

List of Dissertation Abstract (Environment and Natural Sciences Earth and Ecology Course)

| Name | Supervisor | Title | Abstract |
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| Ikuya WATANABE | Yukira MOCHIDA | Effects of location environment and deer in the <i>Quercus crispula</i> Blume dominant secondary forest to the distribution of seedlings and saplings | In order to exert the function of environmental conservation, it is important to reproduce the treeless land by natural forces. In order to consider the natural regeneration, it was investigated whether the seedlings and saplings are growing in any habitat. Emerged the number of individual seedlings and saplings as explained variable, the habitat of 5 factors and deer population as an explanatory variable, it was performed a multiple regression analysis. As a result of the analysis, the influence by the habitat and the deer had been different in seedlings and saplings between the same species. |
| Akira Furusawa | Ryuuiti Majima | Planktonic foraminifera biostratigraphy of the Cenozoic of the northwestern part of the Leyte Island, Philippines | I studied a planktonic foraminifer biostratigraphy of Cenozoic marine strata at northwestern coastal area of Leyte Island, Philippines, using a total of 24,000 specimens that consist of more than 300 specimens of each 86 sampling horizon. I identified 40 species and dated 4.50 to 4.20 Ma in the lower stratigraphic horizon and 2.58 to 1.30 Ma in the middle and upper horizons. In the middle horizon, older fossils are coexisted with younger ones, probably due to the reworking contaminations by slumping that have been evidenced by field observations. |
| Hiroyuki IGAKI | Yukira MOCHIDA | Early habitat and expanding distribution of the alien plant, <i>Sicyos angulatus</i> L, in riverbed | It is important that prevention of <i>Sicyos angulatus</i> L at the water's edge, for a measure of flourishing the plant. <i>Sicyos angulatus</i> L intrude into the location where meets three conditions. Firstly, vegetation is <i>Miscanthus sacchariflorus</i> community, <i>Artemisia indica</i> community or <i>Ambrosia trifida</i> community. Secondly, relative elevation is low. Thirdly, more than 20 % of ground is less than 2 mm. |

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| <p>Tomohiro IZUMI</p> | <p>Ryuichi MAJIMA</p> | <p>Depositional environments of the Upper Ikego Formation of the Miura Group and the Lower Urago Formation of the Kazusa Group (Pliocene-Pleistocene), exposed on the northern Miura Peninsula, Japan.</p> | <p>I studied depositional environments of the upper part of the Ikego Formation (the Miura Group) and the lower part of the Urago Formation (the Kazusa Group) (upper Pliocene – lower Pleistocene), exposed on the northern Miura Peninsula.</p> <p>I measured the orientations of the sole marks and the imbricated structures of sandstone grains within the five sediment gravity flow deposits. I interpreted the sole marks as flute ones and obtained paleocurrents from west to east and from south-southwest to north-northeast. Imbricated fabrics show paleocurrents from south-southwest to north-northeast. These results are concordant well with a proximal (southwest) and distal (northeast) relation obtained in the previous studies.</p> |
| <p>Toshiki ICHIMURA</p> | <p>Ryuichi Majima</p> | <p>Depositional environments of the Imaizumi Sandstone and Conglomerate Member (Lower Pleistocene) of the Nojima Formation of the Kazusa group exposed at the northern Miura Peninsula</p> | <p>I studied stratigraphically and sedimentologically the Imaizumi Sandstone and Conglomerate Member of the Urago Formation, exposed at the northern Miura Peninsula. The Member is composed of a submarine fan system, judging from shingle overall coarsening and thickening upward trend of beds, and is interpreted to have been progradated from south to north, based on the paleocurrent analysis. In the lower and middle horizons of the Member, small progradated lobes are well developed and interpreted as a mid-fan setting. In the upper horizon, main channel systems are overlain on the lobe systems of the mid-fan and is interpreted as upper fan deposits. The palaeomagnetic and tephra-chronologic studies in the study area indicate that the Member had been deposited between 2.5 Ma and 1.97 Ma.</p> |

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| <p>Akane OHIRA</p> | <p>Shuichi KODAIRA</p> | <p>Sesimic structure of the oceanic Moho and deep oceanic lithosphere at southeast of the Shatsky Rise in the Northwestern Pacific</p> | <p>To understand formation and alternation processes of the oceanic plate, I processed an active-source reflection/refraction data acquired along a long profile at southeast of the Shatsky Rise in the northwestern Pacific. Various reflection characters of the oceanic Moho on seismic reflection section indicate that the sharp Moho formed at a fast-spreading center was alternated by the off-ridge magmatism. Analyses on wide-angle reflections on records of ocean bottom seismometers show that within the current lithosphere there are low velocity patches associated with past lithosphere-asthenosphere boundaries.</p> |
| <p>Aya KAWASE</p> | <p>Yukira MOCHIDA</p> | <p>Bark stripping of oak (<i>Quercus crispula</i> Blume) by sika deer in relation to locational factors.</p> | <p>To clarify why non-palatable species were debarked by deer, we established seven study sites in the Southeast areas of Yatsugatake Mountains and examined the intensity of bark stripping, grazing of <i>Sasa nipponica</i>, snow depth, inclination of site slope, and frequency of habitat use by sika deer. At the site with steep slope on the Southwestern side of the Mountains, snow depth was shallower and the frequency of habitat use by sika deer was higher. It was deemed that, with the abundant sunshine falling on the slope, snow depth became shallow and the site offered habitats suitable for deer in winter. The findings suggest that, deer density become high at the slope with less snow accumulation in winter and, deer debarks non-palatable species to attain fodder for its survival.</p> |

