



3rd Asia Pacific Conference on Luminescence and Electron Spin Resonance dating: including non-dating applications of Luminescence and ESR

Nov. 18-21, 2012

Third Circular

Scope

While the present global climate change is an important issue in the world, luminescence and ESR (Electron Spin Resonance) dating methods provide essential key dates in the geological events and environmental changes in the past, especially in Quaternary (recent 2.6 million years). The principles of these dating methods were found in 1970's and the methods have been developed so that they are now essential in discussing the geological and environmental histories in Quaternary. The present conference will be the first opportunity for the researchers working on this field to visit Japan to discuss the topics and issues specific in Asia and in Pacific regions. These methods are now also applicable to issues in transport of the sediments on the surface of the earth by finger printing of the materials. We welcome those who are interested in these dating methods and non-dating applications of Luminescence and ESR in Geoscience.

Venue

50th Anniversary Building, Okayama University of Science, Japan

Important Dates

November 18-21: 3rd Asia Pacific Conference on Luminescence and ESR dating

January 31, 2013: Deadline for submission of manuscripts for proceedings

(Details will be announced during the conference)

Late 2013: Proceedings will be published in *Geochronometria*

Conference schedule

Nov. 18 Sun.	13:00 – 18:00	Registration
Nov. 18 Sun.	15:30-17:30	Special key note lecture by Dr. Yusuke Yokoyama, Tokyo Univ.
Nov. 18 Sun	18:00-20:00	Ice Breaker
Nov. 19 Mon.	8:30	Registration starts
	9:10-18:50	Academic sessions
Nov. 20 Tue.	9:10-14:30	Academic sessions
	14:30-	Excursion to Korakuen (Japanese) Garden
	18:30-20:30	Conference banquet at Okayama Castle
Nov. 21 Wed.	9:00-15:00	Academic sessions

Conference Costs

Early registration (on and before August 26)

Professionals	33,000 Japanese yen
Students	16,000 Japanese yen

Late registration (after August 26)

Professionals	40,000 Japanese yen
Students	20,000 Japanese yen

An accompanying person 15,000 Japanese yen

A registration fee includes participation to academic sessions, conference proceedings (professionals only), ice breaker, three lunches, conference banquet, and tea and snacks. A fee for an accompanying person includes ice breaker and banquet.

On-Line registration by JTB will be closed on Nov. 10. We will NOT accept credit cards at On-Site registration. Payment in CASH in Japanese Yen is required.

Registration

Registration should be made through JTB web site, <https://amarys-jtb.jp/3rdapled/> by Nov. 10.

Accommodations

Reservations of hotels (through JTB) and university dormitory have been closed.

Oral presentations

The duration of an oral presentation is 15 minutes or 25 minutes (invited talks only). We will have another 5 minutes for discussion.

Poster presentations

The size of the poster board is 90 cm (width) × 210 cm (height). Posters should be displayed from Sunday afternoon to Wednesday morning. The authors of odd number posters should be present during the first poster session on Monday afternoon and even number posters during the second session on Tuesday afternoon.

Travel support for those who have financial difficulties

Applications have been closed.

Abstracts will be published in “Advances in ESR applications”

The abstract will be published in “Advances in ESR applications” which is a scientific journal published annually by Workshop on ESR Applied Metrology, Japan.

The conference web site

<http://www.rins.ous.ac.jp/eps/theme/symposium.html>

How to reach Okayama

(1) Shinkansen from Kansai (Osaka) airport: 2 hours (8000 yen)

Kansai –(Haruka express train) – Shin-Osaka (change train) – (Shinkansen) -- Okayama

<http://www.okayama-japan.jp/en/access/access2.html>

(2) By air (Okayama Airport)

<http://okayama-japan.jp/en/access/access1.html>

use a limousine bus to Okayama station where most of the hotels are located nearby.

(3) Bus from Kansai airport: 4 hours (4500 yen)

Field trip

No field trips are planned. You can make personal trips within Japan. You can consult JTB for your travels.

okayama_pn1271@cs.jtb.jp

Internet Access

Wireless internet access will be available in the conference building.



**3rd Asia Pacific Conference on Luminescence and
Electron Spin Resonance dating
- including non-dating applications**

Nov 18-22, 2012

50th Anniversary Building
Okayama University of Science

NOV.18, 2012

15:30-17:30 **SPECIAL KEY NOTE LECTURE**

Y. Yokoyama

Quaternary Geochronology reveals close relations between climate and sea level

18:00-20:00 ~ Ice Breaker Party ~

NOV.19, 2012

9:10 Opening of the conference

Chair: S.-H. Li

– **OSL DATING** –

9:20 **L. Alappat, P. Seralathan, K. P. Thirivikramji, A. K. Singhvi**

Luminescence chronology of Red dune sands on the Muttom Promontory in the South west coast of India

9:40 **S. Tsukamoto, K. S. Kataoka, Y. Miyabuchi**

Luminescence dating of outburst flood sediments from Aso caldera volcano, southwest Japan

10:00 **X. M. Nian, L. P. Zhou, X. Gao, F. Xie, F. G. Wang**

Luminescence dating of Xujiayao-Houjiayao archaeological site and the evidence for human occupation during marine isotope stage 6 (MIS6) in the Nihewan basin, North China

