

Division of Natural System	Research field	Petrology and Volcanology	Lab. ID
			NS20
Laboratory web site	<a href="http://earth.s.kanazawa-u.ac.jp/introduce/rock.html">http://earth.s.kanazawa-u.ac.jp/introduce/rock.html</a>		
Research subjects			
<p>We study the nature and origin of igneous and metamorphic rocks, constituents of the Earth's crust and mantle. Our goal is to understand the principles and processes and evolution of earth and solid planets by analyzing the information of the generation and migration of magmas, and dynamics of plate movement and mantle recorded in the rocks by means of petrological and geochemical analyses, including chemical analyses of bulk and microspots of rocks and minerals, macro- and micro-textural analyses, computer simulation.</p>			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
<p>Students are requested to periodically report to their advisers and to discuss the progress and plans of their researches based on mutual understanding. In the group seminar held once a week, students are expected to acquire the way of objective evaluation of the researches done by others and to deepen their understanding of the researches by exchanging opinions and discussion with academic staffs and other students. Students must make presentations on their theses at least three times during the two-year master's course and the three-year doctoral course.</p>			
Daily life in the laboratory, etc.			
<p>Students have chances to visit various places in the world during field works depending on their research topics. To see foreign and/or local cultures and wild nature during the field investigations will be an exciting experience. Students are allocated a desk of his/her own in the students' room adjacent to the labs. Internet and LAN facilities and color printers are available.</p>			
Message or comments by the laboratory faculty staffs			
<p>The most important thing in natural science is the observation of natural phenomena through which the most fundamental, essential issues will be discovered. We therefore expect students to go out into the field and experience the sense of natural wonder of nature by themselves through their eyes, hands and feet.</p>			
Recent Master theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2017.3	Petrology of the metamorphic sole in the Oman Ophiolite		
2017.3	Rheological transition during progressive antigorite serpentinization of peridotite		
2017.3	Structural development in serpentinization of mantle wedge: Construction of a geochemical model for a reaction-advection system		
2016.3	Factors governing fragmentation of submarine lava — mechanism of hyaloclastite formation		
2016.3	Emplacement and Solidification processes of off-axial large submarine lava field: Petrology of V3 flow of Oman Ophiolite		
2016.3	Petrology of mantle xenoliths from Lutao in the northern end of the Luzon Arc		
2015.3	Geochemical characteristics and genetic T-P conditions of primary boninite magmas revealed by melt inclusions in Cr-spinel: Estimates of thermochemical structures of the incipient subarc mantle of the Ogasawara-Mariana arc and the Oman Ophiolite		
2015.3	Microtextures of crystal surfaces of peridotite xenoliths		
2014.3	The origin of olivine-clinopyroxene plutonic rocks		
2013.3	Estimation of the thermal structure in the oceanic upper crust using variation in crystal size of the sheeted dikes		
2013.3	The origin of black olivine		
2013.3	Petrology of peridotites in the western zone of the Mildita Ophiolite, Albania: the origin of peridotites enriched in melt component		
2013.3	Analyses of chemical interaction of mantle and crustal rocks with respect to sulfide and titanoxides: an example of the Higashi-Akaishi body in the Sambagawa Belt		
2013.3	Mass balance and the formation of structures of antigoritic serpentinization of the Higashi-Akaishi body in the Sambagawa Belt		
Recent Doctoral theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2015.3	Petrologic nature of the lower crust beneath the Japan arcs		
2015.3	Integrated petrogenesis of podiform chromitites		
2014.3	Along-ridge diversity of melt migration processes in the mantle: implications from the northern Oman ophiolite		

2013.3	Eocene volcanism during the incipient stage of Izu-Ogasawara Arc: Geology and petrology of the Mukojima and Hahajima Island Groups, the Ogasawara Islands
Laboratory mail address	Umino <sesumin@staff.kanazawa-u.ac.jp>, Morishita <moripta@staff.kanazawa-u.ac.jp>, Mizukami <peridot@staff.kanazawa-u.ac.jp>