

Gravel Bed Rivers 8

礫楽

Kyoto & Takayama, 2015

SECOND CIRCULAR

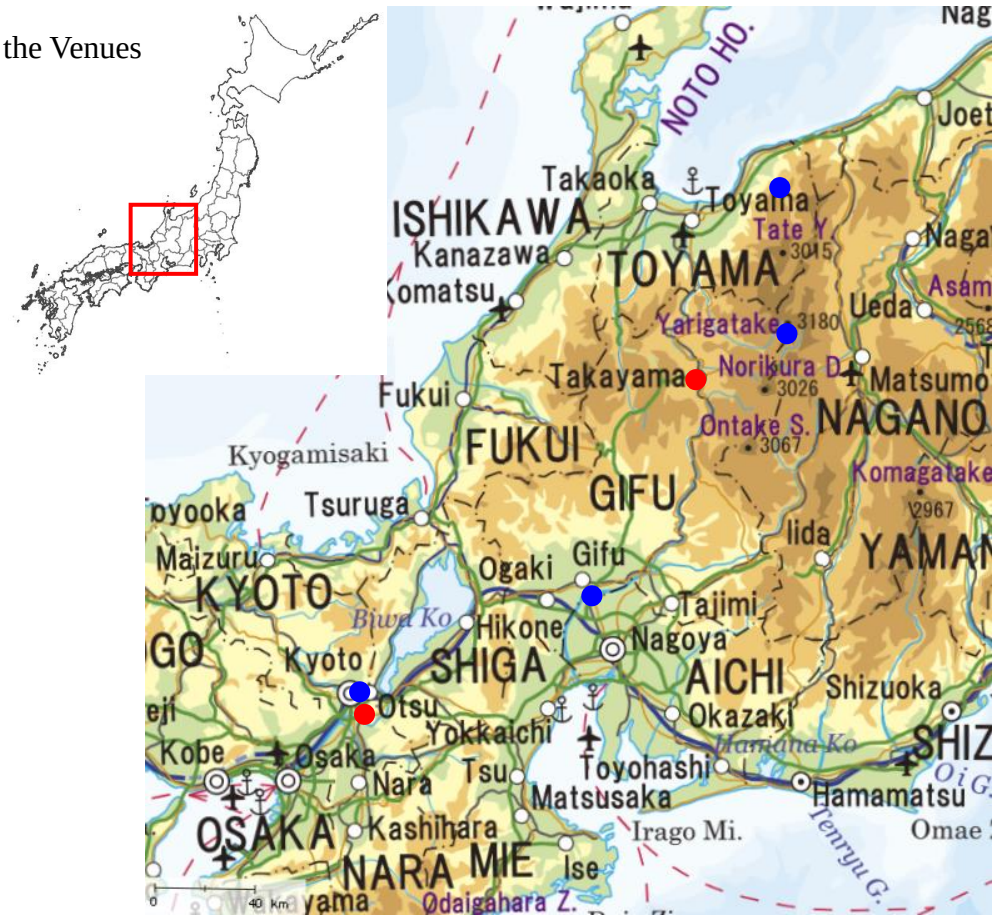
GBR8, JAPAN

14-18 September, 2015

VENUE AND DATES

The organizing committee is delighted and honored to invite you to the 8th Int'l Gravel Bed Rivers Workshop - GBR8, which will take place during 14-18 September 2015; first in Kyoto and thereafter in Takayama, a small and old city close to the Japanese Alps located 200 km west of Tokyo. The venues for the meeting are the Uji Campus, Kyoto University (http://www.uji.kyoto-u.ac.jp/english/access_e.html), and the Hotel Associa Takayama Resort (http://www.associa.com/english/tky/).

Map of the Venues



- workshop venues
- field trip sites

WORKSHOP TITLE

"Gravel Bed Rivers and Disasters"

In keeping with previous experience, session topics will cover a wide area, only few directly relevant to the workshop sub-theme of disasters. We have chosen this theme not merely because Japanese gravel bed rivers experience many and frequent disasters, nor because other countries have them, but also because the Kyoto University Disaster Prevention Research Institute will be hosting the workshop at the Uji Campus and at its Hodaka Research Station, together with the Laboratory for Erosion Control, Kyoto University.

