

This is the translation of the Japanese Application Guide.
The formal version is the Japanese Application Guide.
これは、日本語の学生募集要項の英訳です。
正式なものは、日本語版のものとします。

APPLICATION GUIDE FOR ADMISSION

THE DIVISION OF EARTH AND PLANETARY MATERIALS SCIENCE,
THE GRADUATE SCHOOL OF NATURAL SCIENCE AND TECHNOLOGY,
OKAYAMA UNIVERSITY
(Five-year Ph.D. Program)

OCTOBER 2009 ENROLLMENT< Second Recruitment>

AND

APRIL 2010 ENROLLMENT< First Recruitment>

Objective and outline of the “Five-year Ph.D. program, Division of Earth and Planetary Materials Science, Graduate School of Natural Science and Technology, Okayama University”.

Objective: Fundamental goals of Earth and Planetary science are to understand the “origin, evolution and dynamics of earth and planets” through physics and chemistry of planetary materials and to contribute to the common heritage for a mankind. In order to achieve this goal, the Division of Earth and Planetary Materials Science has established a unique Five-year Ph.D. program which enables training of elite scientists of the next generation.

Outline: The Division of Earth and Planetary Materials Science is established to allow a five-year Ph. D. educational program. By doing so, students with bachelor’s degree can enter our program and work for their doctoral degree while receiving a necessary basic education in to accomplish their goal. Students admitted into this program already

with a master's degree, with basic training in physics, chemistry and other disciplines, will be able to make maximum use of the extended period to pursue their research. At the end of the second year, students will be given a qualification exam that includes both oral exam and an essay related to their research topics. At that stage, those who were not qualified will be asked to leave the program. The graduate school intends to nurture elite scientists under such a competitive environment.

Japanese-language education is also available for international students. Administrative procedures and assistance will be provided from English speaking support staff.

As described above, the main characteristics of our graduate program is the opportunity for students with or without master's degree can work for their doctoral degree and to receive the necessary supervision. Students considered to be exceptionally qualified may complete their Ph.D. in less time.

Admission policy: The Division of Earth and Planetary Materials Science at Okayama University seeks students who meet the following requirements.

- Those who have a specific goal to obtain a Ph.D. degree, and further realize that in order to become a leading scientist in this field, it is normally necessary to spend about 5 years in a graduate program.
- Those who understand that even after receiving a master's degree in physics, chemistry or other discipline including earth sciences, it is important to spend maximum of five years to build up a knowledge necessary to become an elite scientist who can succeed in an international research environment.
- Those who are willing to pursue research activities in a competitive educational environment.
- Those who can envision their career path from an international perspective, and wish to improve their communication skills and to develop and enhance their insights and imagination in earth and planetary sciences as needed for a successful scientist.
- Those who have the passion to focus on their research and aim to complete their program in three years if possible.

I. Number of Students to be admitted (per year): 4

Notes:

- i) The above-mentioned is the recruitment number of Students in 2010 fiscal year.
- ii) Few number of students are recruited in October, 2009.

II. Application Guide for Admission

1. **Eligibility to apply:** One of the following conditions must be met:

- ① Has graduated from a university, or is expected to do so by March 31, 2010 (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009).
- ② Has received a bachelor's degree, or is expected to do so by March 31, 2010, under the provision of the Article 104(4) of the School Education Act (Act No.26 of 1947) (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009).
- ③ Has completed at least 16 years of education abroad, (including a bachelor's degree in a nationally accredited university) or is expected to do so by March 31, 2010 (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009).
- ④ Has completed a correspondence course given by an institution abroad (equivalent to 16-year educational program) in Japan, or is expected to do so by March 31, 2010 (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009).
- ⑤ Has completed a program by a nationally accredited foreign university at its Japanese branch (equivalent to 16-year educational program) approved by the Minister of Education, Culture, Sports, Science and Technology, by March 31, 2010 (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009).
- ⑥ Has completed an upper level course in a specialized training college designated by the Minister of Education, Culture, Sports, Science and Technology (minimum of four year program that meets the requirement given by the Minister) after the date given by the Minister, or is expected to do so by March 31, 2010 (in the case of October

