



AWSFL008-DS3

NSF Award Abstract
- #0325111

**Collaborative Research: Mantle and Fluid
Evolution Across the Izu Arc**

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Award Instrument Standard Grant

Program Manager Rodey Batiza

OCE DIVISION OF OCEAN
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NSF Program 1620 MARINE GEOLOGY AND
GEOPHYSICS

Field Application 0204000 Oceanography

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Abstract

In order to test three hypotheses regarding petrogenetic processes below the Izu arc, the PIs will analyze submarine rocks collected by dredging, ALVIN and ODP legs, and from a future IFREE/JAMSTEC cruise. Under this award, the PIs will study the petrography, mineral chemistry, major and trace elements (XRF, ICPMS), and Sr-Nd-Pb-Hf isotopes of 50-100 basalts, mostly from the extensional region, but also from the volcanic front and rear arc seamount chains. They will also measure $^{187}\text{Os}/^{188}\text{Os}$ ratios and Re-Os concentrations for a suitably mafic subset of these samples, and for the high-priority subset of sediments and basalts from ODP Site 1149 in the Pacific ocean crust outboard of the Izu arc.

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