ORGANISING, ADVISORY AND NATIONAL COMMITTEES

Local Organizing Committee

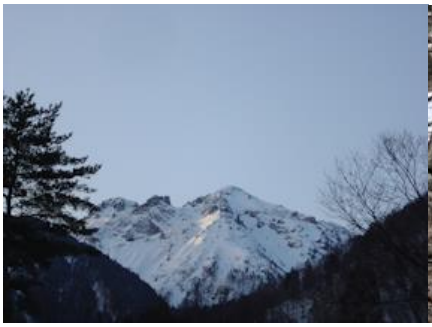
Masaharu Fujita (DPRI, Kyoto Univ.); Jonathan Laronne (Ben Gurion Univ. of the Negev); Shusuke Miyata (DPRI, Kyoto Univ.); Takahisa Mizuyama (Kyoto Univ.); Yoshifumi Satofuka (Ritsumeikan Univ.); Hiroshi Takebayashi (DPRI, Kyoto Univ.); Daizo Tsutsumi (DPRI, Kyoto Univ.)

Scientific Advisory Committee

Jochen Aberle (Norwegian University of Science and Technology, NTNU, Trondheim); Peter Ashmore (Western University, Ontario); James Brasington (Queen Mary University of London); Shinji Egashira (ICHARM-UNESCO, Tsukuba); Philippe Frey (IRSTEA, National Research Institute of Science and Technology for Environment and Agriculture, Grenoble); Chris Paola (University of Minnesota, St. Paul); Klement Tockner (IGB, Berlin); Guido Zolezzi (University of Trento, Trento)

National Committee

Futoshi Nakamura (Hokkaido Univ.); Taro Uchida (NILIM, Tsukuba); Atsushi Hattori (MLIT, Tokyo); Ko-ichi Yamamoto (Foundation of River and Watershed Environment Management, Tokyo); Hiroshi Takahashi (Jinzu River Sabo Office); Masato Jogasaki (Matsumoto Sabo Office)



PUBLICATION OF PAPERS

The keynote papers and ensuing discussion will be published as a book following the conference. The book will be published by Wiley. Other participants are invited to present posters; a journal volume of peer-reviewed poster-based papers is planned.

THE CONFERENCE PROGRAM

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<tr><th></th><th>Monday
14 September</th><th>Tuesday
15 September</th><th>Wednesday
16 September</th><th>Thursday
17 September</th><th>Friday
18 September</th></tr>
<tr><td>8:40 – 9:00</td><td>Welcome</td><td rowspan="3">Move from Kyoto to Takayama**</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>9:00 – 10:30</td><td>Session 1</td><td>Session 7</td><td>Session 12</td><td>Session 14</td></tr>
<tr><td>10:30 – 11:00</td><td>Break</td><td>Break</td><td>Break</td><td>Break</td></tr>
<tr><td>11:00-12:30</td><td>Session 2</td><td></td><td>Session 8</td><td>Session 13</td><td>Session 15</td></tr>
<tr><td>12:30 – 14:00</td><td>Lunch</td><td>Lunch</td><td>Lunch</td><td rowspan="3">Lunch***

Mid-workshop field trip</td><td>Lunch</td></tr>
<tr><td>14:00 – 15:30</td><td>Session 3</td><td>Session 5 (1)</td><td>Session 9</td><td>Session 16</td></tr>
<tr><td>15:30 – 16:00</td><td>Break</td><td>Break</td><td>Break</td><td>Break</td></tr>
<tr><td>16:00 – 17:30</td><td rowspan="2">Session 4</td><td>Session 5 (2)</td><td rowspan="2">Session 10 (short oral presentations by PhD students)</td><td rowspan="2">Session 17</td></tr>
<tr><td>17:30 – 18:30</td><td>-</td><td>Session 6 (future venues presentations)</td><td>Session 11(poster presentation)</td><td>Discussion of field trip</td><td>-</td></tr>
<tr><td>18:30</td><td colspan="4">Dinner*</td><td>Banquet</td></tr>
<tr><td>Poster display all day</td><td>-</td><td colspan="4">Poster</td></tr>
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* Not included in registration fees

**On the way, we will stop at *"AQUA RESTRATION RESEARCH CENTER"*
(https://www.pwri.go.jp/team/kyousei/eng/index.htm)

*** Packed lunch will be available for the mid-workshop field trip

After the workshop program, there will be an optional scientific program for graduate students to stay two nights at the Hodaka Sedimentation Observatory, Kyoto University (Takayama, Gifu) at no cost. Details will be appear on the GBR8 website at a later date.

