

Curriculum Vitae

Prof. Takashi SAWAGUCHI
(Personal details supplied here)

Date: May 17th, 2017

MY INTEREST AND RESEACH

- + Interactive Web Application development for Geoscience Education
 - Geospatial information visualization on multi-touch devices (JavaScript + WebGL)
 - Very High-resolution images of geological outcrops and photomicrographs (using Giga-Pan technology) / Virtual Field Trip / Virtual Microscope
- + Research on Geoscience education in UK
 - how to involve the field geoscience in distance learning at the Open University
 - visit and study pedagogy of geoscience lectures in Junior/Senior high schools in UK
 - outreach activities (e.g. workshop in the Natural History Museum)

PERSONAL INFORMATION

Name: Takashi Sawaguchi

Gender: Male

Date of Birth: August 7th, 1971

Home Address:

Phone Number:

E-mail: tsawa@toyo.jp

EDUCATION

- 1994 - 1999 Graduate school of Science and Engineering, Waseda University
 PhD in Structural Geology / Thesis title: Structural Petrology of the Horoman
 Peridotite Complex and Exhumation Processes of the Alpine-type Peridotite massifs.
- 1990 - 1994 Department of Earth Science, School of Education, Waseda University

PROFESSIONAL EXPERIENCE

- 2015 - Present Professor of Geoscience Education, Toyo University
- 2010 - 2015: Associate Professor of Geoscience Education, Toyo University
- 2009 - 2010: Associate Professor of programing / web-design, SONY Institute of Higher Education
- 2004 - 2009: Lecturer of programing / web-design, SONY Institute of Higher Education
- 1999 - 2002: Research Assistant of Structural Geology, Waseda University
- 1997 - 1999: Research Fellow of Japan Society for the Promotion of Science (JSPS)

TEACHING EXPERIENCE

- 2010 - Present **Professor, Toyo University**
 Introductory Earth Science (Liberal Arts)
 Earth Science Experimental Exercises (Liberal Arts)
- 2002 - Present **Part-time Lecturer, Department of Earth Sciences, Waseda University**
 Introductory Earth Science (Liberal Arts)

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Earth system science and Environmental issues (Liberal Arts)

Earth System Science

2004-2010 **Lecturer, SONY institute of Higher Education, Shohoku College**

Web programming (JavaScript, PHP, Perl, MySQL)

Website designing (HTML/CSS coding, Wordpress, CMS, LMS)

Network programming (Linux)

Computer Graphics (Adobe Illustrator, Photoshop)

Physical Computing (Processing)

PROFESSIONAL ACTIVITIES

- 2017 11th International Earth Science Olympiad (France) / Japan Team mentor
- 2016 - present Senior Officer of International Geoscience Education Organisation (Webmaster)
<http://www.igeosced.org/>
- 2016 10th International Earth Science Olympiad (Mie, Japan) / Japan Team observer

FIELD RESEACH EXPERIENCE

- 2007 Abyssal peridotites at Rodrigues triple junction, Indian Ocean (with Shinkai 6500 / a
manned submersible research vehicle)
- 1999 Landslide-related Pseudotachylite in Langtang area, Nepal Himalaya.
- 1998 Ronda peridotite massif, Spain
- 1994-2000 Horoman peridotite complex, Japan

PUBLICATIONS

- Sawaguchi, T. (2017) A Cellular Automaton "Daisyworld" simulation using NetLogo and Its
Application in Active Learning. [Journal of Toyo University. Natural science, 61, 17-40.](#) *
- Sawaguchi, T. (2016) Shear Localization in Mantle Peridotites Accompanied with Successive
Transformation of Deformation Condition, Microstructure and Rheology. [Journal of Toyo
University. Natural science, 60, 21-40.](#)
- Sawaguchi, T. (2015) Comparison of International Geoscience Syllabus and Japanese Geoscience
Education Curriculum in primary/secondary schools. [Journal of Toyo University. Natural
science, 59, 15-26.](#) *
- Sawaguchi, T. and Tatsumi Y. (2015) Development of a background-running clicker (bgClicker).
[Computer and Education, 38, 92-97.](#) *
- Sawaguchi, T. (2014) Development of HTML5-based Orbit Viewer. [Journal of Toyo University. Natural
science, 58, 33-46.](#) *
- Sawaguchi, T. (2014) Visualization of Earthquake Hypocenter: HypoViewer. [Journal of Toyo
University. Natural science, 58, 13-32.](#) *
- Sawaguchi, T. (2013) Development of interactive application for geoscience education: part II (El Niño).

