

EMMANUEL FERRER FLEGEAU

PhD in Organic Chemistry

Gargantilla del Lozoya – Madrid - Spain

Email: chemfunatics@gmail.com

PROFESSIONAL PROFILE

PhD in Organic Chemistry and science teacher with over seven years of teaching experience in Spanish secondary education, the International Baccalaureate (IB) and Edexcel A Levels. Experienced in teaching Chemistry, Biology and, to a lesser extent Mathematics and Physics in English, Spanish and French, preparing students for examinations, adapting content to different levels and providing individual support.

Master's degree in Secondary Education Teacher Training and an extensive international research background at the Universities of Edinburgh, Oxford and Tokyo, École Polytechnique and École Normale Supérieure. Additional experience in academic research and pharmaceutical R&D brings a practical, rigorous and interdisciplinary perspective to science teaching.

EDUCATION

- **PhD in Organic Chemistry** — University of Edinburgh (United Kingdom) · 29 June 2009 · Thesis: Palladium Cross-Couplings of Oxazoles
- **Diplôme d'Ingénieur Chimiste** (Master's level engineering degree in Chemistry) — ECPM, Université de Strasbourg (France) · 19 November 2003
- **DEA in Organic Chemistry** (postgraduate research diploma) — Université Louis Pasteur (France) · 2002–2003
- **Licenciatura in Chemistry** (Spanish four years bachelor degree) — Universidad Autónoma de Madrid · 22 September 2003
- **Master's degree in Secondary Education Teacher Training** — Universidad de Alcalá · 14 December 2018

TEACHING EXPERIENCE

Science Teacher — Chemistry, Physics, Biology and Mathematics

Spanish secondary education (ESO and Bachillerato), IB Diploma Programme and Edexcel A Levels | 2017–2025

Over seven years of experience teaching science in schools and tutoring academies at secondary and upper-secondary levels. Specialised in Chemistry and Physics, with additional experience in Biology and Mathematics, across both the Spanish education system and international IB and Edexcel A Level programmes.

Teaching in English, Spanish and French. Experienced in lesson planning, adapting content to different levels, monitoring individual progress, answering students' questions and preparing students for examinations.

- **Virtus College** — Chemistry and Biology teacher: IB and International A Levels (Edexcel IAS/IA2), taught in English.
1 September 2023 – 30 June 2025
- **Think Ahead Academy** — IB Chemistry SL and HL teacher, teaching in English and Spanish.
14 August 2023 – 11 June 2025
- **Gredos San Diego** — Physics, Chemistry and Mathematics teacher for Spanish lower-secondary education (ESO), taught in Spanish; IB Chemistry teacher, taught in English.
1 September 2020 – 31 August 2022
- **Ibn Gabirol–Colegio Estrella Toledano** — Physics, Chemistry and Mathematics teacher for Spanish lower-secondary education (ESO), taught in English; IB Chemistry teacher, taught in Spanish.
28 September 2018 – 1 September 2020
- **Lycée Français de Madrid** — Physics and Chemistry teacher, teaching in French.
8 September 2017 – 11 June 2018

RESEARCH EXPERIENCE

- **University of Oxford** (United Kingdom) — Postdoctoral Research Associate · February 2014 – September 2015
- **École Polytechnique** (France) — Marie Curie Fellow · January 2011 – December 2013
- **École Normale Supérieure** (France) — Postdoctoral Researcher · January 2010 – January 2011
- **University of Tokyo** (Japan) — Postdoctoral Researcher · June 2008 – September 2009
- **University of Edinburgh** (United Kingdom) — PhD Researcher · August 2004 – June 2008

INDUSTRIAL R&D EXPERIENCE

Novalix Pharma (in collaboration with Lilly Pharma) — Project Manager · 5 Oct 2015 – 19 Apr 2017