SESSION TOPICS and KEYNOTE SPEAKERS

Session 1. **Flow and transport near the bed**

(1) Turbulence and computational modeling for GBR
Cristian Escauriaza
Departamento de Ingenieria Hidraulica y Ambiental, Ponticia Universidad Catolica de Chile

(2) Boulder effects on turbulence and bedload transport
Thanos Papanicolaou
Department of Civil and Environmental Engineering, The University of Tennessee

Session 2. **Theoretical considerations for bedload transport**

(1) Granular flows applied to GBRs
Kimberly Hill
St. Anthony Falls Hydraulic Lab., University of Minnesota

(2) Particle motions and bedload theory
David Furbish
Department of Earth and Environmental Sciences, Vanderbilt University

Session 3. **Bedload transport quantification**

(1) The morphologic approach and novel instrumentation as keys to estimate bedload yield
Joseph M. Wheaton
Ecogeomorphology & Topographic Analysis Laboratory, Utah State University
Damia Vericat
Forest and Technology Centre of Catalonia

(2) Single particle tracing and the active layer – what have we learned so far?
Marwan Hassan
Department of Geography, The University of British Columbia

Session 4. **Surrogate methods for bedload monitoring**

(1) Bedload transport monitoring with geophones and other passive acoustic methods
Dieter Rickenmann
Swiss Federal Institute for Forest, Snow and Landscape Research WSL

(2) Calibration of ADCP bedload velocity
Colin Rennie
Civil Engineering Hydraulics Laboratory, University of Ottawa

Session 5. **Habitat issues**

(1) Relations of habitat structure and ecological function to sediment disturbance in river ecosystems
Yasuhiro Takemon
Disaster Prevention Research Institute, Kyoto University

(2) Modeling surface-subsurface exchange of heat and nutrients
Daniele Tonina
Department of Civil Engineering, University of Idaho

(3) Ecological effects of flow intermittence in GBR
Thibault Datry
National Research Institute of Science and Technology for Environment and Agriculture

Session 6. **Presentation of future venues for GBR9**

Session 7. **Gravel deposition and transport by large floods**

(1) Catastrophic deposition of gravel from outbreak floods.
Paul Carling
Department of Geography and Environment, University of Southampton

(2) Linkage between sediment transport and supply in bedrock rivers
Mikaël Attal
The School of GeoSciences, University of Edinburgh

Session 8. **Dam removal and dam flushing in gravel bed rivers**

(1) Downstream effects of dam removal
Jon Major
U.S. Geological Survey

(2) Sediment feeding and flushing downstream of reservoirs
Tetsuya Sumi
Disaster Prevention Research Institute, Kyoto University

Session 9. **Physical modeling: miniature GBRs and sediment availability**

(1) Bedload transport in a laboratory river
Eric Lajeunesse
Department of Geological Fluid Dynamics, Institut de Physique du Globe de Paris

(2) Effects of sediment availability on bedforms and bedload
Jeremy Venditti
Department of Geography, Simon Fraser University

Session 10. **PhD students orally presenting their posters**

Session 11. **Poster presentation**

Session 12. **Disasters and GBRs - sediment supply and availability**

(1) Linking debris flows and landslides to GBR sediment transport and channel changes in large floods
Lorenzo Marchi
Istituto di Ricerca per la Protezione Idrogeologica del Consiglio Nazionale delle Ricerche, U. O. S. di Padova (CNR-IRPI Italy)

(2) Gravel bed river processes caused by large-scale landslides
Chjeng-Lun Shieh
Disaster Prevention Research Center, National Cheng Kung University

Session 13. **Disasters and GBRs - integrated management**

(1) Integrated (often meagre) management of lowland and mountain gravel bed rivers
Koh-ichi Fujita
Ministry of Land, Infrastructure, Transport and Tourism, Japan

(2) Integration, risk assessment and post disaster activities, and human activities on GBRs
Djoko Legono
University of Gadjah Mada, Indonesia

Session 14. **Gravel sorting and porosity, its effect on bed variation in time and space**

(1) The dependence of gravel porosity on grain size distribution
Masaharu Fujita
Disaster Prevention Research Institute, Kyoto University

(2) Riverbeds containing gravel, sand, silt and clay
Masato Sekine
Department of Civil & Environmental Engineering, Waseda University

Session 15. **Sedimentology-related modeling: deposit stratigraphy and bed cover**

(1) Modeling stratigraphy-based GBR morphodynamics
Enrica Viparelli
Department of Civil & Environmental Engineering, Univ. of South Carolina

(2) Modeling sediment processes in bedrock-alluvial rivers
Rebecca Hodge
Department of Geography, Durham University

Session 16. **Morphodynamic and morphologic models**

(1) Modeling GBR bedforms with sediment sorting
Hiroshi Takebayashi
Disaster Prevention Research Institute, Kyoto University

(2) Modeling mixed-sediment morphodynamics in gravel bed rivers
Annunziato Siviglia
Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich

Session 17. **The morphology of GBRs with vegetation and without away from Earth**

(1) Physical and mathematical modeling of vegetation /wood in GBRs
Walter Bertoldi
Department of Civil and Environmental Engineering, University of Trento

(2) Gravel bed rivers on Mars
Bill Dietrich
Department of Earth & Planetary Science, University of California, Berkeley

POSTERS

Attendees are invited to present posters. As in the previous Gravel Bed Rivers workshop, the posters will be uploaded to the website and will be available only to registered attendees. A special issue of peer reviewed papers in an international journal is planned. Poster presenters are invited to prepare papers for this volume, details for which will be available at a later date.

