

第3回流域圏保全研究推進セミナー&国際シンポジウム

The 3rd Seminar of International symposium of river basin studies

-Towards the interdisciplinary study of the sustainable utilization and management of river basin systems-

開催日：

2019年3月5日(火)～6日(水)

主催：

岐阜大学・流域圏科学研究センター

後援：

日本長期生態学研究ネットワーク (JaLTER)

水文・水資源学会

開催場所：

岐阜大学流域圏科学研究センター 総合研究棟 F207/208 会議室
(〒501-1193 岐阜市柳戸 1-1)

Date:

March 5th (Tue)～6th (Wed), 2019

Host:

River Basin Research Center, Gifu University

Supporting organizations/networks

The Japan Society of Hydrology and Water Resources

Japan Long-Term Ecological Research Network (JaLTER)

Venue:

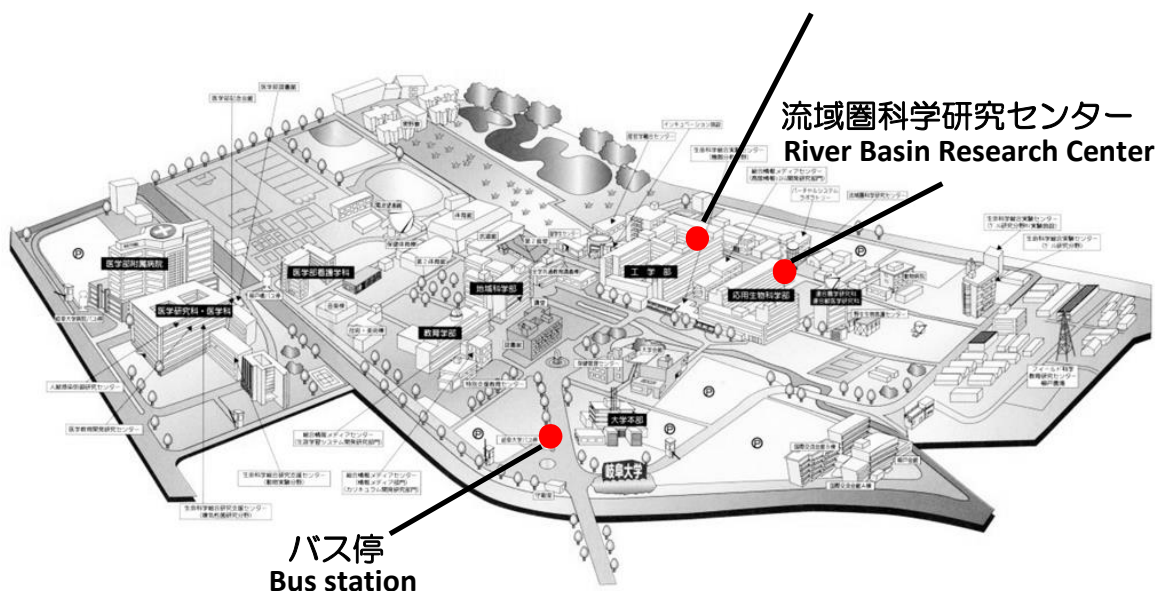
Gifu University, 1-1 Yanagido, Gifu, 501-1193 Japan

F207/208, General Research Building I

会場案内/Map

セミナー会場：総合研究棟I F207/208

Seminar Venue: General Research Building I



巻頭言



栗屋善雄

岐阜大学流域圏科学研究センター長
流域圏保全研究推進セミナー実行委員長

この度、昨年度に引き続いて流域圏科学研究センターにおいて国際シンポジウムを含む第3回流域圏保全研究推進セミナーを開催することとなり、参加者の皆さまには心より歓迎申し上げます。当センターは流域圏における様々な現象を解明し、複雑システムである流域圏を総合的に理解して、得られた知見と成果を地域社会に還元することを、国内外の大学や研究機関、観測・研究ネットワークの支持も受けながら推進してきました。この目的をさらに明確にして、流域圏科学の知見に基づいて自然資源の持続可能な利用を目指す『流域圏保全学』を創生し、研究教育の拠点として発展すべく準備を進めています。一昨年度から拠点活動の一環として、流域圏科学、流域圏保全学に関連する下記の5課題の共同研究公募を実施しています。

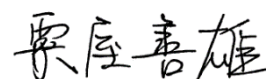
- (1) 気象・水・物質循環システムと人間活動影響に関する研究
- (2) 生態系の動態と機能の解明と予測に関する研究
- (3) 流域圏の安全・リスク診断と、それに資する環境・社会情報分析に関する研究
- (4) 流域資源・エネルギーの保全・活用に関する研究
- (5) その他、流域圏科学の発展、流域圏保全に資する研究