~ Coffee break ~

Chair: A. Singhvi

– **BASIS** –

- 10:40 **Z. P. Lai**
Experience in using a combination of SAR and SGC for equivalent dose determination
- 11:00 **K. J. Thomsen, A. S. Murray**
Testing single-grain OSL methods using known age samples
- 11:20 **G. Guérin, M. Jain, K. J. Thomsen, A. S. Murray, N. Mercier**
Modeling the overdispersion in single-grain dose populations arising from heterogeneous potassium distribution in sedimentary media
- 11:40 **S.-H. Li, B. Li**
Assessing and overcoming dose rate changes in sediments for luminescence and ESR dating
- 12:00-13:00 ~ Lunch ~

Chair: S. Tsukamoto

– **FELDSPAR** –

- 13:00 **B. Li, R. G. Roberts, Z. Jacobs, S.-H. Li** **48**
IRSL dating of sediments using the non-fading signals from feldspars : a review (invited)
- 13:30 **M. Lamothe** **45**
Potential and limitations of post-IR IR luminescence in sediment dating using feldspar
- 13:50 **M. Jain, M. T. Andersen, B. Guralnik, A. S. Murray, K. T. Thomsen, J.-P. Buylaert** **35**
Origins of feldspar luminescence
- 14:10 **C. Thiel, A. S. Murray, J.-P. Buylaert, K. J. Thomsen, A. M. Z. Schmidt, J. P. Steffensen** **73**
Dating single grains of K-feldspar from the base of the Greenland ice sheet

~ Coffee break ~

Chair: J. H. Choi

– **OSL DATING** –

14:50 **R. Sohbati, A. S. Murray, M. Jain**

Optically stimulated luminescence dating of rock surfaces (invited)

15:20 **S. De Sarkar, N. Chauhan, G. Mathew, K. Pande, A. K. Singhvi**

Late Pleistocene rapid denudation, million to thousand year scale

15:40 **N. Jankowski, Z. Jacobs, P. Goldberg**

Sediments and elements: novel applications in the mapping of the dosimetric environment in sediment block samples

~ Coffee break ~

Chair: R. Grün

– **ESR DATING** –

16:20 **M. Asagoe, S. Toyoda**

ESR dating of tephra with dose recovery test for impurity centers in quartz

16:40 **C.-R. Liu, G.-M. Yin, R. Grün, H.-P. Zhang, W.-J. Zheng, F. Han, D. Wang, W.-J. Song**

The tectonic and climatic effects on the river terrace by ESR dating at upper reach of Minjing River, East of Tibetan plateau

17:00 **P. Voinchet, G. Yin, C. Falguères, C. Liu, F. Han, X. Sun, J. J. Bahain**

Dating of the stepped quaternary fluvial terrace system of the Yellow River by Electronic Spin Resonance (ESR) - New limit for the application of the method

17:20-18:50 **Poster Session 1 (odd number posters)**

NOV. 20, 2012

Chair: M. Lamothe

– **THERMAL HISTORY** –

- 9:10 **A. Fan, Z.-Y. Jin, Y. Wu**
Estimate firing temperature of ancient ceramics using luminescence technique
- 9:30 **R. H. Biswas, A. K. Singhvi**
Thermal history of meteorites: studies on individual chondrules

– **CHEMILUMINESCENCE** –

- 9:50 **N. L. Lala, C. D. Kalkar, M. M. Yusoff, S. Ramakrishna**
Study on chemiluminescence of luminol in aqueous strontium and barium hydroxides using various oxidants

~ Coffee break ~

Chair: A. Tani

– **ESR DATING** –

- 10:30 **R. Joannes-Boyau**
A Comprehensive ESR measurement protocol of fossil enamel fragments for non-destructive direct dating (invited)
- 11:00 **R. Grün, S. Eggins, M. Sambridge**
A new model for U-diffusion into skeletal tissues
- 11:20 **Ü. Ulusoy, J. Zhao, T. Uysal, O. Özbek, B. Erdoğan**
Electron Spin Resonance (ESR) studies and U-series Dating of the caves around Çatalhöyük Archaeological Site in Turkey
- 11:40 **J.-J. Bahain, Q. Shao, S. Nomade, C. Peretto, M. Arzarello, G. Lembo, B. Muttillo, U. Thun Hohenstein, E. Douville, N. Frank, J.-M. Dolo, T. Garcia, C. Falgueres**
Comparison between ESR/U-series and $^{40}\text{Ar}/^{39}\text{Ar}$ dating for the Middle Pleistocene site of Guado San Nicola di Monterudoni (Molise, Italy)

12:00-13:00 ~ Lunch ~

13:00-14:30 Poster Session 2 (even number posters)

~ Excursion & Conference Dinner ~
Okayama Korakuen
Okayama Castle

NOV. 21, 2012

Chair: M. Jain

– **OSL DATING** –

9:00 B. Li, R. G. Roberts, Z. Jacobs, S.-H. Li

Extending the age limit of luminescence dating using the dose-dependent sensitivity of MET-pIRIR signals from K-feldspar

