



# ChemForum

## Centro de Química Estrutural 2016 Autumn Edition



8<sup>th</sup> February, 12h, Anfiteatro Abreu Faro, Complexo Interdisciplinar, IST

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*“Application of transition metal complexes derived from amino acids in reductive and oxidative catalysis”*

Naturally occurring amino acids are readily-available and relatively cheap chiral building blocks for the design of transition metal catalysts. In recent years, our focus has been the preparation and application of transition metal catalysts for asymmetric catalysis, using amino acids such as L-tyrosine, L-phenylalanine and L-cysteine as scaffolds. Complexes of titanium, vanadium, iron and copper were employed as chiral catalysts in reactions such as reductive coupling of aldehydes, epoxidation of alkenes, sulfoxidation of organic sulphides and oxidative coupling of phenols. While a good catalytic activity was found in the majority of cases, overall enantioselectivity and product selectivity still require optimization. Nevertheless, these catalytic systems hold the potential to become efficient and selective with proper fine-tuning.