今日、突発的な気象現象が生じ、人間活動により地域社会が変化していく中で、社会・自然・経済が調和した持続可能な発展が不可欠とされており、様々な分野の研究機関、行政機関および事業者の連携が必要になっています。本セミナーの開催によって、これらの研究に関連する国内外の幅広い分野の研究者・学生が一同に会し、それぞれが持つ研究知見を相互に提供することで、研究交流が活性化し、新たな研究が萌芽するとともに、研究成果の社会実装にむけた枠組み作りが促進されることを願っています。

Message from the director

River Basin Research Center (RBRC) of Gifu University has the third seminar of River Basin Conservation Study with an international symposium. On behalf of RBRC, it is a great pleasure to welcome all the participants to the seminar. RBRC has the roles of clarifying various phenomenon in river basins, understanding complicate system of river basins and returning the derived knowledge and outcomes to local societies and has executed its role by supports of domestic and international universities, research institutes and research networks. RBRC makes its role clear and aims at promoting an interdisciplinary “river basin science” to facilitate sustainable use of natural resources involved in the landscape which is composed of natural and societal systems and their interactions. RBRC desires to evolve as a hub center for joint researches to accelerate improvement of river basin study. RBRC has announced a joint research program for studies relating to river basin science and river basin conservation since the year before last.

The river basin science integrates research and developments for our deeper understandings on the systems including mountainous forested catchment, rivers and regional climate, and for sound management of natural resources such as water and agricultural products. As the impacts of climate change and human activity on such basin systems are rapidly changing, the environmental science is requested to help solve the issues in our ‘natural – societal ecosystems’. This symposium aims to share the scientific findings and knowledge, exchange germinating ideas, and to explore new vision of environmental science which bridges natural and societal systems for their harmonized sustainability.



Yoshio Awaya

Director of River Basin Research Center, Gifu University
Chair of symposium committee

プログラム / Program

3月5日(火) March 5th (Tue)

流域圏科学研究センター共同研究成果報告会

- 13:00—13:15 開会挨拶：岐阜大学長，流域圏科学研究センター長
- 13:15—13:35 客員教授講演(水系安全国際研究分野)：Vig Adarsh Pal (Guru Nanak Dev University, India)
“Vermitechnology for Solid Waste Management (インドにおける固形廃棄物管理の問題と取り組み)”
- 13:35—13:55 客員教授講演(植生景観研究分野)：村山昌平(産業技術総合研究所)
“Long-term variations of the carbon budget and the meteorology parameters detected from 25-year observation in a cool-temperate deciduous forest at Takayama. (大気—森林生態系のCO₂交換に関する長期変動とそのメカニズム：高山サイトでの25年にわたる観測より)”
- 13:55—14:15 招待講演1：安江 恒(信州大学)
“Understanding of climate effects on radial growth of *Cryptomeria japonica* combining tree-ring, ecosystem model and ¹³CO₂ labeling(スギの成長に対する気候変動影響の解明：年輪解析・生態系モデル・¹³CO₂ラベリングによる解析)”
- 14:15—14:35 招待講演2：日浦 勉(北海道大学)
“Geographic variations of calcium use in Japanese cedar alter the ecosystem function and biodiversity(スギのカルシウム利用の地理変異が改変する生態系機能と生物多様性)”
- 14:35—15:05 共同研究(重点課題)成果発表：口頭発表1
(14:35—14:50) 永井 信(海洋研究開発機構) “Prediction of flowering and full blooming dates of cherry blossoms by Self Organizing Maps(自己組織化マップによる桜の開花日と満開日の予測)”
(14:50—15:05) 村越ふみ(京都府立医科大学) “Removal of *Cryptosporidium* from wastewater by microbial fuel cells(微生物燃料電池による下水からのクリプトスポリジウム原虫の除去)”
- 15:10—16:10 学生・若手研究者・共同研究(一般課題)成果発表：ポスター発表
16:10—16:20 ——— 休憩 ———
- 16:20—16:50 共同研究(重点課題)成果発表：口頭発表2
(16:20—16:35) 大西健夫(岐阜大学) “Exploring the possibility of comparative studies on water and elements circulations in Takayama and Kuraiyama experimental forest(高山試験地と位山演習林の流域間比較研究の可能性検討と予察的調査)”
(16:35—16:50) 友常満利(早稲田大学) “An attempt to detect forest structures using an unmanned aerial vehicle in a broad-leaved deciduous forest, Takayama, Japan(落葉広葉樹林におけるドローンを用いた森林構造の検出への試み)”
- 16:50—17:20 流域圏科学研究センター活動報告(各10分)
共同研究支援室
高山試験地
流域水環境リーダー育成プログラム
- 17:20—17:30 ポスター賞授与式(Poster award ceremony)
- 17:30 報告会閉会挨拶：岐阜大学 研究担当理事・副学長

