Staples Field Trip to Santorini and Central Crete
March 21- April 1, 2018

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King Thiras Hotel in Santorini: +30 2286 023882; kthotel@otenet.gr
Atrion Hotel in Heraklion, Crete: +30 281 024 6000; reserv@atrion.gr

Weather: day low 60s, night low 50s, likely windy

Wednesday March 21: Fly to Athens via San Francisco and Istanbul: Leave Eugene at 1:10 pm.

Thursday March 22:
Arrive in at Athens airport at 8:45pm (20:45). Shuttle to hotel at 9:30 pm (21:30) – organized by hotel; location of bus. Overnight at Hotel Avra in Rafina (+30 2294 022780).

Arriving in Santorini: Costas arrives 11 am at airport. Emilie, Doug and Sofie Athinios 15:10 (BlueStar Aegiali-Naxos-Santorini). Michele, Kajetan and Howard at airport 9:30 pm. Overnight at King Thiras Hotel.

Friday March 23:
Fly to Santorini: Shuttle from hotel to airport at 5:00 am. RyanAir # FR1232. Depart 06:55
Arrive Santorini Thira at 07:45. Emilie, Doug, Costas and Evi will meet you at the airport. Recovery and leisure day. Stay in King Thiras Hotel in Fira while on Santorini. Evi arrives Athinios 15:10 with her car.

4 pm Visit to Thira museum and walk through Fira
7 pm Dinner together Naoussa? Or somewhere else near Thira or Karterados.

SANTORINI

Saturday March 24: Archeology, volcanics, and metamorphics of southern Thera
- Depart at 8 am
- Akrotiri—Minoan Bronze-age settlement; guide Lefteris
- Kokkini Paralia—Red beach composed of ignimbrites that are prone to landslide
- Mavromatis Mine—Minoan eruption phases & 60 kyr pumice with fossils
- Pyrgos town square for lunch; view old houses and churches in "Kasteli"; guide Lefteris.
- Pyrgos—View metamorphic basement rocks
- Vlychada/Theros beach—distal fallout deposits & tsunamis. Or on Sunday depending on schedule.
- Return to Fira
- Dinner at 7 pm

Sunday March 25: Boat tour of intra caldera volcanics and caldera wall (Move to Monday if weather bad)
- Depart at 8:30 am. Time change; 1 hr less sleep!
• Pickup sandwiches for lunch from bakery on the way  
• Depart 9:30 am from port of Athinios. Tour is ~4 hrs  
• Nea Kameni—Hike up central volcanic island.  
• Palea Kameni—View basalt flows  
• Thirasia coast to Oia—View inner caldera dykes (Armeni-Mikros Profitis) and Skaros lavas  
• Athinios port—Blueschists and contact with Minoan layers. Landslide risks.  
• Return to Fira  
• Dinner at 7 pm

**Monday March 26: Tour the northern section of Thera**

- Depart at 8:30 am  
- Megalo Vouno, Micros Profitis Elias—Explore cinder cones and basalts  
- Kolumbo fault zone & dykes. Peristeria volcanics  
- Oia-Ammoudi—View ignimbrites and induced landslides  
- Ammoudi for lunch  
- Oia town for tourist stroll  
- Cape Kolumbo  
- Return to Fira  
- *Evi departs Athinios 15:30*  
- Dinner BY YOURSELF.

**Tuesday March 27:**

- Travel to Crete: AegeanAir # OA355 & OA314. Santorini to Heraklion via Athens  
  Depart 11:35 am Arrive 2:05 pm (14:05). Bus picks us up.  
- Stay in Atrion Hotel in Heraklion while in Crete.  
- **16:00 Visit Natural History Museum of Crete.**  
- Dinner on own: Nice restaurants in walking distance (5-10 min) close to harbor.

**CENTRAL CRETE**

*Guide:* Babis Fassoulas

**Wednesday March 28: Alpine tectonics**

08:30 Departure from Hotel

09:00 **Stop 1. The Cretan detachment fault:** Under the highway bridge an exposure of the fault gouge and shear zones related to the Cretan detachment fault is well demonstrated. Furthermore, the fault is also seen on the mountain slope with Tripolitsa nappe on top of PQ.

09:45 **Stop 2. The Almyros Spring:** Almyros is a Karstic spring existing on the intersection of Cretan detachment and a normal fault. Has huge capacity and is connected with nearby mountains as well as with Psiloritis Mts

10:15 **Stop 3. Short Stop at Voulismeno Aloni Pothole:** It is a spectacular circular pothole related with Almyros Karstic system.
11:00 **Stop 4. Vossakos folds**: Along a 1 km road section, spectacular folds crop out at the Platty marbles of Plattenkalk Unit. Rocks are successively folded in any kind of fold type and also faulted by reverse faults. Folding is related to the early Oligocene subduction process.

12:15 **Stop 5. Sfentoni cave at Zoniana** (Optional, extra fee of 5 euros): An impressive and well decorated cave developed in the Tripolitsa Unit just on top of the Cretan detachment fault.