2009 Enrollment, is expected to do so by September 30, 2009).
(Notification No.169 of the Ministry of Education, Culture, Sports,
Science and Technology, 2005)

- ⑦ Is designated by the Minister of Education, Culture, Sports, Science and Technology. (Notification No.5 of the Ministry of Education, Culture, Sports, Science and Technology, 1953).
- ⑧ Has entered graduate school other than Graduate School of Natural Science and Technology, Okayama University under the provision of the Article 102(2) of the School Education Act, and was recognized by Graduate School of Natural Science and Technology, Okayama University to possess the academic ability to receive the graduate school education.
- ⑨ Is deemed by Graduate School of Natural Science and Technology, Okayama University to have academic ability equal to or higher than a bachelor's holder based on the result of the entrance examination. The candidate will be 22 years old or older as of April 1, 2010 (in the case of October 2009 Enrollment, 22 years old or older as of October 1, 2009).
- ⑩ Has been registered in a university or college for more than three years as of March 31, 2010 (in the case of October 2009 Enrollment, as of September 30 2009), and has completed the program with a record deemed excellent by Graduate School of Natural Science and Technology, Okayama University.
- ⑪ Has completed 15 years of education abroad, or is expected to do so by March 31, 2010 (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009), and has completed the program with a record deemed excellent by Graduate School of Natural Science and Technology, Okayama University.
- ⑫ Has completed a correspondence course given by an institution abroad (equivalent to 15 years of educational program) in Japan, or is expected to do so by March 31, 2010 (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009), and has completed the program with a record deemed excellent by Graduate

School of Natural Science and Technology, Okayama University.

- ⑬ Has completed a program by a nationally accredited foreign university at its Japanese branch (equivalent to 15-year educational program) approved by the Minister of Education, Culture, Sports, Science and Technology by March 31, 2010 (in the case of October 2009 Enrollment, is expected to do so by September 30, 2009) with a record deemed excellent by Graduate School of Natural Science and Technology, Okayama University.

Notes:

- i) For ②, the applicant must reside in a university or institution that meets the requirements defined by the National Institution for Academic Degrees and University Evaluation under the provision of Article 6(1) of the Diploma Regulations. Furthermore, the applicant must provide a certificate from the university or institution stating that the applicant intends to, and will likely complete the course within the given timeframe and apply for bachelor's degree.
- ii) "16 years of education abroad" in ③ refers to 16 years of "official" school education. However, students who have skipped grades in a country that otherwise expects at least 16 years of education for bachelor's degree can be under 22 years old if the individual has completed the entire program.
- iii) For ⑧, a student who has "entered graduate school other than Graduate School of Natural Science and Technology, Okayama University under the provision of the Article 102(2) of the School Education Act, and was recognized by Graduate School of Natural Science and Technology, Okayama University to possess the academic ability to receive the graduate school education", refers to a student who has entered a graduate school without a bachelor's degree. In this case, the applicant must also provide an official certificate from the current graduate school stating that he/she is currently enrolled in the program.
- iv) For ⑨, a student who is "deemed by Graduate School of Natural Science and Technology, Okayama University to have academic ability

equal to or higher than a bachelor's holder based on the result of the entrance examination", refers to a student who has passed the written and oral examination, and interview after screening based on the submitted documents as review of eligibility for application. However, students who were judged to be highly qualified based on the documentary examination may be exempted from written examination.

- v) ⑪ includes a student who has completed a university program through grade skipping in a country that normally requires 15 years of education to receive a bachelor's degree.
- vi) For ⑩ to ⑬, the definition of "has completed the program with a record deemed excellent by Graduate School of Natural Science and Technology, Okayama University" will be summarized separately.

