



TOHOKU UNIVERSITY



新領域創成のための
挑戦研究デュオ
Frontier Research in Duo (FRiD)

1万年間続く持続可能社会構築のための文化形成メカニズムの解明

2022年度のトピック (Topic for FY2022)

徳之島コウモリイヨー遺跡の発掘調査

Excavation of the Komori-Iyo Cave on the Tokunoshima island

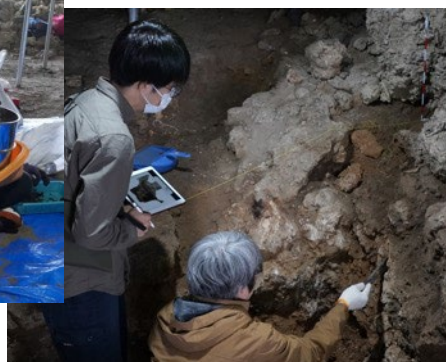


出土資料の三次元測量
Measuring of 3D-coordinates of finds

出土した堆積物の篩掛け
Sieving of sediment dug out



層序図の作成
Recording of stratigraphy



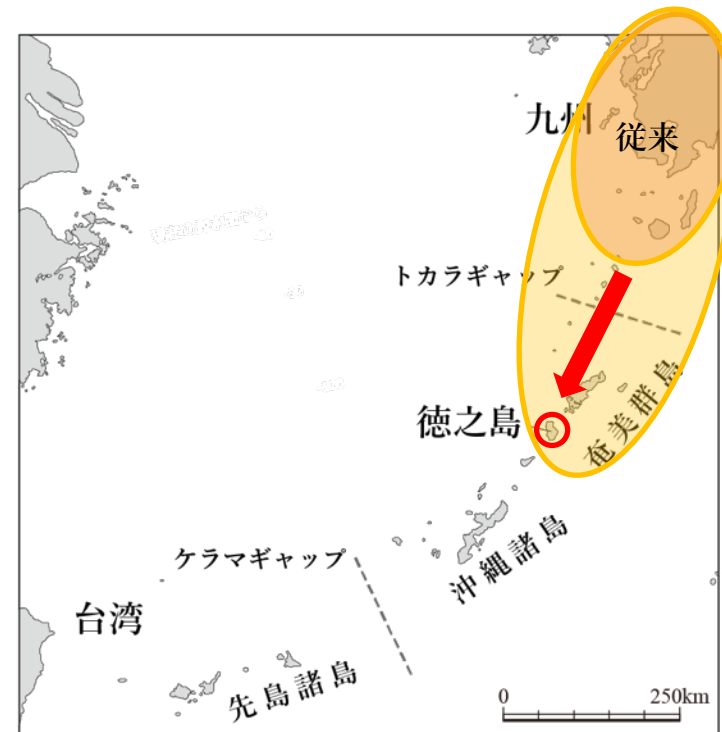
地中レーダー調査
Survey by GPR (Ground Penetrating Rader)



出土した土器と貝
Pottery and shells unearthed



遺跡から出土したヤマタニシ (*Cyclophoridae*)
Land snails (*Cyclophoridae*) unearthed from the site



新たにわかった隆起線文土器文化圏
Revised territory of the linear-relief pottery culture



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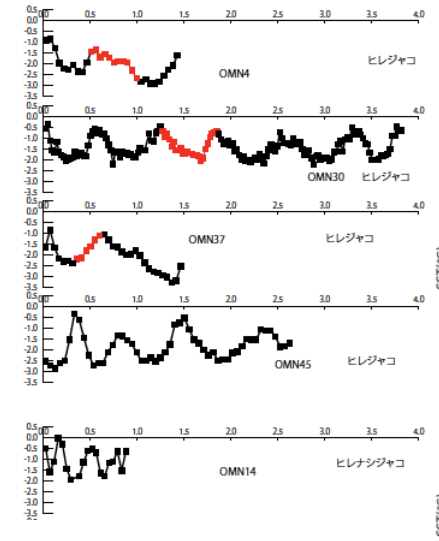
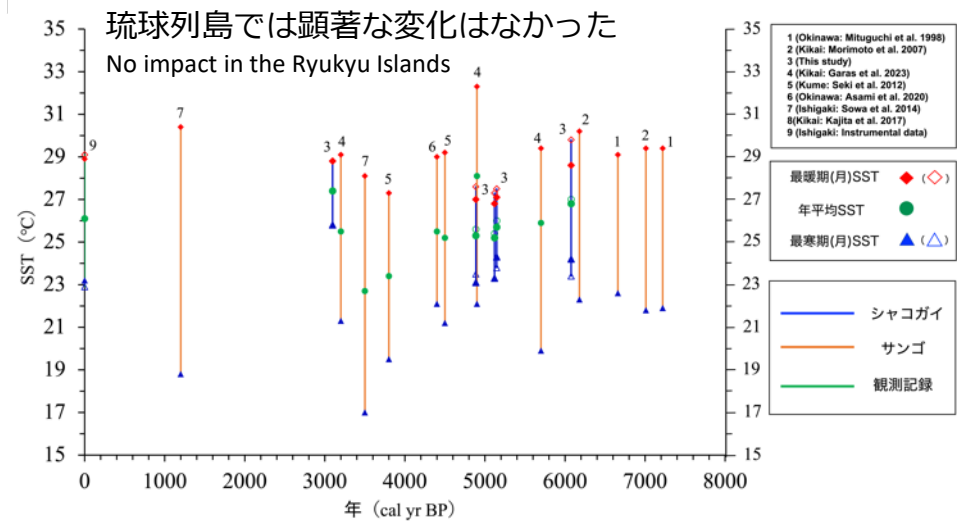