GlaxoSmithKline R&D (United Kingdom) — Researcher (Industrial PhD) · 2007

CHEMICAL ENGINEERING AND INDUSTRIAL EXPERIENCE

- **DuPont de Nemours (United Kingdom)** — Student Engineer · 1 Aug 2001 – 30 Aug 2002
- **Soluziona** (Mexico) — Water Treatment Plant · Jul 2001
- **GDF Dental Polymers** (Germany) — Polymer R&D · 19 Jul 1999 – 17 Aug 1999

ADDITIONAL TRAINING

Artificial Intelligence Course — IBM SkillsBuild / DataHack · 60 hours · 2025

LANGUAGES

Spanish & French: mother tongues; English: Fluent

SCIENTIFIC PUBLICATIONS

1. **Lenstra, D. C.; Vedovato, V.; Ferrer Flegeau, E.; Maydom, J.; Willis, M. C.** (2016). One-Pot Sulfoxide Synthesis Exploiting a Sulfinyl-Dication Equivalent Generated from a DABSO/Trimethylsilyl Chloride Sequence. *Organic Letters*, 18, 2086–2089. DOI: 10.1021/acs.orglett.6b00712
 2. **Ferrer Flegeau, E.; Harrison, J. M.; Willis, M. C.** (2016). One-Pot Sulfonamide Synthesis. Exploiting the Palladium-Catalyzed Sulfinylation of Aryl Iodides. *Synlett*, 27, 101–105. DOI: 10.1055/s-0035-1560578
 3. **Fabre, I.; von Wolff, N.; Le Duc, G.; Ferrer Flegeau, E.; Bruneau, C.; Dixneuf, P. H.; Jutand, A.** (2013). Autocatalytic Intermolecular versus Intramolecular Deprotonation in C-H Bond Activation of Functional Arenes by Ruthenium(II) or Palladium(II) Complexes. *Chemistry – A European Journal*, 19, 7595–7604. DOI: 10.1002/chem.201203813
 4. **Ferrer Flegeau, E.; Bruneau, C.; Dixneuf, P. H.; Jutand, A.** (2011). Autocatalysis for C-H Bond Activation by Ruthenium(II) Complexes in Catalytic Arylation of Functional Arenes. *Journal of the American Chemical Society*, 133, 10161–10170. DOI: 10.1021/ja201462n
 5. **Jimenez-Aquino, A.; Ferrer Flegeau, E.; Schneider, U.; Kobayashi, S.** (2011). Catalytic Intermolecular Allyl-Allyl Cross-Couplings Between Alcohols and Boronates. *Chemical Communications*, 47, 9456–9458. DOI: 10.1039/c1cc13348a
 6. **Ferrer Flegeau, E.; Schneider, U.; Kobayashi, S.** (2009). Palladium(0) versus Nickel(0) Catalysis in Selective Functional-Group-Tolerant sp³-sp³ Carbon-Carbon Bond Formations. *Chemistry – A European Journal*, 15, 12247–12254. DOI: 10.1002/chem.200902221
 7. **Ferrer Flegeau, E.; Popkin, M. E.; Greaney, M. F.** (2008). Direct Arylation of Oxazoles at C2. *Organic Letters*, 10, 2717–2720. DOI: 10.1021/ol800869g
 8. **Ferrer Flegeau, E.; Popkin, M. E.; Greaney, M. F.** (2008). Regioselective Palladium Cross-Coupling of 2,4-Dihalooxazoles: Convergent Synthesis of Trisoxazoles. *Journal of Organic Chemistry*, 73, 3303–3306. DOI: 10.1021/jo800121y
 9. **Ferrer Flegeau, E.; Popkin, M. E.; Greaney, M. F.** (2006). Suzuki Coupling of Oxazoles. *Organic Letters*, 8, 2495–2498. DOI: 10.1021/ol060591j
 10. **Ferrer Flegeau, E.** (2009). *Palladium Cross-Couplings of Oxazoles*. PhD Thesis, University of Edinburgh. <https://era.ed.ac.uk/items/c4425cb0-d23f-4590-a5f1-ed24c75d2005>
-