

特定研究集会（課題番号：29C-02）

集会名： 第四回 斜面テクトニクス会議

研究代表者： 千木良雅弘

開催日：平成 29 年 10 月 14～18 日

開催場所：宇治おうばくプラザ、(五條市、十津川村、新宮市)

参加者数：91 名（所外 80 名、所内 11 名）

- ・大学院生の参加状況： 15 名（修士 7 名、博士 8 名）（内数）
- ・大学院生の参加形態 [研究発表, 会場係, フィールドトリップ参加]

研究及び教育への波及効果について

斜面災害を引き起こす現象は大きな地域性があり、様々な国からの参加者相互の発表・討論は、大変有意義であった。学生たちは、発表、会議場やフィールドトリップ等を通じて国際感覚を養うことができた。

研究集会報告

(1) 目的

本会議は、地すべりや崩壊など、斜面で起こる変形・移動現象を様々な角度から検討することを目的に 2008 年に第 1 回が開催され、以降、3 年毎に開催されてきた。今まではヨーロッパで開催されてきたが、今回初めてアジア地域での開催となり、アジア地域での事例研究も多く発表し、紀伊山地のフィールドトリップを行うことにより、国際的な研究交流を行うことを目的とした。

(2) 成果のまとめ

研究発表会は、10 月 14-15 日の京都大学宇治キャンパスおうばくプラザにて実施され、78 件の研究発表（口頭発表：42 件；ポスター発表：36 件）が行われた。発表会には 14 の国と地域から 91 人の参加者が集い、最新の研究成果に対し活発な議論が行われた。氷河の作り出した U 字谷での斜面変形や河川の下刻による V 次谷での大規模崩壊など、多様な環境における種々の着眼での研究が発表されるとともに、測量や観測における技術的な進展についても多くの報告がなされた。講演・ポスター発表会場では、熱心な質疑応答が繰り広げられ、斜面にまつわる現象の研究コミュニティの活気と、今後の持続的発展を確信できる会合となった。なお、初日の夜の懇親会では、参加者同士さらに親睦を深め、旧知の仲間も新たな出会いを得た人々も、みな打ち解けて語り合い、ある人は日本酒に舌鼓をうち、ある人は和太鼓・三味線の演奏に聴きほれて、満足した様子であった。野外巡検は、10 月 16-18 日の三日間をかけて、紀伊半島をバスで縦走する見学・観察会として実施された。この巡検には 46 人が参加した。西南日本外帯をつくる典型的な付加体の構造を観察するとともに、河川の下刻やダムの湛水に対する応答としての斜面の挙動や、2011 年の台風によって発生したいわゆる深層崩壊のメカニズムについて意見交換し、また、花崗斑岩の風化形態を観察して、その生成過程について議論が交わされた。紀伊半島では航空レーザー測量に基づく細密地形データが充実していることもあり、地表に現れる微地形と地下構造およびその変形との関係、あるいは、そうした重力変形と深層崩壊との関連について熱い討論が交わされ、今後の研究課題を、現場で認識する良い機会となった。

(3) プログラム

詳細は後述する。

(4) 研究成果の公表

研究発表アブストラクトは、ウェブサイトにて公表した。また、本会議を受けて学術誌 Engineering Geology から Special Issue を出版予定。

Program of the 4th Slope Tectonics Conference

Oral sessions at Kihada Hall

October 14, 2017 (Saturday)

15 min for each = 12 min talk + 3 min discussion

9:30	Opening	
9:30~9:45	Welcome addressing (Prof. Nakagawa and Prof. Chigira)	
Session 1 (9:45~11:00) Chairs: Jaboyedoff Michel, Baron Ivo		
Time	Presenter	Title
9:45~10:00	Corominas Jordi	Geological structure and relief as controls for the occurrence of large slope failures in the Pyrenees
10:00~10:15	Kojima Satoru	Geomorphological and geological characteristics and development history of deep-seated gravitational slope deformation in the Kanmuriyama area, central Japan
10:15~10:30	Briestensky Milos	Active tectonics affecting the development of deep seated gravitational slope deformations in the Western Carpathians
10:30~10:45	Hirata Yasuto	Rain-induced landslides of granite porphyry which was weathered with many corestones in higher elevations
10:45~11:00	Matsushi Yuki	Multi-scale mass movements in a dip slope of accretionary complex with contact metamorphism and extensive high-angle faulting: a case in Hira Range, central Japan
Break (11:00~11:15)		
Session 2 (11:15~12:30) Chairs: Giovanni Crosta, Briestensky Milos		
Time	Presenter	Title
11:15~11:30	Chigira Masahiro	Deep-seated gravitational slope deformations that develop to catastrophic landslides
11:30~11:45	Yassaghi Ali	Allochthonous Collapse Structures in Zagros Fold Thrust Belt
11:45~12:00	Matsuoka Norikazu	A multi-method approach to detecting bedrock fracturing and rockfall activity in the Southern Japanese Alps
12:00~12:15	Arai Noriyuki	Rain-induced rockslides controlled by a thrust fault and river incision in an accretionary complex in the Shimanto Belt, Japan
12:15~12:30	Baron Ivo	Deciphering large deep-seated gravitational slope deformation stress states in active tectonic settings using contemporary three-dimensional fault-slip data
Lunch + Poster (12:30~14:30)		