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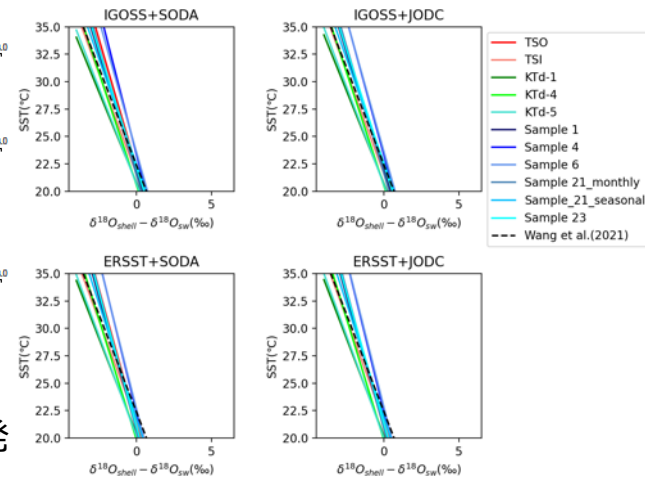
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琉球列島における4.2 kaイベントの実態解明 Delineating the 4.2 ka Event in the Ryukyu Islands



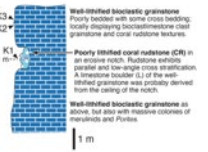
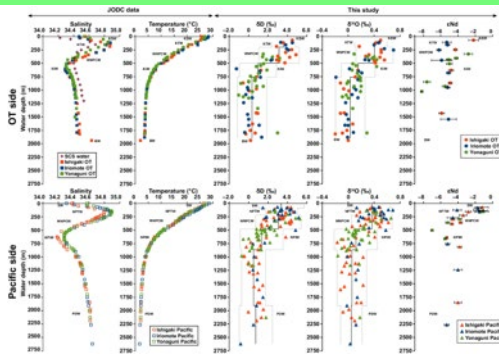
新たな同位体温度計の導出 Establishing a new oxygen isotope thermometer



変質部位の特定法の開発 New method to identify diagenetically-altered shell portions

琉球列島の水塊構造 と海洋島海洋島の隆起速度の見積りの新手法に関する研究を出版
Publication of papers around water mass structure in the Ryukyu Islands and a new method for estimating an uplift rate of carbonate islands

Cruz Salmeron, A. D., Takayanagi, H., Wakaki, S., Ishikawa, T., Miyajima, T., Wakaki, H., ... & Iryu, Y. (2022). Characterization of water masses around the southern Ryukyu Islands based on isotopic compositions. *Progress in Earth and Planetary Science*, 9, Article number:44



Iryu, Y., Takayanagi, H., Ishikawa, T., Ishigaki, A., Asanuma, T., Teruya, R., & Budd, D. A. (2023). Uplift rate of Kitadaito Jima Island on the lithospheric forebulge of the Philippine Sea Plate. *Progress in Earth and Planetary Science*, 10, Article number: 4



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遺跡土壌のDNA分析に成功 Succeeded in DNA analysis of archaeological soil



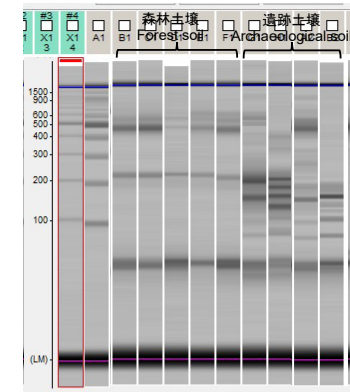
土壌を採取したコーモリイヨー遺跡
Komori-lyo Cave where the soil was sampled



土壌断面と試料採取位置
Soil profile and sampled positions



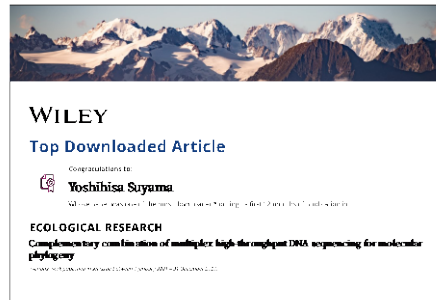
DNA分析用の簡易クリーンルーム
Simple cleanroom for DNA analysis



森林・遺跡土壌から増幅したDNAの電気泳動像
Electropherogram image of the PCR products from archeological and forest soil samples

DNA分析手法の開発論文が論文賞・最多被引用・最多ダウンロード

The paper on the developed DNA analysis method won the Best Paper Award, Top Cited, and Top Downloaded Article.



Suyama et al. (2022) Complementary combination of multiplex high-throughput DNA sequencing for molecular phylogeny. *Ecological Research* 37 (1): 171–181. <https://doi.org/10.1111/1440-1703.12270>