– **CATHODOLUMINESCENCE** –

9:20 Y. Tsuchiya, M. Kayama, H. Nishido, Y. Noumi

Radiation and annealing effects on cathodoluminescence of zircon

9:40 N. Kusano, H. Nishido, M. Makio, K. Ninagawa

CL characterization of Mn activated in dolomite

10:00 M. Kayama, H. Nishido, S. Toyoda, K. Komuro, A. A. Finch, M. R. Lee,
K. Ninagawa

Cathodoluminescence of He⁺-ion-implanted feldspars

~ Coffee break ~

Chair: Z. Jacobs

– **LOESS AND DUST** –

10:40 J. T. Qin, L. P. Zhou

Optically stimulated luminescence dating of Chinese loess: examples from main loess fields of China (invited)

11:10 M. Frechen, E. A. Ochsen, S. Tsukamoto

OSL Chronology of Dust Accumulation along the Mississippi Valley

11:30 **K. Nagashima, S. Toyoda, Y. Yamamoto, H. Nishido, M. Kayama, R. Tada**
Provenance study of Asian dust based on ESR signal intensity of the E₁' center,
crystallinity, and CL spectrum of quartz

– **DOSIMETRY** –

11:50 **A. Soni, D. R. Mishra, B. C. Bhatt, S. K. Gupta, N. S. Rawat, M. S. Kulkarni,
D. N. Sharma**
Thermally Assisted OSL: A Potent tool for Improvement in Dose Threshold and
Extension of Dose range of Al₂O₃:C

12:10-13:10 ~ Lunch ~

Chair: M. Frechen

– **INSTRUMENTATION** –

13:10 **T. Lapp, M. Kook, J.-P. Buylaert**
Dead time correction and sample camera for the Risø TL/OSL Reader

13:30 **M. H. Kook, T. Lapp, A. S. Murray, C. Thiel, J. H. Choi, J. Y. Kim**
A Risø XRF attachment for major element analysis of aliquots of quartz and
feldspar separates

13:50 **K. Dornich, M. Krbetschek, A. Richter, D. Richter**
A new measurement system for luminescence dating – LEXSYG

14:10 Discussions and Announcements

15:00 End of the conference

POSTERS

(Poster Number)

— LUMINESCENCE DATING —

1. L. Alappat, M. Frechen, S. S. Kumar, S. Prasad, S. Tsukamoto, S. Gopakumar, K. Anupama

Evidences of Holocene transgression from the chronology of wetland sediments of Central Kerala in the south west coast of India

2. J. H. Choi, J.-H. Chun, S. C. Hong, E. Y. Yeo

Quartz and K feldspar Optical Dating of Late Quarternary Tephra and Epiclastic Deposits from Ulleung Island, Korea

3. Y. Ganzawa, T. Takahashi, Y. Kanbara, T. Miura

RTL dating of volcanic quartz grains from Japanese Pleistocene volcanos

4. Y. Nakano, N. Hasebe, T. Higashino

The eruptive history of Hakusan volcano, Japan, using the thermoluminescence dating method

5. M. Ogata, N. Hasebe, N. Fujii, M. Yamakawa, T. Sato, K. Fujita

Thermoluminescence Dating of Calcite Veins in the Zambales Ophiolite, Luzon, Philippines

6. P. Schielein, J. Lomax

The influence of fluvial sedimentary environments on Holocene luminescence ages - a case study from the German Alpine Foreland

7. Y. Shitaoka, M. Sagawa, S. Aoki, T. Nagatomo, Q. Wei, P. Hu, M. Chao

OSL dating using quartz fine grains extracted from loess in Paleolithic sites of Nihewan Basin, northern China

8. V. Varma, R. H. Biswas, A. K. Singhvi

Study of parameters affecting sensitivity of Infrared Radioluminescence in K-Feldspar

9. Y. L. Yu, Z. P. Lai

Sedimentary records and mechanism of climate change since LGM at the eastern margin of the Qaidam Basin

10. Y. Chen, S.-H. Li

Sensitivity change and residuals of post IR IRSL signals from potassium feldspar under different bleaching conditions

11. S. Hong, J.-H. Choi, J. W. Kim

Investigating the Applicability of K-feldspar pIR-IRSL Dating to Quaternary Marine and Fluvial Terrace Sediments from Korea

12. K. Ito, G. Duller, H. Roberts, N. Hasebe, S. Arai, T. Nakamura, K. Kashiwaya

Post-IR IRSL dating of polymineral fine grained sediments from Lake Hovsgol, Mongolia

13. R. Kondo, S. Tsukamoto, K. Endo, T. Sakamoto

Luminescence chronology of the Middle Pleistocene marine and fluvial terraces using post-IR IRSL: A case study in northern Japan

— **ESR DATING** —

14. T. Fujiwara, S. Toyoda, A. Uchida

ESR dating of barite in sea-floor hydrothermal sulfide deposits taken from Okinawa Trough

