova, Italy

2015 Iquitos, Peru

2013 Santander, Spain

2011 Beijing, China

2009 Santa Fe, Argentina

2007 Twente, Netherlands

2005 Illinois, United States

2003 Barcelona, Spain

2001 Obihiro, Japan

1999 Genova, Italy

Please send your
proposal to host
RCEM2023 to
astrid.blom@tudelft.nl

Deadline
1 January 2022



RCEM2021: 3 ONLINE SESSIONS

30 Nov 2021 (16:00-19:00 CET) "System response to anthropogenic impact and climate change"

Keynote presentation "Geomorphic influences on river corridor resilience to disturbances" by **Ellen Wohl**

Organizers: Astrid Blom, Laura Stancanelli & Shelby Marie Ahrendt

2 Dec 2021 (9:00-12:00 CET) "Ecomorphodynamics"

Keynote presentation "Are intertidal wetland plants biogeomorphic opportunists or engineers?" by **Thorsten Balke**

Organizers: Nunzio Siviglia, Stefano Lanzoni & Guido Zolezzi

9 Dec 2021 (16:00-19:00 CET) "Morphodynamics and sediment transport"

Keynote presentation "Bankfull geometry of self-formed, single thread, sand bed rivers" by **Enrica Viparelli**

Organizers: Volker Weitbrecht & Cristina Rachelly

THE RCEM TEAM

Shelby Marie Ahrendt

Laura Stancanelli

Clàudia Ylla Arbós

Astrid Blom

Nunzio Siviglia

Stefano Lanzoni

Guido Zolezzi

Giovanni Coco

Volker Weitbrecht

Cristina Rachelly

Paola Passalacqua



TODAY'S TEAM



Shelby Marie Ahrendt



Laura Stancanelli



Clàudia Ylla Arbós



Giovanni Coco



Astrid Blom



RCEM2021 WEBSITE

Link: <https://coastalhub.science/rcem-2021>

Access to RCEM2021 program

Access to RCEM2021 abstracts



RCEM2021 - RIVER, COASTAL, AND ESTUARINE MORPHODYNAMICS

Tuesday 30 November 2021

session 1 - System response to anthropogenic impact and climate change

16:00 CET	opening, call for proposals for RCEM2023 Meeting
16:05	keynote presentation by Ellen Wohl Geomorphic influences on river corridor resilience to disturbances
16:35	keynote presentation - discussion
16:50	talk1 - Chenge An Poyang and Dongting Lakes, Yangtze River: tributary lakes blocked by main-stem aggradation
17:05	talk2 - Jana Cox Early narrowing and deepening of the Rhine-Meuse estuary causes long term sediment deprivation
17:20	breakout rooms for posters and coffee (see below)
17:50	talk3 - Alvise Finotello Landform diversity loss enhanced by flood-regulation in shallow tidal embayments
18:05	talk4 - Jinyang Weng Response of net water transport in a channel network to dredging, training wall construction, and sea level rise
18:20	talk5 - Cristina Rachelly The impact of bed-load supply on channel stability
18:35	talk6 - Megan Williams Changing estuarine morphodynamics under mega-drought, climate change, and water overexploitation in a Central Chilean estuary
18:50	closure

17:25 - 17:50 posters

room 1	Yongpeng Lin Morphodynamics of bedrock-alluvial rivers subject to landslide dam outburst floods
room 2	Steven Weisscher Controlled floodbasins: driving land-level rise along estuaries
room 3	Mohammed Kifayath Chowdhury Bifurcation Morphodynamics in an Engineered River
room 4	Matthew Czapiga River Response to Sediment Nourishments in Eroding Engineered Rivers
room 5	Janneke Krabbendam Morphodynamic response of tidal sand waves to sand extraction
room 6	Clàudia Ylla Arbós Modeling response of the Lower Rhine River to climate change and human intervention
room 7	Kattia Rubi Amez Ferrel Numerical simulations of meander migration in a river of the Bolivian Amazon: the Ichilo River

17:25 - 17:50 thematic coffee

room 8	coffee and scientific graphics
room 9	coffee and outreach
room 10	coffee with other young scientists

Thursday 2 December 2021

session 2 - Ecomorphodynamics

9:00 CET	opening, call for proposals for RCEM2023 Meeting
9:05	keynote presentation by Thorsten Balke Are intertidal wetland plants biogeomorphic opportunists or engineers?
9:35	keynote presentation - discussion
9:50	talk1 - Jonathan Garber Geomorphology versus plant: Examining the role that rheophytes play in constructing fluvial landforms
10:05	talk2 - Liang Geng Intertwined eco-morphodynamic evolution of salt marshes and emerging tidal channel networks
10:20	breakout rooms for posters and coffee (see below)
10:50	talk3 - Elena Bastianon Implementation of a simplified bio-morphodynamic numerical model for biofilm
11:05	talk4 - Paolo Perona Wood Logs biomechanics and the return period of riverbed vegetation uprooting by flow
11:20	talk5 - Costanza Carbonari Stability analysis of submerged vegetation patterns in rivers
11:35	talk6 - Muriel Brückner The contribution and response of macrobenthic organisms to estuarine morphological change under sea level rise
11:50	closure

10:25 - 10:50 posters

room 1	Alice Puppin Spatial and vertical patterns of Soil Organic Matter in the salt marshes of the Venice Lagoon (Italy)
room 2	Lett Wai Nwe Influence of salinity intrusion and suspended sediment concentration (SSC) on temporal distribution of diatoms (phytoplankton) in the Chikugo River estuary
room 3	Alessandro Sgarabotto Effects of vegetation, sediment supply and sea level rise on the morphodynamic evolution of a straight tidal channel
room 4	Michele Combatti Morphological change of alternate bars following vegetation establishment in the regulated Isère river (SE France)
room 5	Francesco Caponi BASEveg: a freeware numerical model integrating vegetation dynamics and river morphology
room 6	TaeUk Kang Numerical experiment on driftwood generation modelling and tsunami flow using 2D flood model coupled with driftwood dynamics model