13:00 **Lunch at Anogia**

15:15 **Stop 6. Agios Fanourios Detachment fault**: At Agios Fanourios the Cretan detachment fault is exposed again, but this time Tripolitsa lies on top of PlattenKalk metaflysh without the existence of PQ unit. Nice shear indicators can be seen on the fault gouge.

16:00 **Stop 7. Nida Plateau**: View point on the Nida Plateau, the Idaion Andro Cave and Psiloritis mountain. The Plateau has been developed due to a normal fault cutting the slope of Psiloritis and along the Cretan detachment fault.

17:00 **Stop 8. Gonies Section**: Over the village of Gonies and along a section of about 2 kms the upper nappes of Crete are exposed. From the upper most Ophiolites, a road drives to the lower Pindos, and Tripolitsa nappes.

19:00 Arrival at Heraklion

**Thursday March 29: Neotectonics and recent uplift**

08:30 Departure from Hotel

09:00 **Stop 9. The PQ Unit at Pantanassa area**: Along the highway (needs attention) will see the prevailing deformation of PQ at central Crete (foliation, extensional ductile and semi ductile structures and boudinages) just 100 – 200 meters below Cretan detachment fault.

10:00 **Stop 10. Fodele fossils**: Along the highway (needs attention), very well preserved Upper Permian fossils can be seen at the base of the Plattenkalk unit. Rocks appear there in an inverted series.

11:15 **Stop 11. Lignite section at Spii Basin**: Along the regional road appear Upper Miocene sediments of the Spili Basin containing lignite deposits as well as Upper Miocene fossils. Similar rocks can be found further lower on topography in the Plakias basin.

12:00 **Stop 12. Kourtaliotis gorge and Spring**: Kourtaliotis is an impressive gorge developed in the Tripolitsa rocks due to the neotectonic activity at the Plakias basin. Cliffs are very steep and karstic erosion very intense. Gorge continuous at lower topographies forming the Preveli gorge and lagoon at the coast. A big Karstic spring occurs at the riverbed of Kourtaliotis.

13:30 **Lunch at Plakias**

15:00 **Stop 13. Plakias fault Scarp**: The southern edge of Plakias bay is bounded by a big normal fault zones that continues into the sea with impressive fault scarps.

16:00 **Stop 14. Amoudi raised beaches**: At nearby bay of Amoudi, a sea notch related with the 365 AD 8,2R can be observed over the sea level as well as older marine terraces related with the recent tectonic uplift of the island.
17:00 **Stop 15. Spili active fault:** Spili is considered one of the most active faults located on the island of Crete. Impressive fault scarps occur near to Spili village, with abundant shear sense indicators. Recent studies have identified at least five successive ruptures in the last 20000 years.

19:00 Arrival at Heraklion

**Friday March 30: Heraklion Basin development - Cultural visits.**

08:30 **Departure from Hotel**

09:00 **Stop 16 Archeological Museum of Heraklion** (optional, suggest to hire a tourist guide): A magnificent place to see the vast majority of the Minoan Period treasures of Crete and more. It has recently been renovated.

10:30 **Stop 18. Visit at Knossos Palace** (optional, suggest to hire a tourist guide)

11:00 Breakfast at Heraklion Hotel

13:00 **Lunch at Archanes village**

15:00 **Stop 19. Archanes fault and Giouchtas graben:** Archanes fault is the east bounding fault of the Giouchtas horst existing within the Heraklion Basin. Horst is intersected by younger northeast-southwest trending normal faults that create the newest depressions.

16:00 **Stop 20. Kalithea fault zone:** Near the village of Kalithea exists a northeast-southwest trending normal fault that continuous south of Knossos Palace and also north of Giouchtas horst. Is of the youngest faults in the area.

16:30 **Stop 21. Amnissos Santorini tsunami remnants:** Near Amnisos exists the Minoan “Villa with the lilies”, where Prof Marinatos claimed for first time on the effects of Santorini tsunami in Minoan civilization. Pumice remnants and also possible tsunami deposits can be found on the beach.

18:00 Return at Heraklion

**Saturday March 31:**


Stay in Hotel Avra in Rafina. *Doug, Emilie & Sofie: shuttle to hotel at 2:30 pm (14:30).*

Afternoon-evening trip to Athens: **ON YOUR OWN.** Go to Athens directly from airport by metro (departs every 30 min). Return to airport by metro and take shuttle or a taxi to hotel. Baggage storage at the airport: Care4bag (Next to Gate 1 in arrival hall); 3.50 euros for 6 hours small bag. **Metro Schedule:** departs airport at 00 min and 30 min; last train back leaves Syntagma at 23:06 (=11:06 pm), trip takes 40 min. Other transportation options take longer, may be cheaper. The Hotel shuttle must be requested at least 1 hr in advance (Tel.: +30 22940 22780; Viber: +30 6947630078) and then leaves the airport at 30 min after the hour until 2:30 am. Taxi or Uber will cost 20-25 Euros.

**Sunday April 1:**

Fly back to Eugene: Shuttle to airport at 8:00 am. Depart Turkish Air flight # 1846 at 10:10 am. Via Istanbul and San Francisco. Arrive Eugene at 8:08 pm (20:08). *Emilie, Doug and Sofie depart 6 am; shuttle at 4 am.*