

## Curriculum vitae

**First name:** Alina

**Last name:** GHINET

**Date and place of birth:** 21st of June 1982, Onesti, Romania

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### MEDICINAL CHEMISTRY RESEARCHER

#### PROFESSIONAL EXPERIENCE

- **2013** (mai) / (october) **2015: Project leader** PN-II-RU-PD-2012-3-0426 « *5,6-Fused bicyclecontaining heteroaromatics as potential selective anticancer agents: design, synthesis and bioactivity* », **Faculty of Chemistry**, Alexandru Ioan Cuza University of Iasi, Romania.
- **2011** (october) / (september) **2012: Postdoctoral Position** in « *Scaffold-hopping strategy: synthesis and biological evaluation of 5,6-fused bicyclic heteroaromatics and azachalcones as anticancer and antivasular agents* », **Organic Chemistry Laboratory**, Faculty of Chemistry, “Al. I. Cuza” University, Iasi, Romania.
- **2010** (October) / (September) **2011: Research Engineer** in « *Design, synthesis and biological evaluation of new molecules with anticancer potential and their valorization* », Pharmacochemistry Laboratory, Ecole des Hautes Etudes d’Ingénieur (HEI), Lille Catholic University, France.
- **2007** (October) / (September) **2010: PhD Thesis** « *Design, synthesis and pharmacological evaluation of dual inhibitors of farnesyltransferase and tubulin polymerization* », realized at the Pharmacochemistry Laboratory, HEI, Lille.
- **2009** (September) / **2012: Assistant Professor**, Faculté Libre des Sciences et Technologies (FLST), Lille Catholic University – lectures and tutorials (TD) of crystallography, general chemistry tutorials and organic and mineral chemistry practical works (TP); organic chemistry practical works (TP) at HEI.
- **2008** (April) / (April) **2009: Assistant Professor: Institut Supérieur d’Agriculture (ISA Group)**, Lille – Lecture « *Chemical analysis applied to food sciences* » and related

practical works (TP); Faculté Libre de Médecine (FLM), Lille Catholic University – general chemistry tutorials (ED); FLST – mineral chemistry practical works (TP).

**2007** (February) / (September): Work experience on « *Parallel synthesis* », **SERVIER Research Institute, Paris**, (Croissy-sur-Seine).

**2006** (October) / (January) **2007**: Work experience on « *Design and synthesis of new inhibitors of thioredoxin-1* », **Research Laboratory of ICPAL (Institut de Chimie Pharmaceutique Albert Lespagnol), Lille 2 University of Health and Law**, France.

**2005** (October) / (June) **2006**: Work experience on « *Design and synthesis of novel 2,5dihydropyrazolo-[4,3-c]-quinolein-3-ones, potential ligands of cannabinoids receptors* », **Research Laboratory of ICPAL, Lille 2 University of Health and Law**, France.

**2006** (28th-29th september): Participation to the XIth Francophone Summit-connection agent for the Romanian delegation, Bucharest, Romania.

**2005** (4th-16th july): Participation to the Biochemistry Francophone Summer School (École d'été francophone – Biochimie) in Arad, Romania (in collaboration with Lille 1 University).

## EDUCATION

- **2013/2014** : Habilitation to direct PhD theses (**Habilitation à Diriger des Recherches**), (21/02/2014), **Lille 2 University of Health and Law**, France.

- **2007/2010: PhD Thesis** (October 1<sup>st</sup>, 2007 - September 24<sup>th</sup>, 2010) co-financed by HEI and Conseil Régional Nord-Pas-de-Calais, Drug Sciences Specialty, mention **Très Honorable**.

**2007/2008: Mastère degree in "Drug Design"** at ICPAL (Lille 2 University) and National Graduate School of Engineering Chemistry of Lille (École Nationale Supérieure de Chimie de Lille - ENSCL), mention **Bien**.

- **2005/2007:** Master Degrees obtained in parallel:

**Master M1+M2 "Drug Conception"** at ICPAL, Lille 2 University, mention **Bien** ;

**Master M1+M2 "Chemistry and biochemistry of heterocyclic compounds"**, Faculty of Chemistry, "Al. I. Cuza University", Iasi, Romania, mention **Très-bien**.

- **2001/2005:** **Academic bachelor degree (licence) in Chemistry\*** Faculty of Chemistry, "Al. I. Cuza University", Iasi, Romania, average 9,9 / 10.