15. F. Han, J.-J. Bahain, Y. Gongming, L. Chunru

Combined ESR and U-series isochron dating of fossil tooth from Longgupo cave

16. Z. Kabacińska, R. Krzymiński, B. Dobosz, D. Nawrocka

ESR investigation of lime mortars and plasters

17. C.-R. Liu, G.-M. Yin, F. Fang, P. Voinchet, F. Han, J.-P. Li, W.-J. Song, D. Wang, J.-J. Bahain

ESR dating of alluvial sediments from the Lower Pleistocene archaeological site of Donggutuo, Nihewan Basin, northern China

— **DOSE RATE / DOSE** —

18. N. Chauhan, R. H. Biwas, P. Morthekei, A. K. Singhvi

Selection of appropriate age model in estimating dose for single aliquot quartz OSL dating

19. Y. Isono, S. Toyoda, H. Nishido, M. Kayama

The alpha effectiveness for formation of SO_3^- in barite: an application to ESR dating

20. N. Mercier, C. Tribolo, C. Lahaye, M. Hernandez

Beta source calibration with quartz : can we determine a single dose-rate?

21. A. Soni, D. R. Mishra, M. S. Kulkarni, D. N. Sharma

Study of TL/OSL Defects in Dental Enamel for its Possible use in Accident Dosimetry

22. S. Sugisaki, A. S. Murray, J.-P. Buylaert

The use of Bayesian modelling on high-resolution deep sea OSL records

23. S. Toyoda, Y. Yokoyama

Estimation of equivalent doses by the robust regression

24. A. Uchida, S. Toyoda, H. Tissoux, C. Falguères, K. Ninagawa

Intercomparison of gamma ray dose rates calculated from U, Th, K concentrations and those measured by a NaI detector

— **CATHODOLUMINESCENCE** —

25. M. Makio, H. Nishido, N. Kusano, K. Ninagawa

Cathodoluminescence of Ca-Ba carbonate minerals

26. K. Ninagawa, N. Sugiura

Cathodoluminescence of forsteritic olivines in a primitive chondrite

27. H. Nishido, T. Endo, K. Ninagawa, M. Kayama, A. Gucsik

Thermal effects on cathodoluminescence in forsterite

28. E. Yoshida, H. Nishido, M. Kayama, K. Ninagawa, T. Nimura

Luminescent minerals in diamond-bearing ureilite meteorite

— **PROVENANCE / OTHER** —

29. Y. Nosohara, S. Toyoda, M. Takada, A. Shimada, M. Yoshida

Signatures of ESR signals observed in quartz of Kizu river sediments and in host rocks

30. A. Shimada, M. Takada, S. Toyoda

Applications of ESR signals and TL phenomena in quartz from rocks and sediments

31. M. Takada, A. Shimada, S. Toyoda

Characteristics of 110°C TL and OSL signals in quartz from sediments and consolidated rocks: a clue to sediment provenance

32. A. Tani, N. Hasegawa, K. Norizawa, T. Yada

ESR studies on Mn²⁺ signal in epsomite prepared in different synthetic conditions

33. Y. Wu, Z.-Y. Jin, A. Fan

Luminescence determination of firing temperature of a ceramic core in a bronze tripod from Daxinzhuang Site, Shandong, China

34. Y. Yamamoto, S. Toyoda, K. Nagashima, R. Tada, Y. Igarashi

Temporal change of the sources of aeolian dust delivered to East Asia revealed by electron spin resonance signals in quartz

– **INSTRUMENTATION** –

35. C. Thiel, M. H. Kook, A. S. Murray, T. Lapp

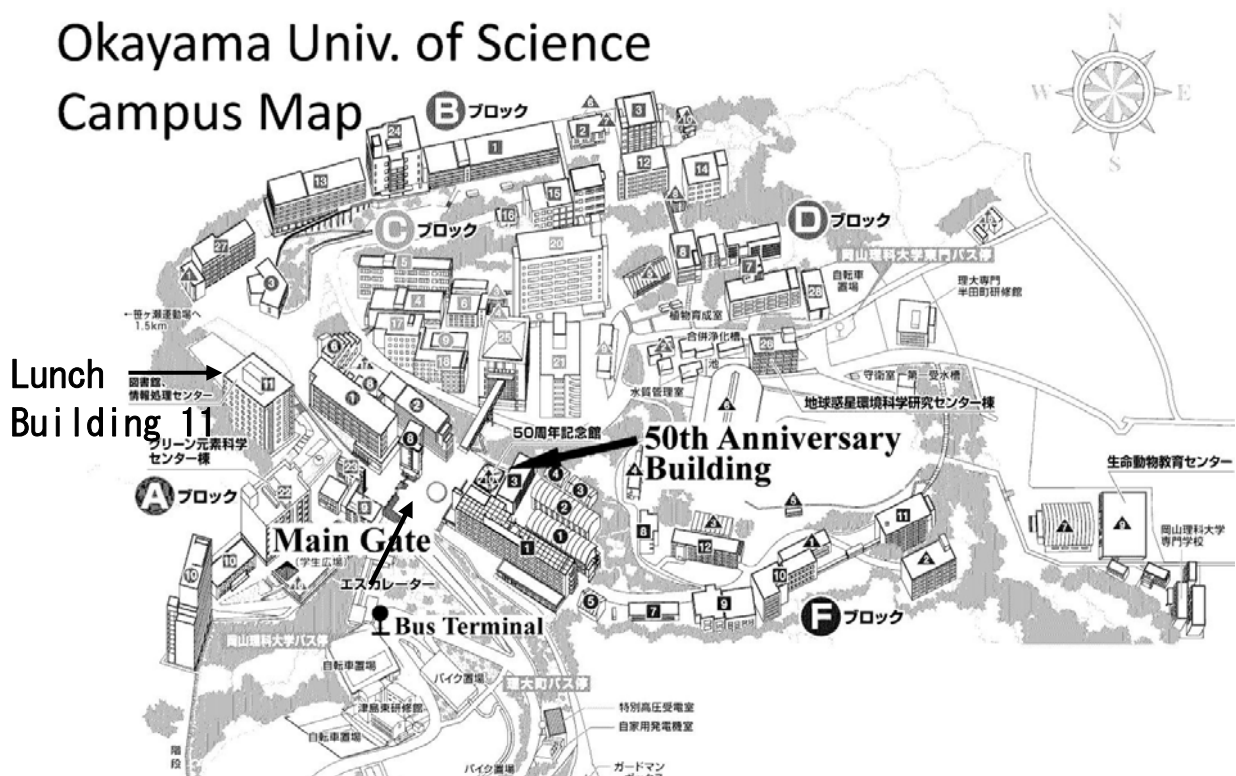
Luminescence and chemical composition - two case studies using the new Risø XRF attachment

