BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Vasco Miguel Candeias Cachatra	PhD Student

EDUCATION / TRAINING

INSTITUTION AND LOCATION	DEGREE	DATE	FIELD OF STUDY
Universidade de Lisboa, Faculdade de Ciências	PhD	Ongoing	Organic Chemistry
Universidade de Lisboa, Faculdade de Ciências	Master	11/12	Chemistry, Health and Nutrition
Universidade de Lisboa, Faculdade de Ciências	Graduation	07/10	Chemistry

Scientific Interests

Organic synthesis. Carbohydrate chemistry. Structure elucidation by spectroscopic techniques.

Research Activity

- 01.01.2013 – ongoing: PhD studentship, entitled “New synthetic strategies and structural optimization of the sugar moiety from a selective butyrylcholinesterase inhibitor”, supervised by Prof. Amélia P. Rauter (CQB-FCUL);
- 01.09.2011 – 31.12.2012: BI research fellowship in the project FACIB – Novos fármacos a partir de açúcares para o combate de infecções por *Bacillus* (QREN – SI I&DT Co-Promoção Projecto nº 21547), Carbohydrate Chemistry Group, Centre of Chemistry and Biochemistry, Faculdade de Ciências, Universidade de Lisboa (CQB-FCUL);
- 01.09.2011 – 20.11.2012: Master thesis, entitled “Química exploratória para o desenvolvimento de novos agentes antimicrobianos a partir de açúcares”, supervised by Prof. Amélia P. Rauter (CQB-FCUL) and co-supervised by Drª Dália Barbosa (CIPAN).

- 01.09.2010 – 31.08.2011: BIC research fellowship in the project PTDC/QUI-QUI/098053/2008 - Novos inibidores de IDO (indoleamina 2,3-dioxigenase) extraídos de esponjas marinhas do género *Erylus*, Structure and Reactivity Group, Centre of Chemistry and Biochemistry, Faculdade de Ciências, Universidade de Lisboa (CQB-FCUL);

- 01.09.2009 – 30.06.2010: BII research fellowship in the project Esponjas marinhas como fonte de novos compostos bioactivos,Structure and Reactivity Group, Centre of Chemistry and Biochemistry, Faculdade de Ciências, Universidade de Lisboa (CQB-FCUL);

- 01.09.2008 – 31.07.2009: Graduation thesis, entitled "Produtos Naturais de Invertebrados Marinhos Portugueses: Isolamento, Caracterização e Potencial Actividade Quimioterápica", supervised by Prof. Susana Santos (CQB-FCUL) and Drª Helena Gaspar (INETI);

Publications

Papers in peer reviewed journals

"Revisiting Wittig Olefination and Aza-Wittig Reaction for Carbohydrate Transformations and Stereocontrol in Sugar Chemistry" Vasco Cachatra, Amélia P. Rauter, *Current Organic Chemistry*, **2014**, *18 (13)*, 1731-1748;

"Tuning the Bioactivity of Tensioactive Deoxy Glycosides to Structure: Antibacterial Activity Versus Selective Cholinesterase Inhibition Rationalized by Molecular Docking", Alice Martins, Maria S. Santos, Catarina Dias, Patrícia Serra, Vasco Cachatra, João Pais, João Caio, Vítor H. Teixeira, Miguel Machuqueiro, Marta S. Silva, Ana Pelerito, Jorge Justino, Margarida Goulart, Filipa V. Silva, Amélia P. Rauter, *European Journal of Organic Chemistry*, *2013*, **2013**, 8, 1448-1459;

Book chapters

"An overview of key routes for the transformation of sugars into carbasugars and related compounds", Raquel G. Soengas, José M. Otero, Amalia M. Estévez, Amélia P. Rauter, Vasco Cachatra, Juan C. Estévez and Ramón J. Estévez, *Carbohydrate Chemistry: Volume 38*, **2012**, *38*, 215-262;

Conferences (communications, participation, organization)

*Oral communications (*presenting author)*

"Sugar-based surfactants as selective antimicrobial agents: a multidisciplinar approach", Alice Martins, Vasco Cachatra, Catarina Dias, João Pais, Patrícia Serra, Maria Soledade Santos, Amélia Pilar Rauter*, 10º Encontro Nacional de Química Orgânica, 1º Encontro Luso-Brasileiro de Química Orgânica, Lisbon, Portugal, September 2013;