Session 3 (14:30~16:00)		Chairs: Dong JJ, Alfaro Pedro
Time	Presenter	Title
14:30~14:45	Kang Keng-hao	Geological model of a potential large-scale landslide and its implication on the possible failure mechanism - paleo and future in southern Taiwan
14:45~15:00	Carey M. Jonathan	Simulating the behavior of slow-moving landslides using a Dynamic Back Pressured Shear Box (DBPSB)
15:00~15:15	Yang Che-Ming	Revisit the classical Newmark displacement analysis for earthquake-induced wedge slide - The kinematics and initiation of the Daguangbao landslide
15:15~15:30	Sezaki Shotaro	Rockslide simulations based on the elasto-plastic finite element method considering the balanced cross-section concept
15:30~15:45	Agliardi Federico	Influence of non-persistent slope-scale brittle features on DSGSD mechanisms and activity
15:45~16:00	Lin Ching-Weei	Large-scale landslide susceptibility assessment of Kaoping River Watershed in Southern Taiwan
Break (16:00~16:30)		
Session 4 (16:30~17:45)		Chairs: Corominas Jordi, Revellino Paola
Time	Presenter	Title
16:30~16:45	Brideau Marc-Andre	Methodology to estimate the rock avalanche frequency for a specific slope
16:45~17:00	Jaboyedoff Michel	3D failure surface and volume estimation of large rock slope instabilities: a review of a bottleneck problem
17:00~17:15	Wei Lun-Wei	Revealing the evolution of slope deformation by adopting UAV techniques
17:15~17:30	Rau Ruey-Juin	Continuous GPS observations on deep-seated gravitational slope deformation in the Lushan area, central Taiwan
17:30~17:45	Migon Piotr	Using Electrical Resistivity Tomography to detect internal structures of deep-seated gravitational deformations
Banquet (17:45~20:15)		

October 15, 2017 (Sunday)

Session 5 (9:15~10:45)		Chairs: Esposito Carlo, Brezny Michal
Time	Presenter	Title
9:15~9:30	Hermanns L. Reginald	Cosmogenic nuclide ages of back scarps of the Litledalen and Nomedalstinden Deep Seated Gravitational Slope Deformations (DSGSD), Northern Norway, indicate that DSGSDs can survive glacial cycles
9:30~9:45	Tseng Chia-Han	Study on a dip-slope by inclinometers and GPS monitoring at the Huaan University campus in northern Taiwan
9:45~10:00	Derron Marc-Henri	Slope deformation imaging of sandbox analogue models (LiDAR and InSAR)
10:00~10:15	Osawa Hikaru	Seasonal fluctuations in pore-water pressures of a landslide in a seasonally snow-covered area
10:15~10:30	Chen Rou-Fei	Deformation characteristics and surface monitoring of deep-seated gravitational slope deformation in the Tienchih area, southern Taiwan
10:30~10:45	Brezny Michal	Gravitational transpression folds formed in the large-scale sackung: an example from flysch Carpathians
Break (10:45~11:00)		
Session 6 (11:00~12:30)		Chairs: Hermanns L. Reginald
Time	Presenter	Title
11:00~11:15	Crosta B. Giovanni	Activity of large slope instabilities and denudation rate in the European Alps
11:15~11:30	Lu Jia-Hao	A case study on the comparison of logging applied to core description with well logging results in potential landslide area
11:30~11:45	Troon Marko	An introductory, geostatistical and geomorphological review of the effects of geohazards and severe weather events as a retrospect throughout 2009/2010 in Norway
11:45~12:00	Zhao Siyuan	The response of catastrophic landslides to fluvial incision in the upstream of Minjiang River, Western Sichuan, China
12:00~12:15	Zerkal V. Oleg	The influence of tectonic agents on the activity of landslides on the west Caucasus area (Russia)
12:15~12:30	Sato Tatsuki	Geological background of landslides induced by the 2016 Kumamoto earthquake in the Aso caldera with special reference to the weathering processes