36. C. Yamanaka, H. Ohya

Surface Detecting ESR using a coaxial resonator

Conference Venue

Okayama Univ. of Science Campus Map



After getting off at the bus terminal “Okayama-Rika-Daigaku” (Okayama University of Science, OUS), you get an escalator up. When you reach the top, you will see the venue, 50th Anniversary building.

How to reach “Okayama-Rika-Daigaku” (Okayama University of Science) From Okayama Railway Station

Go to the west gate (Not the east gate).

Go down to the bus terminal.

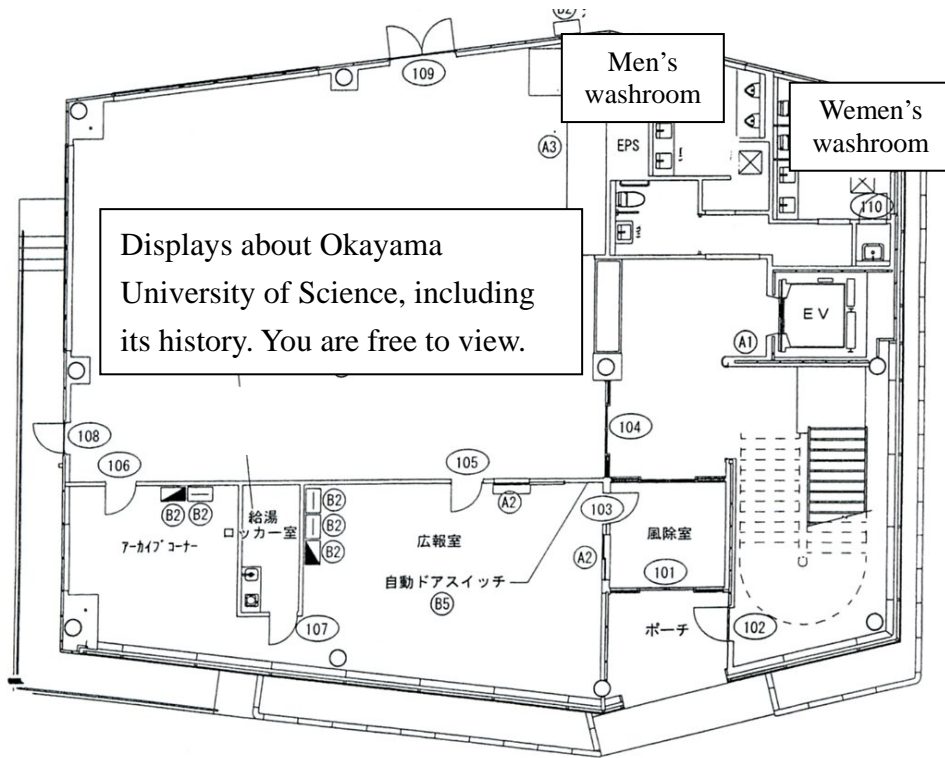
From bus stop 22, all buses (route number 47) go to OUS. (20 min. 190 yen)