"Synthesis of Novel Antimicrobial Glycosides selective for *Bacillus sp*.", Amélia Pilar Rauter*, Alice Martins, Maria Soledade Santos, Catarina Dias, Patrícia Serra, Vasco Cachatra, Jorge Justino, Maria Goulart, Ana Pelerito, 17th European Carbohydrate Symposium, Tel-Aviv, Israel, July 2013;

"Synthetic Studies on Miharamycins Sugar Moiety and Analogues", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, 3rd National Meeting on Medicinal Chemistry, Aveiro, Portugal, November 2012;

"Synthesis of aklyl deoxy pentopyranosides and their potential application as antimicrobial agents", Patrícia Serra*, Vasco Cachatra, Alice Martins, Amélia Pilar Rauter, 26th International Carbohydrate Symposium – 26th ICS 2012, Madrid, Spain, July 2012;

"New Synthetic Approach towards the Miharamycin Sugar Moiety", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, 3rd Portuguese Young Chemists Meeting – 3rd PYCheM, FCUP (Faculdade de Ciências da Universidade do Porto), Porto, Portugal, May 2012;

Poster communications (presenting author)*

"Chemical tuning of nucleoside-based butyrylcholinesterase inhibitors", Vasco Cachatra*, Andreia Almeida, Sven Bettermann, Michaël Cueto, Catarina Dias, Nuno M. Xavier, Amélia P. Rauter, CQB Day, Lisbon, Portugal, July 2014;

"Study on Wittig olefination for the synthesis of carbohydrate-based butyrylcholinesterase inhibitors", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, 4th Portuguese Young Chemists Meeting - 4thPYCHEM, Universidade de Coimbra, Coimbra, Portugal, May 2014;

"Exploratory chemistry for the synthesis of antimicrobial agentes starting from sugars", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, 10º Encontro Nacional de Química Orgânica, 1º Encontro Luso-Brasileiro de Química Orgânica, Lisbon, Portugal, September 2013;

"Synthesis and surface activity of alkyl 2-deoxyglycosides as original structures for utilization as antimicrobial agentes", Patrícia Serra*, Vasco Cachatra, Alice Martins, Maria Soledade Santos, Amélia Pilar Rauter, 10º Encontro Nacional de Química Orgânica, 1º Encontro Luso-Brasileiro de Química Orgânica, Lisbon, Portugal, September 2013;

"Synthesis of new sugar nucleoside precursors of potential application for Alzheimer's disease", Andreia Almeida*, Vasco Cachatra, Amélia Pilar Rauter, 10º Encontro Nacional de Química Orgânica, 1º Encontro Luso-Brasileiro de Química Orgânica, Lisbon, Portugal, September 2013;

"New synthetic route for nucleosides with potential application as butyrylcholinesterase inhibitors", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, CQB Day, Lisboa, Portugal, July 2013;

"Synthetic studies on precursors of nucleosides with application in neurodegenerative diseases", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, 10th Carbohydrate Bioengineering Meeting, Prague, Czech Republic, April 2013;

"Synthesis of alkyl 2-deoxyglycosides: potential application as antimicrobial agents in health and biosecurity domains", Patrícia Serra*, Vasco Cachatra, Alice Martins, Amélia Pilar Rauter, 10th Carbohydrate Bioengineering Meeting, Prague, Czech Republic, April 2013;

"Chemical Tunning of Carbohydrate Based Molecules For Different Therapeutic Targets", Vasco Cachatra*, Catarina Dias, Andreia Almeida, Amélia Pilar Rauter, SYMPOSIUM ON RARE DISEASES:"Assessing the involvement of all stakeholders to improve healthcare", FCM-UNL (Faculdade de Ciências Médicas – Universidade Nova de Lisboa), Lisbon, Portugal, December 2012;

"Synthesis of alkyl deoxy glicosides and their potential as antimicrobial agents", Patrícia Serra*, Vasco Cachatra, João Pais, Alice Martins, Maria Soledade Santos, Amélia Pilar Rauter, 3rd National Meetin on Medicinal Chemistry, Aveiro, Portugal, November 2012;

"Targeting New Inhibitors of Enzymes Involved in Neurodegenerative Diseases by HTS of Portuguese Marine Sponges", Helena Gaspar, Vasco Cachatra, Sofia Frade, Vanda Monteiro, Nuno Neng, Joana Xavier, Marta Cerejo, Gonçalo Andreade, Susana Santos*, 9th IUPAC International Symposium on Biomolecular Chemistry &Eighth International Symposium for Chinese Medicinal Chemists - 8th ISCMC, Beijin, China, August 2012.