Lunch + Poster (12:30~14:30)		
Session 7 (14:30~15:45) Chairs: Jon Carey, Bertolo Davide		
Time	Presenter	Title
14:30~14:45	Yamada Masumi	Dynamic movement history of the 2017 Iiyama landslide revealed from drone image and seismic data
14:45~15:00	Doi Issei	Behavior of a gravitational deformation slope during earthquake shaking revealed by seismic observation
15:00~15:15	Ma Ning	On the co-seismic responses of a deep-seated landslide: Insight by monitoring
15:15~15:30	Inagaki Hideki	Relationship between distance from active fault and scale of slope failure in Japan
15:30~15:45	Kuo Hsien Li	Assessing Rainfall Threshold for Large-scales Landslide by Exacting occurrence Time of Landslides from Seismic Records
Break (15:45~16:00)		
Session 8 (16:00~17:15) Chairs: Tsou Ching-Ying, Troon Marko		
Time	Presenter	Title
16:00~16:15	Matsuura Sumio	Observations of pore-water pressure during failure in a moving landslide body
16:15~16:30	Wang Gonghui	The internal structure of Nagatono landslide dam and landsliding mechanism
16:30~16:45	Bertolo Davide	The Mont de La Saxe Landslide (Valle d' Aosta-Italy) - Evolution a large alpine landslide controlled by different hydrogeological components
16:45~17:00	Lin Hsi-Hung	Geological characteristics and multi-disciplinary observation in the active deep-seated slope deformation in slate in LuShan, Taiwan
17:00~17:15	Li Kuo-wei	The activity assessment of potential large-scale landslide by means of multi-staged images and data from aerial photographs
Closing (17:15-18:00)		

Poster session at the poster hall (2F)

Core time: 13:30-14:30 of Oct. 14 & 15, 2017

Please check poster number to locate the display board. You can display your poster from 09:00 Oct 14 to 17:00 Oct 15. It is noted that tidying up of the posters should be finished **before 17:00 Oct 15**.

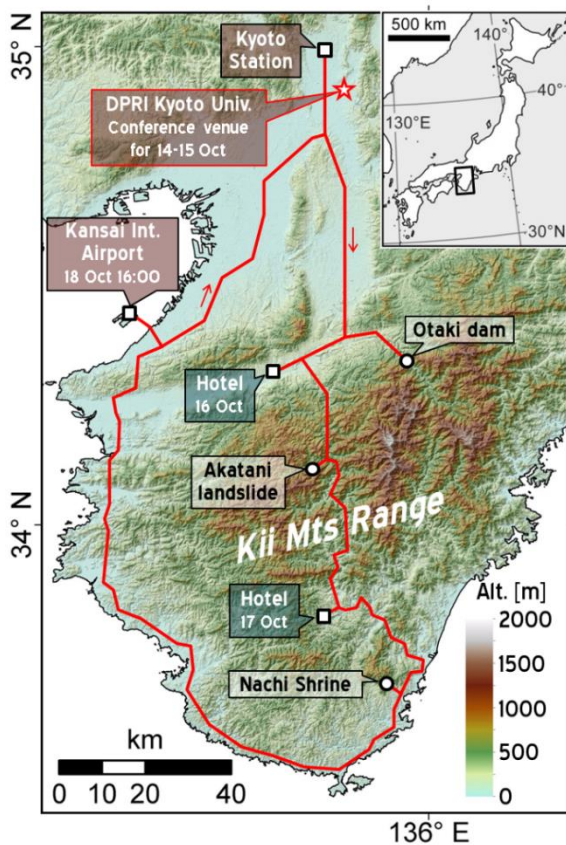
No.	Author	Title
P1	Fujii Yukiyasu	Geological background of Nagiso debris flow occurred on July 9 2014, in Nagano prefecture, central Japan
P2	Ando Naomi	Temperature and sound survey on steep tea farm area and salt pan site
P3	Jiang Yao	Shear surfaces of simulated shear zones control mechanical behaviors of granular materials
P4	Hsieh Yu- Chung	Normal faulting and gravitational slope deformation in the central range of Taiwan
P5	Chen Mien- Ming	How deep-seated gravitational slope deformations are transformed into large-scale landslides: an example of 2009 Typhoon Morakot
P6	Krogh Kaja	The Kassen and Hakaneset rock slope instabilities along fjord lakes in Telemark, Southern Norway
P7	Liu Chih Hsuan	Dynamic process analysis for the initiation time of the Aso-bridge co-seismic landslide
P8	Tsou Ching- Ying	Coupling fluvial processes and landslide distribution toward geomorphological hazard assessment: a case study in a transient landscape in Japan
P9	Nagata Hidehisa	Gravitational deformation around Tokugo-toge Pass, Northern Japan Alps
P10	Tajika Jun	A huge frontal bulge of the Horomoe landslide, Shiretoko Peninsula, Hokkaido, northern Japan
P11	Ohta Takehiro	Numerical study on influences of gravity and geometry to large-size landslides
P12	Yokoyama Osamu	Gravitational slope deformation and its transformation into catastrophic landslides during earthquakes in a slate area
P13	Nishiyama Nariaki	Distribution of highly saline groundwater in the areas with many landslides in the southern Niigata Prefecture
P14	Kikuchi Teruyuki	Deformation measurement of slow velocity landslide by analysis of three-dimension point clouds
P15	Kawabata Daisaku	Effects of geological division on geomorphic parameters in Japan based on the spatial analysis of the seamless geological map of Japan