From Okayama Airport

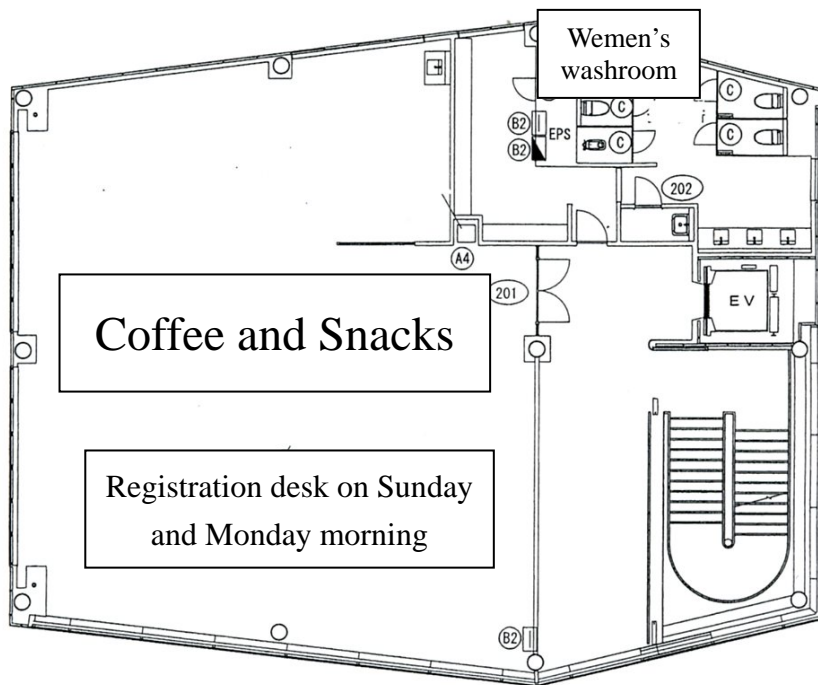
Get a limousine bus to Okayama Station. (30 min. 740 yen)

It arrives at the west gate of the station. See above, from Okayama Railway station.

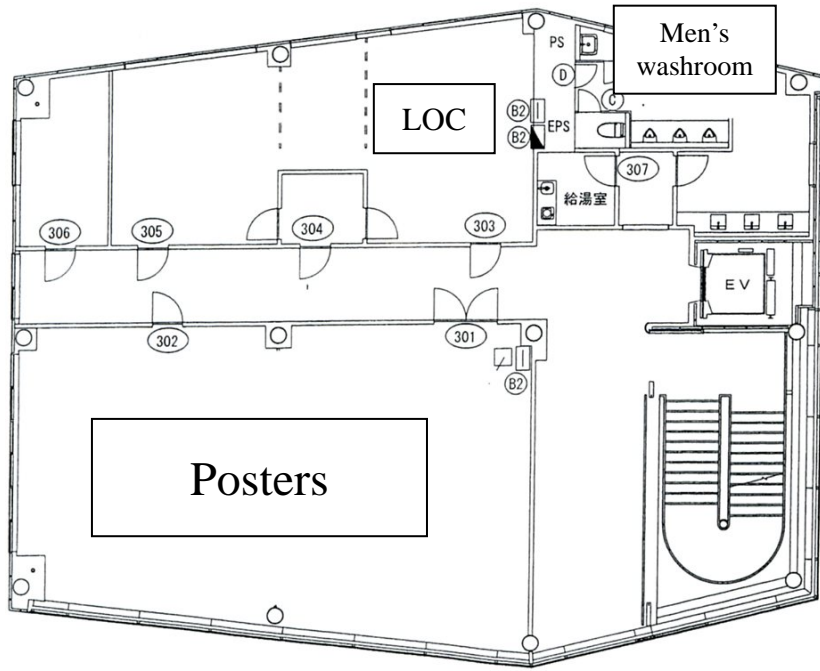
50th Anniversary Building



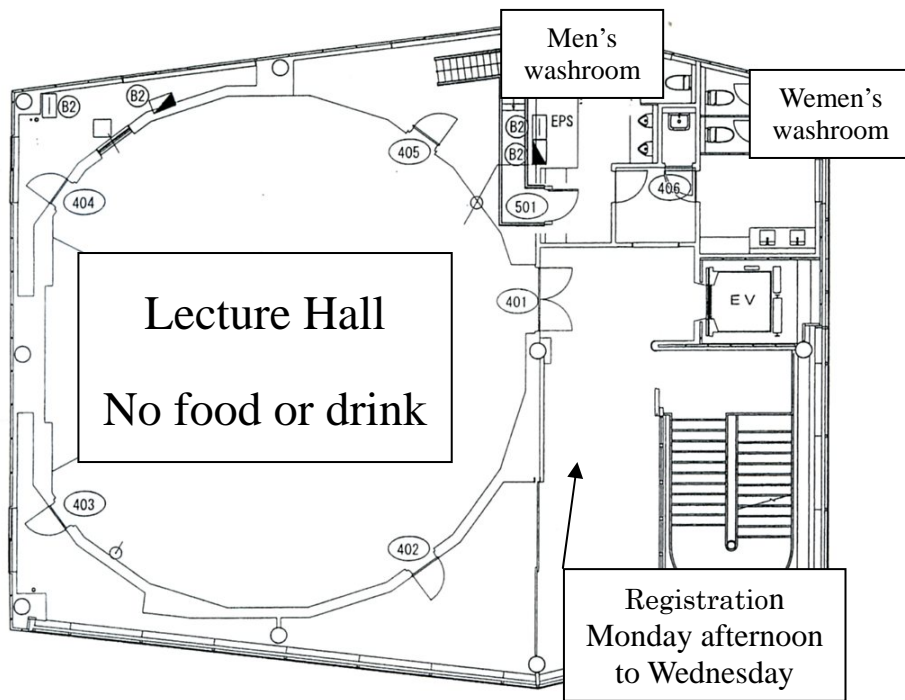
First (ground) Floor



Second Floor



Third Floor



Fourth Floor

Time table of the buses

Okayama Station (west gate) to OUS

7	★	20	★	35	★	55
8	★	08	25	45		
9		02	18	35	51	
10		10	30	50		
11		11	32	54		
12		15	35	57		
13		17	37	58		
14		19	40			
15		00	22	42		
16		05	25	42	58	
17		15	38	59		
18		20	45			
19		10	40			