\* *In Romania, the total duration of studies to reach the Bachelor's degree level was, until 2008, of 4 years.*

□ **2001: Scientific Bacalaureate**, option Chemistry-Biology, National College “Gr. C. Moisil”, Onesti, Romania, average 9,6 / 10.

#### COMPETENCES (other than chemist)

- **Biological:** Development and/or realization of pharmacological tests on tubulin and on farnesyltransferase.
- **Linguistic:** French (bilingual); English (read, spoken, written); Italian (notions); Romanian (mother tongue).
- **Computing:** Office, scientific software (SciFinder, ChemDraw, IsisDraw).

#### DISTINCTIONS 2009-2014

- **Laureate award « L’Oréal/Unesco – For women in science » november 2009, Paris.**
- Main organizer of the **1<sup>st</sup> French-Romanian Colloquium on Medicinal Chemistry** (October, 07-08 2010), **2<sup>nd</sup> French-Romanian Colloquium on Medicinal Chemistry** (October, 03-05 2012) and **3<sup>rd</sup> French-Romanian Colloquium on Medicinal Chemistry** (October, 30-31 2014) Iasi, Romania.
- **Laureate STAGES** (Structural Transformation to Achieve Gender Equality in Science),

**Women’s Annual Science and Technology Day, Distinction for Young Researchers 2014**, FP7, 28 of March 2014, Iasi.

#### SCIENTIFIC SUPERVISION

**1 PhD student** (2014-2017), **8 Master 2** students (France and Romania), participated to the scientific supervision of **5 PhD theses**, **3 BTS Chimie** (Valenciennes, France).

**B3. Defining elements of the remarkable scientific achievements of the project leader**(*max 4 pages*)

**B3.1** *The list of the most important scientific publications from 2004-2014 period (articles, monographs, patents, books, chapters, critical editions, dictionaries or encyclopaedias).*

Published articles [A. Ghinet in the inhibitors of tubulin polymerization domain](#):

**A1.** Alina GHINET, Cristina-Maria ABUHAIE, Philippe GAUTRET, Benoît RIGO, Joëlle DUBOIS, Amaury FARCE, Dalila BELEI, and Elena BÎCU. **Studies on indolizines. Evaluation of their biological properties as microtubule-interacting agents and as melanoma targeting compounds.** *European Journal of Medicinal Chemistry*, **2015**, 89, 115127. DOI: 10.1016/j.ejmech.2014.10.041. [IF: 3.432](#).

A2. Alina GHINET, Philippe GAUTRET, Nathalie VAN HIJFTE, Bertrand LEDÉ, Jean-Pierre HÉNICHART, Elena BÎCU, Benoît RIGO, Ulrich DARBOST, and Adam DAÏCH. **Eaton's**

**Reagent-Mediated Domino  $\pi$ -Cationic Arylations of Aromatic Carboxylic Acids into IasiRed Polymethoxylated-PAHs. Products with Unprecedented Biological Activities as Potent Tubulin Polymerization Inhibitors.** *Chemistry-A European Journal*, **2014**, 20, 10117–10130.

DOI: 10.1002/chem.201402377. IF: 5.696.

A3. Cristina-Maria ABUHAIE, Elena BÎCU, Benoît RIGO, Philippe GAUTRET, Dalila BELEI, Amaury FARCE, Joelle DUBOIS, Alina GHINET.\* **Synthesis and anticancer activity of analogues of phenstatin, with a phenothiazine A-ring, as a new class of microtubuletargeting agents** *Bioorganic & Medicinal Chemistry Letters*, **2013**, 23, 147-152.

\*Corresponding author. IF: 2.331.

A4. Vivien STOCKER, Alina GHINET, Marie LEMAN, Benoît RIGO, Régis MILLET, Amaury FARCE, Déborah DESRAVINES, Joelle DUBOIS, Christophe WATERLOT, Philippe GAUTRET. **On the synthesis and biological properties of isocombretastatins: a case of ketone homologation during a Wittig reaction attempt.** *RSC Advances*, **2013**, 3, 3683-3696.

IF: 3.708.

A5. Alina GHINET, Aurélien TOURTEAU, Benoît RIGO, Vivien STOCKER, Marie LEMAN, Amaury FARCE, Joëlle DUBOIS, Philippe GAUTRET. **Synthesis and biological evaluation of fluoro analogues of antimetabolic phenstatin.** *Bioorganic & Medicinal Chemistry*, **2013**, 21, 2932-2940. IF: 2.951.