2. Review of Eligibility for Application

For those who wish to apply in accordance with the eligibility conditions described in 1-⑨ to 1-⑬ above, a preliminary review of eligibility will be conducted. The following documents must be submitted to the Instruction Section of our Graduate School during the period below.

OCTOBER 2009 ENROLLMENT <Second recruitment>

APRIL 2010 ENROLLMENT <First recruitment>

From July 1, 2009 to July 2, 2009

Documents required

- (1) Eligibility for Application Form: Use the form designated for this purpose provided by the Graduate School.
- (2) Record of Academic Performance: Use the form designated for this purpose provided by the Graduate School. (For research results in fields related to your major, briefly describe the objective findings.)
For Academic Theses, Publications, etc., please attach the original version or a certified copy. For Research Presentations, please attach a summary or outline.
- (3) Certificate of Research Participation: Use the form designated for this purpose provided by the Graduate School. (Prepared by the institution to which the applicant is affiliated.)

- (4) Transcript (most recent): Prepared by the applicant's school.
- (5) Certificate of Graduation (most recent): Prepared by the applicant's school.
- (6) Provide the reason for applying: Use the form designated for this purpose provided by the Graduate School.
- (7) Licenses and other qualifications: Copies of all certificates or licenses related to your major (Copied on A4 paper. Include a brief explanation.)

3. Application period

OCTOBER 2009 ENROLLMENT <Second recruitment>

APRIL 2010 ENROLLMENT <First recruitment>

From August 17, 2009 to August 18, 2009 (Office hours from 8:30 to 17:15)

4. Application procedures

- (1) Applicants must submit the documents described in Item (3) below to the Instruction Section of our Graduate School during the application period described above. If application documents are sent by mail, they should be sent by registered express mail. Write “Application Form for Doctor Course in Earth and Planetary Materials Science” in red color on the envelope; the documents must arrive by the application deadline described above.

Note: Applicants must contact their prospective supervisor as far in advance as possible to discuss their research before the application period. Applicants who wish to undertake research on Organic Geochemistry will be supervised the members of the Carnegie Institution of Washington. These applicants are asked to contact the members of the Division of Analytical Planetary Chemistry in advance.

- (2) Address of Application Procedures
Instruction Section,
Graduate School of Natural Science and Technology,
Okayama University,
3-1-1 Tsushima-naka Kita-ku Okayama 700-8530 Japan
- (3) Application documents

- i) Application Form, Curriculum Vitae and Admission Ticket for Examination: Use the form designated for this purpose provided by the Graduate School.
- ii) Photographs: 5.0cm × 4.0cm, Upper body, front view, without headwear, taken within the last 3 months. Attach to the Application Form and Admission Ticket for Examination.
- iii) Official Entrance Examination Fee: 30,000 yen (transaction fee is required). Please bring the attached "Official Entrance Examination Fee" form to a payment window at a financial institution (such as the post office or bank) and pay the official entrance examination fee of 30,000 yen (Please do not use the ATM for this). Be sure to paste the "Official Entrance Examination Fee Proof of Transfer" document on the prescribed section (at the bottom of "the Admission Ticket for Examination" form) and submit it.
- iv) Letter of support: Two recommendation letters from the applicant's supervisor or equivalent.
- v) Official transcript: Prepared by the applicant's undergraduate school.
- vi) Official transcript (those who were enrolled in a graduate program): Prepared by the applicant's graduate school.
- vii) Certificate of Graduation (bachelor's degree) or Certificate of Expected Graduation.
- viii) Certificate of Completion (master's degree or professional degree) or Certificate of Expected Completion (those who were enrolled in a graduate program).
- ix) Master's thesis (those who were enrolled in a graduate program):
 - 1) Those who have obtained a master's degree: Photocopy of the thesis and an abstract of the thesis (Use the form designated for this purpose provided by the Graduate School, of up to 2,000 words)
 - 2) Those who are expected to obtain their master's degree: Report of Research Progress (Use the form designated for this purpose provided by the Graduate School, of up to 2,000 words).
Attach research materials that have been published or orally

presented if available.