3月6日(水) March 6th (Wed)

国際シンポジウム

Integrated river basin science toward adaptation to climate and societal changes

9:15—9:30	Registration
9:30—9:40	Introduction: Hiroyuki Muraoka (RBRC, Gifu University)
9:40—10:10	Prof. I Nengah Surati Jaya (Bogor Agricultural University, Indonesia) “The use of remote sensing data for assessing the site quality, stand growth, biomass, carbon and standing stock of tropical mangrove ecosystem: A Case Study in Kubu Raya Regence, West Kalimantan, Indonesia”
10:10—10:30	Morihiro Harada (RBRC, Gifu University) “The future of comparative study on river basin spheres – toward the regional adaptation”
10:30—10:50	Shuichi Kure (Toyama Prefectural University) “Development of a Watershed Hydrology Modeling System Coupled with a Regional Climate Model for Future Risk Assessment”
10:50—11:10	———— Coffee/Tea break ————
11:10—11:30	Kentaro Taki (Shiga Prefectural University) “The Risk-Based Floodplain Regulation for the Eco-DRR implementation: Experience in Shiga, Japan”
11:30—11:50	Takahiro Ohta (Nagasaki University) “Beneficiary awareness on desirable forest management scenario simulated by process-based model for multiple ecosystem services: a case in upper river basin of Nagara River”
11:50—12:10	Yasuyuki Maruya (RBRC, Gifu University) “Research prospect on integration of hydrology and ecology in river basin study”
12:10—12:40	Discussion: The way forward
12:40	Closing remarks

Poster presentation

ID	Name	Presentation title	Student
P01	Guangyu Cui	Gut digestion of earthworms attenuates ARGs in excess activated sludge by affecting both viable and dead bacteria	#
P02	Huijuan Shao	Comparison of the immobilization capability of biochar, incinerated sewage sludge ash and zeolite for cesium in polluted soil	#
P03	Saadia Bouragba	A preliminary study of the partitioning of heavy metals in water-solid phases for assessing Cr mobility within surface water	#
P04	Shiamita Kusuma Dewi	Inhibition Effect of Wood Ash on Transfer of Arsenic from Contaminated Soil to Vegetation	#
P05	Daichi Iijima	Oomycetes isolated from soil and streams in forests	#
P06	Kensuke Yamada	The taxonomy of <i>Pythium</i> species belonging to phylogenetic clade J of the genus <i>Pythium</i>	#
P07	Wenzhuo Feng	Microsatellite analysis of <i>Phytophthora colocasiae</i> causing leaf blight of taro in Japan	#
P08	Tomoka Hayashi	Improvement of Power Production by Microbial Fuel Cells for Sewage Treatment	#
P09	Wenjiao LI	The release of dissolved substances from activated sludge under starvation condition	#
P10	Kazuho Araki	Monitoring of gap dynamics using airborne LiDAR in secondary deciduous broad-leaved forest	#
P11	Aldilla Afiani alda	Comparison of several carbon materials as the anode of Microbial Fuel Cells	#

P12	Ryota Nakamura	A case study to estimate the effect of open levees and attached wetlands in the viewpoints from the flood disaster reduction and ecosystem conservation: Ane River in Shiga Prefecture, Japan.	#
P13	Hirokazu Yamamoto	Aerosol optical properties retrieved using Skyradiometer over Takayama site (1)	
P14	Sartaj Ahmad Bhat	Effect of heavy metals on the performance and microbial profiles of activated sludge in a sequencing batch reactor	
P15	Yoshio Awaya	Utility validation of stem volume mapping of evergreen conifer forest using airborne LiDAR data	
P16	Katsuaki Komai	Investigation of dominant factors of nutrient reduction rate from carcass of pink salmon	
P17	Rahma Yanda	Application of mixing layer analogy in gravel-bed streams	
P18	Hiroyuki Muraoka	GEO Carbon and GHG Initiative: From operational observations of carbon and GHG cycles to policy-relevant information.	
P19	Ayaka Hieno	Simple identification of <i>Phytophthora</i> species by using PCR-RFLP	
P20	Yuma Sakai	Estimation of the SIF radiation and GPP using the remote sensing data by expanding the 3D radiative transfer model “FLiES”	
P21	Yoshizumi Hisada	Preliminary analysis for future prediction of “potential risk of damage of <i>Cryptomeria japonica</i> forest by snow accretion”	
P22	Yoshizumi Hisada	Study on the method of interpretation of layer structure of forest using airborne LiDAR data	
P23	Daisuke Kabeya	Development of large-diameter timber production technology for profitable long rotation forestry.	