The deadline to submit an abstract for poster presentations is 31 March 2015. Instructions for submitting posters are given on the website

http://www.gbr8.dpri.kyoto-u.ac.jp/poster.html

FIELD TRIPS

The organizing committee is planning three scientific field trips: *the Kamo River, or the Ujigawa Hydraulics Open Laboratory* for the pre-workshop trip, *the Gamata River* for the mid-workshop trip, and *the Kurobe River* for the post-workshop trip.

Pre-workshop trip

Site One
"The Kamo River"

The Kamo River (210 km^2 basin area and 13 km length) has its source in the mountainous area of Mt. Sajikigatake (896 m a.s.l), in the northern part of Kyoto City. Flowing into the Kyoto Basin from the Kamigamo city area, it bends south-eastwards and at Demachi joins with the Takano River, from which it flows south through the central part of the city. At its southern end it joins with the Katsura River to become a tributary of the Yodo River. Because the Kamo River runs through the urbanized and highly dense populated area of Kyoto, its river banks are highly protected by construction works, and its river bed has been artificially changed. We shall visit several reaches of the Kamo River to observe the fluvial geomorphology of a typical urban river in Japan.

Starting point: "Demachi-yanagi" station of the Keihan train line
Starting time: 14:00, 13th September, 2015
Maximum number of attendees: 20

Site Two
"Ujigawa Hydraulics Laboratory, Disaster Prevention Research Institute (DPRI), Kyoto University"

The Ujigawa (Hydraulics) Open Laboratory of the Disaster Prevention Research Institute (DPRI), Kyoto University was established in 1953. The laboratory is located near the southern edge of Kyoto city, beside the right-hand levee of the Uji River (the "Ujigawa", after which the laboratory is named) and its site covers an area of 68,700 m^2. The lab houses various types of flumes and physical models for experimental research. The main objective of the laboratory is to investigate various problems concerning natural disasters

caused by water and soil. DPRI has been reorganized into 5 research divisions and 5 research centers and has been a center of cooperative research projects for the national universities since 1996. With this reorganization of DPRI, Ujigawa Hydraulics Laboratory changed its name in 2002 to "Ujigawa Open Laboratory". The meaning of "Open Laboratory" is that the use of facilities in the laboratory is open up to every researcher, private company or school worldwide. We invite your suggested use of our laboratory.
Starting point: "Cyushojima" station of the Keihan train line
Starting time: 14:00, 13th September, 2015
Maximum number of attendees: 20

Mid-workshop trip

"The Gamata River and the Hodaka Sedimentation Observatory"

The Gamata River has its source in the Hida mountain range (3,000 m a.s.l) in the northern part of Takayama City, Gifu Prefecture. It joins with the Hirayu River at Tochio, changing its name to the Takahara River, which flows towards the Toyama Prefecture and thereafter debouches into the Sea of Japan. The Ashiarai-dani River, a tributary of the Gamata River, has its source in Mt. Yakedake (2,455 m a.s.l.), one of the active volcanoes. The Hodaka Sedimentation Observatory, Disaster Prevention Research Institute (DPRI), Kyoto University was established in 1965 in the Ashiarai-dani catchment. Since the establishment of the observatory, various kinds of continuous sediment monitoring devices have been deployed. In the past decade bedload monitoring has been monitored by a combination of a large Reid-type pit sampler, Swiss geophones as well as Japanese pipe-microphones, the latter also deployed at several tributaries of the Ashiarai-dani. Large sediment inputs to the river in this active volcanic terrain derive from mass wasting and debris flows, and these are also monitored.

Starting point: Hotel Associa Takayama Resort
Starting time: 14:00, 17th September, 2015

Post-workshop trip

"The Kurobe River"

The Kurobe River with a length of 86 km and a 689 km^2 basin area is located in the Toyama Prefecture. The river has its source in Mt. Washiba (2,924 m a.s.l.), part of the Hida Mountain Range, and carves the deep valley known as the Kurobe gorge. It emerges from the mountains at Unazuki and forms an alluvial fan that directly sinks into the Sea of Japan. Several dams have been constructed in the Kurobe River watershed. The Unazuki dam (97 m) and the Dashidaira dam (77 m) stand next to each other in the downstream part of the mountainous reach. Simultaneous sediment flushing operations have been occasionally conducted to decrease reservoir sedimentation and to maintain sufficient sediment transport through the downstream reach of the Kurobe River.