- x) Research Planning Sheet: Use the form designated for this purpose provided by the Graduate School.
- xi) Record of Academic Performance: Use the form designated for this purpose provided by the Graduate School.
- xii) Curriculum Vitae and Certificate of Research Participation: Those who wish to apply under the eligibility conditions described in 1-③ and 1-④, please fill out the necessary information on the form designated for this purpose provided by the Graduate School.
- xiii) Application for Bachelor's Degree: Those who wish to apply under the eligibility conditions described in 1-②, please submit (1) a certificate of expected date of completion issued from the department of their junior college or specialized vocational high school and (2) a letter from the president of the junior college or specialized vocational high school stating that the applicant is scheduled to apply for bachelor's degree.
- xiv) Certificate of Period of Attendance at a Graduate School: Those who wish to apply under the eligibility conditions described in 1-⑧.
- xv) Mailing Envelope for Receiving Admission Ticket for Examination: Put the following xvi) and place a 350 yen stamp on the envelope attached to this Application Guide.
- xvi) Sticker of Address: Fill out the necessary information.

Note: Documents (v)~(viii) are not necessary for those who were judged to be eligible after the "reviews of eligibility for application". Submission of (iv) is optional, but please contact the prospective supervisor in advance.

5. Selection:

Selection will be made on the basis of an oral examination and the submitted documents. Depending on the result of screening based on the submitted documents, the applicant may be exempted from the oral examination. Notice of exemption from the oral examination will be sent

with the Admission Ticket for Examination.

6. Applicants with disabilities:

Applicants with physical disabilities and, therefore, require special assistance (during the exam and/or during the graduate program) should contact the Graduate School in advance.

7. Date and place of examination:

OCTOBER 2009 ENROLLMENT <Second recruitment>

APRIL 2010 ENROLLMENT <First recruitment>

Oral examination: From 9:30 a.m., August 25, 2009.

Place of examination will be provided by the prospective supervisor.

Note:

1. Date of Examination is subject to change with notice to applicants.
2. If you have not received information about the date and place of examination by August 21, 2009, please contact the section indicated at the end of this document.

8. Announcement of results:

OCTOBER 2009 ENROLLMENT <Second recruitment>

APRIL 2010 ENROLLMENT <First recruitment>

at 10 a.m., September 4, 2009,

The results of the examination will be posted on the bulletin board of the Instruction Section for Graduate School Okayama University (building for Faculty of Engineering). Those who have passed the examination will also receive a formal notification by mail.

9. Enrollment procedure:

Successful applicants who have completed the enrollment procedure are permitted to enter our Graduate School. The planned dates for enrollment procedure are shown below (details will be sent to the successful applicants after the announcement of results).

OCTOBER 2009 ENROLLMENT: September 16, 2009 and September 17, 2009.

APRIL 2010 ENROLLMENT: March 15, 2010 and March 16, 2010.

10. Tuition:

Admission fee: 282,000 yen (expected amount)

Tuition fee: 267,900 yen per half year/535,800 yen per year (expected amount)

If the admission and tuition fees change at the time of enrollment and/or during the course of the student's study, the new admission and tuition fees will be applied after implementation of the change. Personal accident insurance for students pursuing education and research is required at student's own expense.

