ZVE NA SEMINÁŘ

**Matrix metalloproteinases inhibition: from hope to disappointment**

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Program semináře, anotace přednášek:  
www.natur.cuni.cz/chemie/biochem/seminare
In 1962 was discovered the first enzyme capable to degrade collagen: the collagenase-1, latter named matrix-metalloproteinase-1 (MMP-1). Following this discovery, other enzymes able to degrade collagen were characterized (MMP-2, MMP-3, MMP-9...); the matrix metalloproteinase (MMP) family was established. Nowadays, the MMP family regroups 23 human proteases specialized in the proteolysis of components from the extra-cellular matrix, such as collagen.

Owing to the central role of collagen degradation in cancer development (tumor invasion and angiogenesis), a great hope was put in the inhibition of MMPs as an effective treatment for various cancer types. More than 50 inhibitors faced clinical trials, however none of them reached the market. Reasons for this failure include the lack of selectivity of these inhibitors and the poor understanding of the complex biology of the MMP family.

This talk will recount the story of the MMP field from a pharmaceutical point of view, describing the MMP family, their implications in various pathologies and the strategies implemented to inhibit these proteases.

**Curriculum Vitae**

**Education**

2009  
Master degree in organic chemistry, Montpellier University, Montpellier, France

2013  
PhD, Universidad CEU San Pablo, Madrid, Spain, Inhibition of matrix metalloproteinases

**Positions and Employment**

2007-2008  
Intern medicinal chemist at GlaxoSmithKline (GSK), Stevenage, United Kingdom

4-9.2009  
Intern medicinal chemist at Sanofi, Frankfurt-am-Main, Germany

2010-2013  
Ph.D. student, Universidad CEU San Pablo, Madrid, Spain

2014-today  
Postdoctoral researcher, IOCB, Prague, Czech Republic

**Awards**

2013  
Ramón Madroñero award of the Spanish Society of Medicinal and Therapeutic Chemistry for Excellent Young Scientists