Starting point: Hotel Associa Takayama Resort
End point: JR Toyama Station
Starting time: 9:00, 19th September, 2015
End time: 18:00, 19th September, 2015
Registration fee: ¥5,000
Bus transport, lunch is included in the registration fee
Maximum number of attendees: 20
Minimum number of attendees for the field trip to run: 12


PARTICIPATION

There will be accommodation space for 130 participants. We welcome those who are planning to attend and/or present posters to express their interest, inclusive of PhD students.

REGISTRATION

	Early registration until 30th April 2015	Late registration from 1st May 2015
Regular delegate	¥47,000 (approx. US$ 430)	¥57,500 (approx. US$ 525)
Student delegate	¥24,500 (approx. US$ 225)	¥32,500(approx. US$ 295)
Companion delegate	¥11,000 (approx. US$ 100)	¥15,000 (approx. US$ 140)

Registration fees for regular, student and corporate delegates include four lunches, a few drinks at the welcoming reception and at the banquet, the banquet meal, transportations from Kyoto to Takayama and conference material. For the companion delegate, registration includes transportation from Kyoto to Takayama and the banquet.

A website will be open in January 2015 for registration. Please fill the form and submit online.
http://www.gbr8.dpri.kyoto-u.ac.jp/registration.html

Cancellation must be made before 15 August 2015. Fees for cancellation are as follows:

Cancellation before 1st May 2015: ¥10,000
Cancellation before 1st July 2015: ¥25,000
Cancellation before 15th August 2015: ¥35,000

As the size of the workshop will be similar to previous workshops, additional requests to attend have at present been set aside. *Please notify us at your very earliest convenience* if you cannot attend the workshop, so that others can take your place.

ACCOMMODATION

The organizing committee has secured a block of rooms at the venue of the conference in Takayama. The hotel room booking in Kyoto, Takayama as well as at Toyama after the post-workshop field trip will be available at the registration website from January 2015.
http://www.gbr8.dpri.kyoto-u.ac.jp/registration.html

GETTING THERE

Transportation from Kansai International Airport to Kyoto

1. JR airport express train “Haruka”

The international arrivals lobby is on the 1st floor of the Passenger Terminal Building. To take the JR airport express train “Haruka” to JR Kyoto Station, take the elevator directly across from the arrivals exit gate to the 2nd floor, then cross the passageway to the other building, where you will find the JR station. Please refer to the Airport map link below. It takes approximately 75 minutes by express train “Haruka” from Kansai International Airport (Osaka) to the Kyoto Station. (Kansai Int'l Airport website: http://www.kansai-airport.or.jp/en/access/index.html). The express train “Haruka” leaves for Kyoto every thirty minutes, and the one-way fare is 2,980 yen for a non-reserved seat and 3,490 yen for a reserved seat.

2. Airport limousine bus

There are limousine bus stops outside of doors C and D of the Passenger Terminal Building. Please see the links below for an airport map and the limousine bus time table. It takes approximately 2 hours by bus from Kansai International Airport to the Kyoto Station, and the one-way fare is 2,300 yen (round-trip 3,800 yen).

3. Shared taxi

There is a shared taxi service from Kansai International Airport to Kyoto City. You are required to make a reservation in advance. The one-way fare is 3,500 yen. For further information, please refer to the following URL.
MK Taxi: Travel, Amusement and Sightseeing in Kyoto: http://www.mktaxi-japan.com/
Yasaka Taxi: http://www.yasaka.jp/english/index.html

Access to the Uji Campus, Kyoto University from Kyoto

There are two train lines from downtown Kyoto to the Uji campus, Kyoto University.
1. JR Nara line:
"JR Kyoto" station → "JR Obaku" station → about a 7 minute walk, or
2. Keihan line:
"Keihan Sanjo" station → "Keihan Obaku" station → about a 10 minute walk
The map of the Uji Campus is available at
http://www.uji.kyoto-u.ac.jp/english/img/campusmap_e.pdf

Transportation from Takayama

To search train connections from JR Takayama (or JR Toyama) to various destinations in Japan (e.g., Kansai Airport, Tokyo), the following website is convenient:
"HyperDia" http://www.hyperdia.com/en/

CONTACTS

If you have any questions concerning the workshop, write to us at loc@gbr8.dpri.kyoto-u.ac.jp .
Web site: www.gbr8.dpri.kyoto-u.ac.jp/index.html