Mukul Sharma Concentration and isotopic composition of Osmium
<mukul.sharma@dartmouth.edu>

We have recently found using limited high quality data that (1) Os is depleted near the surface and becomes enriched at ~500 m suggesting a nutrient-type behavior and (2) the surface mixed layer may have been impacted by anthropogenic inputs. These observations have provided new insights into the seawater Os geochemistry and are compelling enough to fully explore the behavior of Os in seawater and examine depth variations in Os isotope composition. I will propose to measure Os concentration and isotope composition in approximately a quarter of the number of profiles collected along the Atlantic zonal section. As the analysis is quite labor intensive I will propose to analyze about 160 samples (132 samples plus 28 replicates and blanks) over a period of three years. I will need about 250 ml of filtered water from each depth. I will request one berth for this sampling. The person responsible (me or a graduate student) will be prepared to assist others in sampling/filtration tasks as needed.