Joint NSF-MARGINS and IFREE Workshop:

Subduction Factory Studies in the Izu-Bonin-Mariana Arc System: Results and Future Plans

November 7-10, 2007
Leahi Ballroom, Waikiki Beach Marriott
Honolulu, Hawaii

Tuesday, Nov. 6  Registration 6-9pm

Wednesday, Nov. 7

7:00 am   Registration
7:00 am   Breakfast (Leahi Ballroom)
8:30 am   Welcome, MARGINS & IFREE background
          Abers & Tatsumi
8:45 am   NSF perspective
          Midson
9:00 am   Intro & Overview of Questions/Goals
          Stern
9:15 am   History of the arc (moderator – Stern)
          Izu-Bonin-Mariana subduction
          Gurnis
9:45 am   Evolution of the Shikoku-Parece Vela backarc basins
          Ohara
10:15 am  Discussion

10:30 –11:00 Coffee break

11:00  Geodynamical Modeling (moderator - Wiens)
11:00  Temperature structure of the Mariana system from geodynamical
       modeling
       Conder
11:30  Modeling the mantle flow pattern in the Mariana Arc
       van Keken
12:00  Coupling of Mantle Flow and Thermodynamics:
       Implications for Melting in the Wedge
       Baker
12:30  Discussion

1:00 – 2:30 Lunch (Oahu Room)

2:30   Inputs and volatile cycling (moderator - Tatsumi)
2:30   Slab Inputs and Volcanic Outputs at the IBM Subduction
       Factory
       Kelley
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>3:00</td>
<td>Volatiles in IBM arc magmas: new insights from melt inclusion studies</td>
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<td>3:30 – 4:00</td>
<td>Coffee Break</td>
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<td>4:00</td>
<td>Sulfur deposits, high volatile content, and diffuse hydrothermal venting styles dominate volcanic arc hydrothermal systems</td>
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<td>4:30</td>
<td>Serpentine Seamounts in the IBM system</td>
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<td>5:00</td>
<td>Discussion</td>
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<td>6:00 – 8:00</td>
<td>Reception &amp; Posters</td>
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<td>8:00</td>
<td>Dinner on your own</td>
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Thursday, Nov 8

7:00 am  Breakfast (Leahi Ballroom)
8:30 am  Education and Infrastructure (moderator - Abers)
9:00   Databases – Japan perspective  Tsuboi
9:15  Volcano and Earthquake monitoring  Murray/Camacho

10-10:30  Coffee Break

10:30 am  Large Scale Imaging (moderator – Kodaira)
10:30  Seismic constraints on the deep water transportation and slab stagnation in the northwestern Pacific  Kawakatsu
11:00  Seismological Imaging of the Mariana mantle wedge  Wiens
11:30  Seismological studies on mantle upwelling in NE Japan: Implications for the genesis of arc magmas  Nakajima
12:00  Imaging mantle structure of the central Mariana subduction-arc-back arc system using marine magnetotellurics  Seama
12:30  Discussion

1:00-2:30  Lunch on your own

2:30- 4:00  Posters and Free Time
MARGINS Mini-Lessons posters
Database resource demonstrations (i.e., GeoMapApp)

4:00-4:30  Coffee

4:30  Arc geochemistry (moderator - Fryer)
4:30  Spatial and temporal variability of magmatism at the northern end of the Mariana Trough  Ishizuka
5:00  The First Volcanic Arc  Reagan
5:30  The Second Volcanic Arc  Gill
6:00  Composition and Significance of Mariana Trough Back-arc Basin Basalts  Pearce
6:30  Discussion

7:00 pm  Dinner on your own

8:30 – 10  Evening workshops /breakout groups
1. Databases (Lehnert & Tsuboi) – Leahi Ballroom
2. Education (Ryan & Reed) – Leahi Ballroom
3. Hazards and monitoring – Breakout room
Friday, Nov 9

7:00 am  Breakfast (Leahi Ballroom)
8:00 am  Crustal Imaging and Crustal Growth (moderator – Stern)
  8:00  Seismological constraints on growth of continental crust in the Izu-Bonin arc  Kodaira
  8:30  3-D Crustal Structure of the Mariana Island Arc from Seismic Tomography and Implications for Arc Growth  Calvert
  9:00  Crustal growth models for the IBM arc  Tatsumi
9:30-10  Coffee Break
  10:00  Talkeetna arc crustal composition, with implications for seismic interpretation and continental genesis  Kelemen
  10:30  Comparison of Tonga-Kermadec and IBM Subduction Factories  Arculus
  11:00  Discussion
11:30 –12:30  Proposed/ongoing efforts IODP (Tatsumi)
12:30-1:00  Discussion
1:00-2:30  Lunch (Oahu Room)
2:30  Comparison with Central America US Margins Focus Site
  2:30  Geophysics  Abers
  3:00  Petrology & geochemistry  Gill
3:30- 4:00  Coffee break
4:00–6:30  Breakout Groups – what additional efforts are needed?
  Education breakout group – Leahi Ballrom
7:00  Workshop dinner (Oahu Room)
9:00  Poster viewing
**Saturday, Nov 10**

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<tr>
<td>7:00-8:30</td>
<td><strong>Breakfast</strong> <em>(Leahi Ballroom)</em></td>
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<td>Presentation of breakout results</td>
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<td>Discussion</td>
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<td>Coffee break</td>
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<td>10:30</td>
<td>Future of Margins and Subfac <em>(Abers)</em></td>
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<td>12:30</td>
<td>Conclusions and wrapup</td>
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<td>1-2:30</td>
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<td>2:30-3:30</td>
<td>Post-event meeting for the people interested in the Educational Mini-Lessons</td>
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<td>2:30–7</td>
<td>Organizing committee stays for writing</td>
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