

## Guidelines GEOTRACES-PAGES Workshop 3-5 December 2018, Aix-en-Provence, France

Points to be considered by speakers, chairs and all participants in working toward general goals of the workshop. **Speakers** are encouraged to consider as many of these topics as possible in their presentations, with a view toward stimulating discussion during the working groups. **Chairs** are encouraged to direct working group discussion toward these goals. **Participants** are encouraged to come prepared to discuss and debate these topics, with slides that can be shown during working group sessions.

### **State of the art**

1) How are trace element and isotope proxies currently exploited to infer past ocean conditions relevant to your theme? Provide examples.

### **Open questions and scientific gaps**

- 2) What challenges or uncertainties accompany the interpretation of these proxies?
- 3) Are there points of disagreement concerning these interpretations? If so, then describe them.

### **Perspectives and Workshop Products**

- 4) How can data collected by GEOTRACES be used to reduce these uncertainties and/or resolve the points of disagreement?
- 5) How can relationships emerging from GEOTRACES data be used to devise new applications of trace elements and their isotopes as paleo proxies? (e.g., new isotope systems or combinations of proxies)
- 6) Which geographic sites should be sampled to reduce uncertainties, resolve disagreements, or develop new proxy applications?
- 7) Is there any technical development to be realized to reduce uncertainties and/or to resolve disagreements?
- 8) Which new activities (e.g., synthesis papers, working groups) should be organized at the workshop to help reduce uncertainties, resolve disagreements, or develop new proxy applications?
- 9) Which modeling approaches would you like to see developed to help to interpret your proxy distribution?