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- [Journal of Toyo University. Natural science, 57, 11-25.](#) *
- Sawaguchi, T. (2013) Practical application and feature comparison of learning management systems in college education. [Journal of Toyo University. Natural science, 57, 27-53.](#) *
- Sawaguchi, T. (2012) Development of Interactive Application for Geoscience Education (Plate Movement). [Journal of Toyo University. Natural science, 56, 1-18.](#) *
- Sawaguchi, T. (2012) Children workshop and programming education with Project-Based Learning method. - Effective use of Shohoku Learning Commons, Bulletin of Shohoku College, 33, 147-162.*
- Tatsumi, Y., Azuma, S., Kodama, S., Sato, T. and Sawaguchi, T. (2012) An Empirical Study on the Effect of Second-year Undergraduate Microeconomics and Macroeconomics Exercise Courses. Edu. [Bulletin of Higher Education, Kyoto university, 18, 11-23.](#) *
- Kodama, S., Azuma, S., Sato, T., Sawaguchi, T. and Tatsumi, Y. (2011) An Empirical Study on the Effect of e-Learning in Teaching Exercises for Undergraduate Macroeconomics. JUCE Journal, 2011/4, 16-20. *
- Sawaguchi, T. (2011) Strain analysis of ellipsoidal pyroxene-spinel seams in the Horoman peridotites. [Journal of Toyo University. Natural science, 55, 1-16.](#) *
- Morishita, T., Hara, K., Nakamura, K., Sawaguchi, T., Tamura, A., Arai, S., Okino, K., Takai, K. and Kumagai, H. (2010) Igneous, Alteration, and Exhumation Processes Recorded in Abyssal Peridotites and Related Fault Rocks from an Oceanic Core Complex along the Central Indian Ridge. [Journal of Petrology, 50\(7\), 1299-1325.](#)
- Kumagai, H., Nakamura, K., Toki, T., Morishita, T., Okino, K., Ishibashi, J., Tsunogai, U., Kawaguchi, S., Gamo, T., Shibuya, T., Sawaguchi, T., Neo, N., Joshima, M., Sato, T. and Takasi, K. (2008) Geological background of the Kairei and Edmond hydrothermal fields along the Central Indian Ridge: Implications of their vent fluids' distinct chemistry, [Geofluids, 8, 239-251.](#)
- Morishita T., Nakamura, K. Sawaguchi, T., Hara, K., Arai, S. and Kumagai, H. (2008) Elemental Mobilizations during Hydrothermal Alteration of Oceanic Lithosphere. Journal of Geography, 117, 220-252.*
- Ozao, R., Sawaguchi, T., Ishida, H., Iji, M., Furuyama, T., Shinohara, Y., Yamada, K. and Halada, K. (2007) Eco-MCPS: a Newly Developed Web-Based Database for Eco-Materials in Japan. The Japan Institute of Metals, Materials Transactions, 48, 3043-3049.
- Sawaguchi T. (2004) Deformation history and exhumation processes of the Horoman Peridotite Complex, Hokkaido, Japan. [Tectonophysics, 379, 109-126.](#)
- Sawaguchi, T. and Ishii, K. (2003) Three-dimensional numerical modeling of lattice- and shape-preferred orientation of orthopyroxene porphyroclasts in peridotites. [Journal of Structural Geology, 25, 1425-1444.](#)
- Takagi, H., Arita, K., Sawaguchi, T., Kobayashi, K. and Awaji, D. (2003) Kinematic history of the Main Central Thrust zone in the Langtang area, Nepal. [Tectonophysics, 366, 151-163.](#)
- Ishii, K. and Sawaguchi, T. (2002) Lattice- and shape-preferred orientation of orthopyroxene

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porphyroclasts in peridotites: an application of two-dimensional numerical modeling. [Journal of Structural Geology, 24, 517-530.](#)

Sawaguchi, T., Goto, K. and Takagi, H. (2001) Elongated orthopyroxene porphyroclasts as a shear sense indicator and kinematic history of the Horoman Peridotite Complex, Hokkaido, [Japan. Jour. Geol. Soc., 107, 165-178.](#)

Sawaguchi T. and Takagi, H. (1997) Inverted ductile shear movement of the Horoman peridotite complex in the Hidaka metamorphic belt, Hokkaido, Japan. Mem. Geol. Soc. Japan, 47, 193-208.

(* in Japanese with English abstract)

WEB APPLICATIONS

Plate Tectonics	http://www.igeoscience.com/platetectonics/
Orbit Viewer	http://www.igeoscience.com/orbitviewer/
HypoViewer	http://www.igeoscience.com/hypoviewer/
El Nino	http://www.igeoscience.com/JMA
Crystal	http://www.igeoscience.com/collada/

PRESENTATION AT CONFERENCES (Recent)

Sawaguchi, T. (2016) Development of interactive application for geoscience education, 35th IGC, Cape Town.

Sawaguchi, T. (2015) Moodle XML manager. Moodle Moot Japan 2014.

Sawaguchi, T. (2014) Web-Based Visualization of Earthquake Hypocenters: HypoViewer2. 7th International Conference on Geoscience Education, Hyderabad.

Sawaguchi, T. and Tatsumi, Y. (2014) Development of a background-running clicker (bgClicker). JUCE annual conference.

Sawaguchi, T. (2012) Development of interactive iPhone application for geoscience education (Plate movement), 34th IGC, Brisbane.