10:25 - 10:50 thematic coffee

room 7	coffee and scientific graphics
room 8	coffee and outreach
room 9	coffee with other young scientists

Thursday 9 December 2021

session 3 - Morphodynamics and sediment transport

16:00 CET	opening, call for proposals for RCEM2023 Meeting
16:05	keynote presentation by Enrica Viparelli Bankfull geometry of self-formed, single thread, sand bed rivers
16:35	keynote presentation - discussion
16:50	talk1 - Stan Thorez Field characterization of the negatively buoyant inflow of the Rhône River into Lake Geneva
17:05	talk2 - Lindsay Capito Particle path length estimation with tools from signal processing
17:20	breakout rooms for posters and coffee (see below)
17:50	talk3 - Vinay Chembolu Flow Structure and Morphological Dynamics of a Large Braided River
18:05	talk4 - Cristian Escarriaza Simulations of Antidunes in Supercritical Flow
18:20	talk5 - Davide Tognin Storm-driven sedimentation signs salt-marsh morphology
18:35	talk6 - Francesca Bassani Unexpected short-term behavior of meandering rivers under flow variability
18:50	closure

17:25 - 17:50 posters

room 1	Nay Oo Hlaing Seasonal variations of salinity intrusion and mixing conditions at Tanintharyi River Estuary, Myanmar
room 2	Manny Rija Andriamboavonjy Spiral flow near bed along uniformly curved channels
room 3	Martin Hasenhündl A Matlab script for the morphometric analysis of subaerial and subaquatic rivers, channels and canyons
room 4	Niccolò Ragno Contrasting response of delta networks to tidal action: a theoretical study
room 5	Raúl Sosa Pérez Suspended sediment transport affection to the von Karman constant
room 6	Blanca Marin-Estève Characterization of velocity profile distributions in steep channel flows under low relative submergence conditions
room 7	Chien-Yung Tseng Laboratory Study on Sediment Suspension and Bed Morphodynamics in Vegetated Fluvial Systems
room 8	Shelby Ahrendt River morphodynamics and flood risk in Western Washington State, US
room 9	Marco Redolfi Why do free alternate bars form in rivers?
room 10	Rinse de Swart Observed alongshore sandbar and shoreline variability at an open, fetch-limited beach
room 11	Abdel Nhafie Long-term morphodynamics of a coupled shelf-shoreline system forced by waves and tides, a model approach

17:25 - 17:50 thematic coffee

room 12	coffee and scientific graphics
room 13	coffee and outreach
room 14	coffee with other young scientists

PROGRAM SESSION 1

- 16:00 CET opening
- 16:05 keynote - **Ellen Wohl** Geomorphic influences on river corridor resilience to disturbances
- 16:50 talk1 - **Chenge An** Poyang and Dongting Lakes, Yangtze River: tributary lakes blocked by main-stem aggradation
- 17:05 talk2 - **Jana Cox** Early narrowing and deepening of the Rhine-Meuse estuary causes long term sediment deprivation
- 17:20 breakout rooms for posters and coffee (next slide)
- 17:50 talk3 - **Alvise Finotello** Landform diversity loss enhanced by flood-regulation in shallow tidal embayments
- 18:05 talk4 - **Jinyang Wang** Response of net water transport in a channel network to dredging, training wall construction, and sea level rise
- 18:20 talk5 - **Cristina Rachelly** The impact of bed-load supply on channel stability
- 18:35 talk6 - **Megan Williams** Changing estuarine morphodynamics under mega-drought, climate change, and water overexploitation in a Central Chilean estuary
- 18:50 closure

BREAKOUT ROOMS (17:25-17:50)

room 1	Yongpeng Lin	Morphodynamics of bedrock-alluvial rivers subject to landslide dam outburst floods
room 2	Steven Weisscher	Controlled floodbasins: driving land-level rise along estuaries
room 3	Kifayath Chowdhury	Bifurcation Morphodynamics in an Engineered River
room 4	Matthew Czapiga	River Response to Sediment Nourishments in Eroding Engineered Rivers
room 5	Janneke Krabbendam	Morphodynamic response of tidal sand waves to sand extraction
room 6	Clàudia Ylla Arbós	Modeling response of the Lower Rhine River to climate change and human intervention
room 7	Kattia Rubi Arnez Ferrel	Numerical simulations of meander migration in a river of the Bolivian Amazon: the Ichilo River
room 8	coffee and scientific graphics	hosted by Stuart Pearson and Jelle Dercksen
room 9	coffee and outreach	hosted by Giovanni Coco and Nunzio Siviglia
room 10	coffee with other young scientists	hosted by Patricia Buffon and Ana Luisa Nunes de A. O. Castañon

YOUR QUESTIONS

If you have a **question**, please

- keep your question until the presentation is completed;
- raise your virtual hand only when the presentation has ended;
- switch on your video;
- ask your question rather than type it in the chat box.



SESSION 1 - KEYNOTE PRESENTATION

Geomorphic influences on river corridor resili

Ellen Wohl

Warner College of Natural Resources, Colorado State University

1988 PhD Geosciences, University of Arizona

1984 B.S. Geology, Arizona State University

Research interests:

Physical-ecological interactions in river ecosystems

Implications of physical riverine complexity for organic carbon storage

Large wood in river floodplains

Effects of beaver activities on downstream fluxes of material in river corridors

Women Advancing
River Research
Seminar Series



KEYNOTE PRESENT

Geomorphic influences on river corridor resilience to disturbances

Ellen Wohl

