



**ICFE-10**

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# INTERNATIONAL CONFERENCE ON f-ELEMENTS (ICFE-10)

Including rare earths (Y, Sc, lanthanides) and actinides

*EPFL*, September 3-6, 2018

## PLENARY LECTURE

### Low-Oxidation State Rare-Earth Metals and Actinides

**William J. Evans**, Distinguished Professor  
Department of Chemistry  
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The latest results in the evolving story of the synthesis, characterization, and reactivity of complexes of +2 ions of the rare-earth metals and actinides will be presented as well as efforts to make complexes of +1 ions [1-3].

#### References

- [1] W.J. Evans, Tutorial on the Role of Cyclopentadienyl Ligands in the Discovery of Molecular Complexes of the Rare-Earth and Actinide Metals in New Oxidation States, *Organometallics* 35 (2016) 3088-3100.
- [2] D.H. Woen, W.J. Evans, Expanding the +2 Oxidation State of the Rare-Earth Metals, Uranium, and Thorium in Molecular Complexes, in: Bünzli, J.-C. G. and Pecharsky, V. K., *Handbook on the Physics and Chemistry of Rare Earths*, Elsevier Science, B.V., Amsterdam, 2016, Vol. 50, Ch. 293, pp. 337-394.
- [3] M.R. MacDonald, J.E. Bates, J.W. Ziller, F. Furche, W.J. Evans, Completing the Series of +2 Ions for the Lanthanide Elements: Synthesis of Molecular Complexes of Pr<sup>2+</sup>, Gd<sup>2+</sup>, Tb<sup>2+</sup>, and Lu<sup>2+</sup>, *J. Am. Chem. Soc.* 135 (2013) 9857-9868.