A6. Alina GHINET, Benoît RIGO, Jean-Pierre HÉNICHART, Delphine LE BROCRYCKEWAERT, Jean POMMERY, Nicole POMMERY, Xavier THURU, Bruno QUESNEL, Philippe GAUTRET. **Synthesis and biological evaluation of phenstatin metabolites.**

*Bioorganic & Medicinal Chemistry*, **2011**, 19, 6042-6054. IF: 2.951.

**A7.** Delphine LE BROC-RYCKEWAERT, Nicole POMMERY, Jean POMMERY, Alina GHINET, Amaury FARCE, Jean-François WIART, Philippe GAUTRET, Benoît RIGO, JeanPierre HENICHART. ***In vitro* metabolism of phenstatin: potential pharmacological consequences.** *Drug Metabolism Letters*, **2011**, 5, 209-215.

Published articles **A. Ghinet** in the human protein farnesyltransferase inhibitors domain:

**A1.** Gina-Mirabela DUMITRIU, Alina GHINET, Elena BÎCU, Benoît RIGO, Joëlle DUBOIS, Amaury FARCE, Dalila BELEI. **Peptide chemistry applied to a new family of phenothiazinecontaining inhibitors of human farnesyltransferase.** *Bioorganic & Medicinal Chemistry Letters*, **2014**, 24, 3180-3185. **IF: 2.331.**

**A2.** Carmen DUMEA, Dalila BELEI, Alina GHINET, Joëlle DUBOIS, Amaury FARCE, Elena BÎCU. **Novel indolizine derivatives with unprecedented inhibitory activity on human farnesyltransferase.** *Bioorganic & Medicinal Chemistry Letters*, **2014**, Accepted manuscript.

DOI: 10.1016/j.bmcl.2014.10.044. **IF: 2.331.**

**A3.** Cristina-Maria ABUHAIE,\* Alina GHINET,\* Amaury FARCE, Joelle DUBOIS, Philippe GAUTRET, Benoît RIGO, Dalila BELEI, Elena BÎCU. **Synthesis and biological evaluation of a new series of phenothiazine-containing protein farnesyltransferase inhibitors.** *European Journal of Medicinal Chemistry*, **2013**, 59, 101-110.\*These authors have made equal contributions. **IF: 3.432.**

**A4.** Cristina-Maria ABUHAIE,\* Alina GHINET,\* Amaury FARCE, Joelle DUBOIS, Benoît RIGO, Elena BÎCU. **Synthesis and biological evaluation of a new series of N-ylides as protein farnesyltransferase inhibitors.** *Bioorganic & Medicinal Chemistry Letters*, **2013**, 23, 5887-5892. \* These authors have made equal contributions. **IF: 2.331.**

**A5.** Dalila BELEI, Carmen DUMEA, Alexandrina SAMSON, Amaury FARCE, Joëlle DUBOIS, Elena BÎCU, Alina GHINET. \* **New Farnesyltransferase Inhibitors**

**in the Phenothiazine Series.** *Bioorganic & Medicinal Chemistry Letters*, **2012**, *22*, 4517-4522.

\*Corresponding author. [IF: 2.331](#).

**A6.** Lavinia BACIU-ATUDOSIE,\* [Alina GHINET](#),\* Amaury FARCE, Joëlle DUBOIS, Dalila BELEI, Elena BÎCU. **Synthesis and biological evaluation of new phenothiazine derivatives bearing a pyrazole unit as protein farnesyltransferase inhibitors.** \*These authors have made equal contributions. *Bioorganic & Medicinal Chemistry Letters*, **2012**, *22*, 6896-6902. [IF: 2.331](#).

**A7.** Gina-Mirabela DUMITRIU, [Alina GHINET](#), Elena BÎCU, Benoît RIGO, Philippe GAUTRET, Joëlle DUBOIS, Dalila BELEI. **Investigation of new phenothiazine and carbazole derivatives as potential inhibitors of human farnesyltransferase.** *Letters in Drug*

*Design & Discovery*, **2015**, *12*, accepted manuscript.  
DOI:

10.2174/1570180811666140909010435. [IF: 0.961](#).

**A8.** [Alina GHINET](#), Benoît RIGO, Joëlle DUBOIS, Amaury FARCE, Jean-Pierre HÉNICHART, Philippe GAUTRET. **Discovery of ferrocene-containing farnesyltransferase inhibitors. Investigation of bulky lipophilic groups for the A<sub>2</sub> binding site of farnesyltransferase.** *Medicinal Chemistry Communications*, **2012**, *3*, 1147-1154. [IF: 2.626](#).