P16	Yamakawa Yosuke	A risk evaluation method for deep-seated landslides based on stream water chemistry
P17	Komata Shinjuro	Sorting out landslide topography in Japan by knick line distribution, and geological signs of landslide occurrence
P18	Furuki Hirokazu	Structural features and formative processes of a sliding zone of a large rockslide
P19	Yagi Hiroshi	Bell-shape index indicating top-heavy profile of high relief mountain and gravitational deformation
P20	Watanabe Tatsuya	Integrated landslide survey using UAV-SfM and geophysical technologies: a case study in Rikubetsu, Hokkaido, Japan
P21	Ota Yoshimasa	Locations and ages of large mass movements in a high-relief mountainous area underlain by accretionary complex: a case of the Katsuragawa Valley along the Hanaore Fault, central Japan
P22	Istiyanti L. Mega	Characteristics of soil layers on shallow landslides triggered by rainfall at Izu Oshima, Japan
P23	Sato P. Hiroshi	Interpretation of L-band InSAR images to detect landslide surface deformation along Minjiang River, Western Sichuan, China
P24	Doshida Shoji	Evaluation of secondary slope failure susceptibility using detailed topographic data,
P25	Goto Satoshi	Geotechnical study on fluidized landslide at Aso volcanological laboratory in the 2016 Kumamoto earthquake
P26	Watanabe Honami	Breaking-off of hanging glaciers at Mt. Langtang Lirung, Nepal Himalaya
P27	Hata Hitomi	The study of rockfall and topographical change in Shirouma-Daisekkei, the Northern Japanese Alps
P28	Esposito Carlo	Time-dependent analysis of a complex rockslide constrained by geomorphic markers
P29	Guerriero Luigi	Nucleation and kinematic significance of deformational structures in earth flows
P30	Alfaro Pedro	Time-dependent modelling of a mountain front retreat due to a fold-to-fault controlled lateral spreading,
P31	Chai Shaofeng	Dynamic responses of the intact and remodeled loess slope under the coupling effect of earthquake and rainfall: Insights on shaking table model tests
P32	Kimura Takashi	Landslide history in post-caldera central cones of Aso volcano, Japan
P33	Sasaki Natsuki	Geomorphological control on distribution and development of wetlands on large-scale landslides in Ou Mountain Range, NE Japan

P34	Ohta Ryoga	History of mass movements and paleolake formation revealed by depression-filling sediment records in a tectonically active mountainous area: a case study in Mt. Kushigata, Koma Range, central Japan
P35	Sasaki Yasuhito	Slope deformation problem in Quaternary volcanics by the 2016 Kumamoto Earthquake
P36	Dattola Giuseppe	An application of the MIBSA to slow moving landslides

Post-conference excursion to Kii Peninsula (16-18 Oct 2017)

The destination of the post-conference excursion is the Kii Mountain Range, where a severe rain-induced landslide disaster occurred in 2011. Please check the Field Trip Guide, distributed for pre-registered participants, for the time and place of meeting at 16 Oct morning. The seats for the field trip had been fully reserved. We are sorry not to be able to accept additional participation.



Road map to the Kii Peninsula.