"Synthesis of aklyl deoxy pentopyranosides and their potential application as antimicrobial agents", Patrícia Serra*, Vasco Cachatra, Alice Martins, Amélia Pilar Rauter, 26th International Carbohydrate Symposium – 26th ICS 2012, Madrid, Spain, July 2012;

"Approach to the Synthesis of Butyrylcholinesterase Nucleoside Inhibitors", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, 26th International Carbohydrate Symposium – 26th ICS 2012, Madrid, Spain, July 2012;

"Exploring Erylus Sponges and its Microbiota as Source of New Bioactive Compounds", Helena Gaspar*, Ana Patrícia Graça, Inês Correia, Cátia Moreira, Joana Bondoso, Olga Maria Lage, Joana Xavier, Vasco Cachatra, Suana Santos, Bioalvo, 6th Spanish-Portuguese-Japanese Organic Chemistry Symposium – 6th SPJOCS, FCUL (Faculdade de Ciências da Universidade de Lisboa), Lisbon, Portugal, July 2012;

"Synthesis of Aklyl Deoxy Pentopyranosides/Hexapyranosides and Their Potential as Antimicrobial Agents", Alice Martins*, Patrícia Serra, Vasco Cachatra, Catarina Dias, João Pedro Pais, João Caio, Maria Soledade Santos, Ricardo Figueiredo, Dália Barbosa, Ana Pelerito, Jorge Justino, Margarida Goulart, Amélia Pilar Rauter, 6th Spanish-Portuguese-Japanese Organic Chemistry Symposium – 6th SPJOCS, FCUL (Faculdade de Ciências da Universidade de Lisboa), Lisbon, Portugal, July 2012;

"New Synthesis of Nucleosides with Application in Neurodegenarative Diseases", Vasco Cachatra*, Andreia Almeida, Amélia Pilar Rauter, 6th Spanish-Portuguese-Japanese Organic Chemistry Symposium – 6th SPJOCS, FCUL (Faculdade de Ciências da Universidade de Lisboa), Lisbon, Portugal, July 2012;

"Synthesis of Aklyl Glycosides with Potential Application as Antimicrobial Agents", Patrícia Serra*, Vasco Cachatra, Alice Martins, Amélia Pilar Rauter, 3rd Portuguese Young Chemists Meeting – 3rd PYCheM, FCUP (Faculdade de Ciências da Universidade do Porto), Porto, Portugal, May 2012;

"Approach to the Synthesis of Nucleoside Inhibitors of Butyrylcholinesterase", Andreia Almeida*, Vasco Cachatra, Amélia Pilar Rauter, 3rd Portuguese Young Chemists Meeting – 3rd PYCheM, FCUP (Faculdade de Ciências da Universidade do Porto), Porto, Portugal, May 2012;

As member of the local organizing committee

- 6th Spanish-Portuguese-Japanese Organic Chemistry Symposium – 6th SPJOCS, FCUL (Faculdade de Ciências da Universidade de Lisboa), Lisbon, Portugal, July 2012;
- Glycosciences in the International Year of Chemistry Applications to Human Health and Disease, FCUL, (Faculdade de Ciências da Universidade de Lisboa), Lisbon, Portugal, September 2011;
- CORM V, (carbohydrates as organic raw materials, building a sustainable future), FCUL (Faculdade de Ciências da Universidade de Lisboa), Lisbon, Portugal, January 2009;

Other activities

Other formation activities

- Update course of two days lectured by Prof. Dr. Jesus Jimenez-Barbero entitled "NMR and Molecular Recognition" at Faculdade de Ciências da Universidade de Lisboa, Lisbon, Portugal, February 2011.
- Update course of three days lectured by Prof. Dr. Hans Peter Wessel (Hoffman-La Roche) entitled "Industrial Drug Research" at Faculdade de Ciências da Universidade de Lisboa, Lisbon, Portugal, May 2010.
- Update course of three days lectured by Prof. Dr. Beat Ernst entitled "Molecular Mechanisms of Drugs" at Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal, September 2009.

Languages

Mother tongue: Portuguese

Other languages:

- English: excellent level of speaking, reading and writing
- French: medium level of speaking, reading and writing
- Spanish: medium level of speaking, reading and writing