[Book chapter-synthesis of platform molecules for the sythesis of new dual agents:](#)

Adam DAICH, [Alina GHINET](#), Benoît RIGO. **Addition to N-acyliminium ions of a heteroatom such as oxygen, nitrogen, sulfur and selenium as internal nucleophiles.** Invited review. *Comprehensive Organic Synthesis II<sup>nd</sup> Edition*, Molander, G., Knochel, P., Eds.; Pergamon Press: Oxford, **2014**, Vol. 2, Chap. 2.21; pp. 682-742.

[Patent demand:](#)

**P1.** A patent demand entitled « **Azabulines** » was deposited on April 2014. Authors: Philippe GAUTRET, Benoît RIGO, Souhila OUDIR, [Alina GHINET](#).

**B3.2.** *The autonomy and visibility of the scientific activity.*

Please indicate a number of **maximum 5 factual arguments** of the high degree of autonomy of the research activity developed by the project leader. The arguments can belong to one or more of the following categories, but not necessarily from all categories: (1) the articles where the project leader is *a main author* (2) research fellowships, academic grants where the project leader was the principal investigator (PI) or project coordinator<sup>1</sup> (3) total number of citations; (4) international prizes (5) oral presentations at international conferences (6) status of invited speaker to prestige universities<sup>2</sup>.

*(1) the articles where the project leader is a main author:*

Author or coauthor of **26 scientific articles**, 1 book chapter, 1 review and 1 patent demand among which main author as first author of 9 articles and corresponding author of 6 articles and 1 review.

*(2) research fellowships, academic grants where the project leader was the principal investigator (PI) or project coordinator<sup>3</sup>*

- 12 months of postdoctoral fellowship in the frame of the project POSDRU/89/1.5/S/63663, title: „*Scaffold-hopping strategy: synthesis and biological evaluation of 5,6-fused bicyclic heteroaromatics and azachalcones as anticancer and antivascular agents*“, funding agency: European Social Funding, total amount in euro: 15000 euro, and ongoing period: 01/10/2011-30/09/2012.
- Leader of the project PN-II-RU-PD-2012-3-0426, entitled: „*5,6-Fused bicycle-containing heteroaromatics as potential selective anticancer agents: design, synthesis and bioactivity*“, funding agency: UEFISCDI, total amount in euro: 69371,63 euro, and ongoing period: 01/05/2013-31/10/2015.

*(3) total number of citations:*

**50 citations** (attached file)

*(4) international prize:*

« **L'Oréal/Unesco – For women in Science** » November 2009, Paris.

*(5) oral presentations at international conferences:*

**5 Invited conferences:**

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<sup>1</sup> for each grant will be given the following concise information: title, funding agency, total amount in euros, the ongoing period and web link;

<sup>2</sup> only 500 top universities, according to ARWU 2011 Ranking, [www.arwu.org](http://www.arwu.org)

<sup>3</sup> for each grant will be given the following concise information: title, funding agency, total amount in euros, the ongoing period and web link;

**Conf 1.** Alina Ghinet « **From microtubule-interacting agents to dual molecules acting on proteins farnesyltransferase and tubulin** », October, 30-31 **2014**, *3<sup>rd</sup> French-Romanian Colloquium on Medicinal Chemistry*, « Al. I. Cuza » University of Iasi, Romania.

**Conf 2.** Alina Ghinet « **How important is the trimethoxy unit in the structure of tubulin polymerization inhibitors** », October, 03-05 **2012**, *2<sup>nd</sup> French-Romanian Colloquium on Medicinal Chemistry*, « Al. I. Cuza » University of Iasi, Romania.

**Conf 3.** Alina Ghinet « **Serendipity cascade reaction leading to red polycyclic compounds** », 10-13 decembrie **2011**, *3<sup>rd</sup> International Conference on Heterocyclic Chemistry*, University of Rajasthan, Jaipur, India.

**Conf 4.** Alina Ghinet « **Réactions en cascade, découverte d'une nouvelle classe d'inhibiteurs de la polymérisation de la tubuline** », October, 08 **2010**, *1<sup>st</sup> French-Romanian Colloquium on Medicinal Chemistry*, « Al. I. Cuza » University of Iasi, Romania.

**Conf 5.** Alina Ghinet « **Innovation thérapeutique en HEI : du fondamental au médicament potentiel** », April, 26 **2010**, *Doctoral School of Chemistry*, « Al. I. Cuza » University of Iasi, Romania.