Week days

7		20	45			
8		05	30	50		
9		20	50			
10		15	40			
11		05	40			
12		07	35	55		
13		17	38			
14		00	22	45		
15		07	35			
16		00	30			
17		00	35			
18		10	55			
19		40				

Weekends

On week days there are several “extra” buses to OUS during morning rush hours. All buses from bus stop 22 at Okayama Station (west gate, “Nishi Guchi”) go to OUS.

OUS to Okayama Station (west gate)

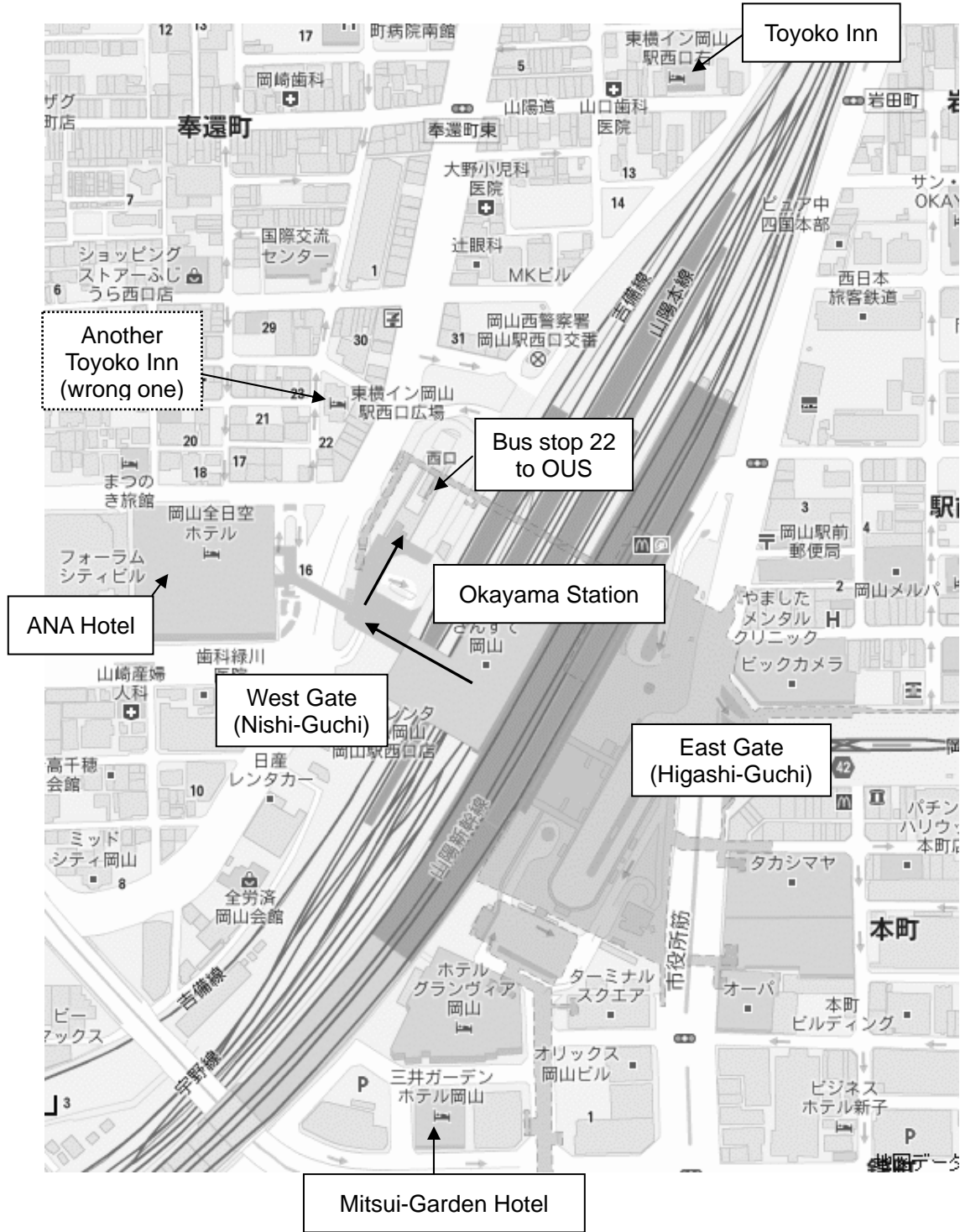
7	※	43	※	57		
8	※	17	※	30	45	
9		05	22	38	55	
10		11	30	50		
11		10	31	52		
12		14	35	55		
13		17	37	57		
14		18	39			
15		00	20	42		
16		02	25	45		
17		02	18	35	58	
18		19	40			
19		05	30			
20		00				