11. Notes:

- (1) Documents will not be returned. Entrance examination fee is non-refundable. No change of the contents of the documents will be accepted after their submission.
- (2) Excluding the following circumstances, the Official Entrance examination fee is non-refundable.
 - A: The Entrance examination fee was paid but application documents were not submitted.
 - B: The Entrance examination fee was paid but application documents were not accepted.
 - C: The Entrance examination fee was mistakenly transferred more than once.
- (3) Those who write false statement in the application form and other documents will be prohibited from enrolling, even after they have entered the Graduate school.
- (4) Personal information contained in the application form will be used during the selection of candidates. Once enrolled, personal information contained in the application form (such as name, date of birth, sex eligibility to apply, the name of entering graduate school, major, etc.) will also be used as part of the student registration database of the University. In addition, in the case of requests for entrance fee exemption, entrance fee late payment, tuition fee exemption, we may refer to the student's record of entrance examination for judging academic ability. Furthermore, personal data of successful candidates (such as name, date of birth, sex) will be used in the tuition fee administration and tuition exemption system of the University.

(5) For further information, please contact the following.
Instruction Section,
Graduate School of Natural Science and Technology,
Okayama University
3-1-1 Tsushima-naka Okayama 700-8530
Tel: 086-251-8576, Fax: 086-251-8580
Graduate School of Natural Science and Technology URL
<http://www.gnst.okayama-u.ac.jp/>

Notice:

Application Guide for APRIL 2010 ENROLLMENT <Second recruitment> and
OCTOBER 2010 ENROLLMENT <First recruitment> will be available in
November 2009.

III. Cultivation of human resources and aim of our educational program.

The goal of our program is to nurture high-quality scientists who can lead the earth and planetary science research and education in the international environment. Earth and planetary science often deals with complex phenomena recorded in natural samples. It is essential, therefore, for the students to acquire the ability to develop their own research goals through scientific interest and motivation, and to logically analyze the information recorded in earth and planetary materials through physics and chemistry to achieve them. In Division of Earth and Planetary Material Sciences, students are trained to acquire these abilities through our unique research and educational program.

Students from across the globe are given lectures and supervision in English, and are asked to communicate with internationally recognized faculty members and guest scientists. This is an ideal environment for students to not only acquire advanced scientific knowledge but to advance communication skills that are essential for research activities in an international environment. In addition, by setting the length of the program to maximum of five years, we intend to provide students with time to receive the necessary supervision to become an

elite scientist.

IV. Organization and courses taught.

Department of Analytical Planetary Chemistry:

Outline of the department: To understand the origin and earth and planets through detailed geochemical, isotopic and structural analysis of natural and synthetic samples.

(Members and courses taught)

Akio Makishima: Fundamental earth and planetary chemistry

Takuya Moriguti: Stable isotope geo- and cosmochemistry

Takuya Matsumoto: Volatile element geo- and cosmochemistry

Naotaka Tomioka: Nano-scale mineralogy

Eizo Nakamura: Chemical geodynamics

Katsura Kobayashi: Chronology of earth and planetary materials

Katsuyuki Yamashita: Origin of solar system materials

Department of Experimental Planetary Physics:

Outline of the department: Understanding the physical structure of earth's interior through ultra-high pressure experiments. Analyses of melt structure using spectroscopic techniques.

(Members and courses taught)

Takashi Yoshino: Experimental high-pressure earth science

Tomoo Katsura: Physics of the earth and planetary materials

Akira Yoneda: Equation of state for earth and planetary materials

Daisuke Yamazaki: Rheology

Masami Kanzaki: Synchrotron radiation applications for materials science

Xianyu Xue: Spectroscopic techniques in earth and planetary sciences

Shigeru Yamashita: Experimental magmalogy

Takuo Okuchi: Physics of liquids at high pressure

Department of Organic Geochemistry:

Outline of the department: Origin and evolution of organic, inorganic, and biogeochemistry of components and complexes in the C-H-O-N-S in Earth,

extraterrestrial materials, and the solar system. Origin of Life.

(Members and courses taught)

Marilyn Fogel: Organic geo- and cosmochemistry

George Cody: Analysis organic materials on earth and planets

Bjorn Mysen: C-O-H-N-S volatiles in silicate melts and crystals and the interfaces between organic and inorganic worlds

Andrew Steele: Astrobiology