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| <p>Ken KANNO</p> | <p>Ryuichi MAJIMA</p> | <p>Stratigraphy and depositional environment of the lower part of the Ikego Formation (Pliocene) of the Miura Group, exposed at the northern Miura Peninsula, Pacific side of central Japan</p> | <p>I studied chaotic beds intercalated in the formation boundary between the Zushi Formation and the Ikego Formation. These beds are divided into the following four units: lower chaotic unit (unit 1), sandstone and conglomerate dominated unit (unit 2), cross-bedded sandstone and conglomerate dominated unit (unit 3), and upper chaotic unit (unit 4), in ascending order.</p> <p>They are interpreted respectively to be submarine slump bodies consisting of the uppermost horizons of the Zushi Formation that are not exposed in the present exposures (unit 1), a fill of slump scar (unit 2), dunes that have progradated from southwest judging from the cross-beddings (unit 3) and a submarine slump mass (unit 4).</p> |
| <p>Taisuke SATO</p> | <p>Yukira MOCHIDA</p> | <p>Three mangrove species of differences of herbivory due to the difference in the the trait of the leaves and the habitat</p> | <p>In recent years to understand the ecology of the mangrove is believed to lead to the conservation of biological diversity. Therefore, in this study is to elucidate the ecology, focusing on the herbivory of the leaves by comparing the herbivory rate at the species, the purpose of the this study to reveal the factors that affect the herbivory. Herbivory rate is different among the three species, habitat, such as flood frequency had a significant impact. Also, the trait of the leaves are affected under the same habitat, both factors of the traits of leave and habitat has been suggested to affect the herbivory.</p> |

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| <p>Hirokazu Takahashi</p> | <p>Masahiro Ishikawa</p> | <p>Simultaneous high Pressure-Temperature measurements of P-wave and S-wave velocities in Oki-Dogo xenoliths</p> | <p>P-wave velocity (V_p), S-wave velocity (V_s) and V_p/V_s have been measured in the laboratory for pyroxenitic xenoliths from Oki-Dogo, southwest Japan. Pyroxenitic xenoliths comprise olivine-poor websterite, and olivine websterite. Simultaneous measurements of V_p, V_s and V_p/V_s were carried out at pressures up to 1.0 GPa and temperatures up to 600°C. V_p of websterite rocks vary from 7.2–7.4 km/s at 1.0 GPa which corresponds to representative depth for Moho in Japan arc. Sub-Moho V_p beneath island arcs are intermediate (7.3–7.7 km/s) in places, and this study suggests that the intermediate V_p can be explained by pyroxenites.</p> |
| <p>Keisuke TADA</p> | <p>Masahiro ISHIKAWA</p> | <p>Paleostresses inferred from mesoscale faults in the Pleistocene Ashigara Group, central Honshu, Japan</p> | <p>The Ashigara Group is located in the northern part of the Izu collision zone and has been provided a lot of significant information to understand the process of arc-arc collision. In order to estimate the principal stress axes and the stress ratio during the collision, we applied Hough-transform-based inversion method to fault-slip datasets obtained from the Ashigara Group and the Hontanikawa Formation. The four datasets from the Asigara Group yielded concordant stress axes with the known paleostresses, suggesting NW-SE and NE-SW trending σ_1 axes, but the observed area was different from the known mesoscale faults analysis. These results also showed the stress ratio.</p> |

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| Kazuyasu TANABE | Ryuichi MAJIMA | Paleocurrent analysis of the Zushi Formation (upper Miocene - lower Pliocene) of the Miura Group, exposed at the northern Miura Peninsula, Kanagawa Prefecture, central Japan | The upper Miocene to upper Pliocene Miura Group, a forearc basin-fill exposed at the northern Miura Peninsula, is composed of lower Zushi and upper Ikego Formations. I measured paleocurrents of the sandstone beds of the Zushi Formation, using the fore sets of cross-laminations and imbricate structures in the parallel laminations. These sandstones are interpreted to have been deposited by northwestward- and eastward-directed sediment gravity flows. The flow trends of the Zushi Formation are well concordant with those measured previously in the upper Pliocene to lower Pleistocene Kazusa Group, overlain conformably with the Miura Group. |
| Tatsuya MORIYAMA | Ryuichi MAJIMA | Paleomagnetic analysis of the lower boundary of the Olduvai subchronozone in a core recovered from the Nojima Formation of the Kazusa Group, the northern Miura Peninsula | I measured paleomagnetic inclinations of the lower boundary of the Olduvai subchronozone in the Lower Pleistocene Nojima Formation of the Kazusa Group, a fore arc basin fill, using a core (the core O) recovered from Yokohama City. The lower boundary of the Olduvai subchronozone was identified between 64.93 m and 66.59 m in the core O based on paleomagnetic inclination data. During this interval, three sign inversions of inclination, from negative to positive, from positive to negative, and from negative to positive, in ascending order, are observed. The lower two sign inversions, however, may reflect an influence of diagenesis because concretions occur in the horizons. |
| Takafumi YAMAGUCHI | Shinji SHIMODE | Life history strategies and egg production of planktonic copepod <i>Calanus sinicus</i> in Sagami Bay, Japan | The purpose of this study was to reveal life histories and to establish a model for predicting egg production rate (EPR) of <i>C. sinicus</i> . Our result suggested that deep diapausing population might return to the surface layer during winter to early spring. We proposed a multiple regression model for estimating EPR using prosome lengths and gonad development stages of adult females. |