

# College Seminar, Spring 2014: Fermat's Last Theorem

Main reference:

- H. Darmon, F. Diamond, R. Taylor: *Fermat's last theorem*. Download

All sections refer to the above paper.

## Schedule of Talks

- April 16th, **Overview**;  
Speaker: Professor Jürg Kramer
- April 23rd, **Elliptic curves, modular curves, modular forms over  $\mathbb{C}$** ; (Sections 1.1 and 1.2);  
Speaker: Miguel Daygoro Grados Fukuda
- April 30th, **Hecke operators, Hecke theory and the  $L$ -function attached to a cusp form**; (Sections 1.3 and 1.4);  
Speaker: Emre Can Sertoz
- May 7th, **Modular curves and modular forms over  $\mathbb{Q}$  and Hecke algebras**; (Sections 1.5 and 1.6);  
Speaker: Uğur Doğan
- May 14th, **The Shimura construction and the Taniyama-Shimura conjecture**; (Sections 1.7 and 1.8);  
Speaker: Gregor Bruns
- May 21st, **Galois representations and representations attached to elliptic curves**; (Sections 2.1 and 2.2);  
Speaker: Ana Maria Botero

- May 28th, **Galois cohomology and representations of  $G_{\mathbb{Q}_l}$** ; (Sections 2.3 and 2.4);  
Speaker: Eva Martinez
- June 4th, **Fontaine-Lafaille theory and deformations of representations**; (Sections 2.5 and 2.6);  
Speaker: Christian Wald
- June 11th, **Deformations of Galois representations and special cases**; (Sections 2.7 and 2.8);  
Speaker: Giulia Battiston
- June 18th, **From modular forms to Galois representations and back**; (Sections 3.1 and 3.2);  
Speaker: Barbara Jung
- June 25th, **Hecke Algebra, and isomorphism criteria**; (Sections 3.3 and 3.4);  
Speaker: Giovanni De Gaetano
- Jul 2nd, **The main theorem and applications**; (Sections 3.5 and 3.6).  
Speaker: Nicolas Schmidt