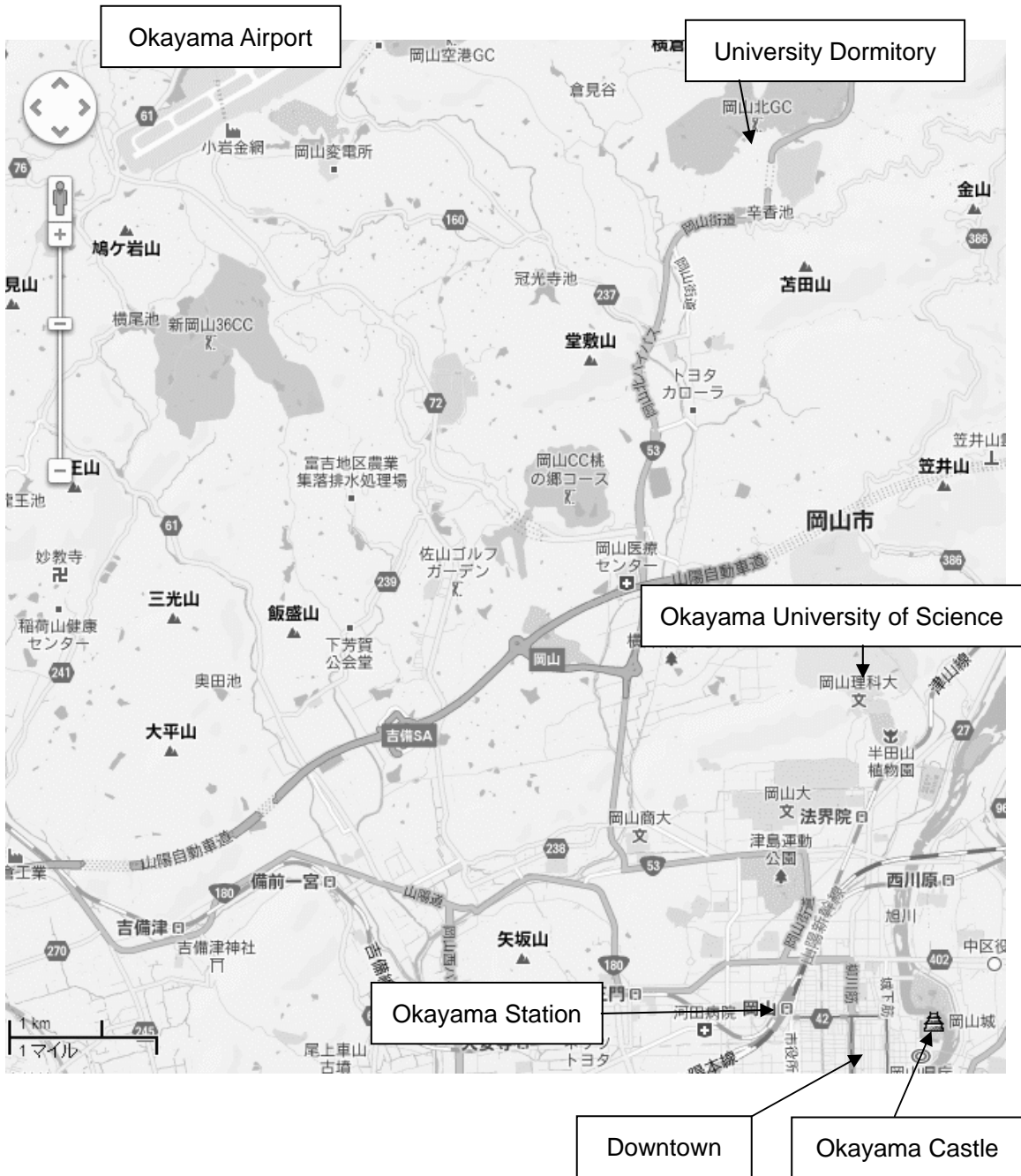
Week days

7		40				
8		05	25	50		
9		10	40			
10		10	35			
11		00	25			
12		00	27	55		
13		15	37	58		
14		20	42			
15		05	27	55		
16		20	50			
17		20	55			
18		30				
19		15				
20		00				

Weekends

Map around Okayama Station





3rd Asia Pacific Conference on Luminescence and Electron Spin Resonance

Including non-dating applications of Luminescence and ESR

Nov. 18-21, 2012

Okayama University of Science, Okayama, Japan

Scientific Advisory Committee

Jeong-Heon Choi, Korea Basic Science Institute, South Korea

Yoshihiro Ganzawa, Hokkaido University of Education, Japan

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Zenobia Jacobs, University of Wollongong, Australia

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Liping Zhou, Peking University, China

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Masashi Takada, Nara Women's University

Atsushi Tani, Osaka University

Shin Toyoda, Okayama University of Science (Chair)

Chihiro Yamanaka, Osaka University

Acknowledgements

Special thanks to Okayama Visitors & Convention Association for the arrangement for our Conference Dinner held in Okayama Castle, which is the first time ever conference dinner in the castle.

Mr. Masafumi Aoyama

Mr. Kenji Waki

Ms. Tomoko Morikami

Mr. Kenichi Zaitso

Show someone you ask the way or bus.

岡山理科大学

Okayama-Rika-Daigaku

Okayama University of Science