Pr Isabelle SEGALAS-MILAZZO

Professor
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PROFESSIONAL EXPERIENCES

2008- **Professor**; Normandy University, University of Rouen, University Institute of Technology (IUT), Chemistry Department, France.
1997-2008 **Assistant Professor**; Normandy University, University of Rouen, Science and Technology Department, Chemistry Service, France.
1995-1997 **Postdoctoral Associate**; University of Rouen, France.

EDUCATION

2007 **Professorial thesis**, University of Rouen, France.
1994 **Ph.D.** Inorganic Chemistry, University of Paris XI-Orsay, France.
1991 **M.Sc.** Inorganic Chemistry University of Paris XI-Orsay, France.
done at the University of Montréal, Canada.

ADMINISTRATIVE & INSTITUTIONAL RESPONSIBILITIES

2016- **Member of Administration Board** of the University Institute of Technology (IUT), University of Rouen, France.
2015- **Member of Academic Board** of Normandy University, France.
2010- Member of the Advisor Commission of faculty specialists (CCSE, section 31) – University of Rouen, France.
1999- **Baccalaureate jury chairwoman**, Normandy, France.

RESEARCH INTERESTS

- Structural Biology
- Molecular Modelling
- Peptides (particularly neuropeptides) and protein domains
- Spectroscopic methods (NMR, CD, IR)
- Interactions between neuropeptides and GPCR

SCIENTIFIC ACHIEVEMENTS

31 publications in international peer-reviewed journals
1 book chapter
9 conference proceedings
10 oral communications and **40** posters in international congress
21 oral ommunications and **45** posters in national congress or regional symposia

SUPERVISION ACTIVITIES

9 doctoral student supervision (7 for 50% and 2 for 30%)
2 postgraduates supervision (for 50%)
8 Master 2 trainees supervision (8 for 50 % and 1 for 100 %)
6 Master 1 trainees supervision(4 for 50 % and 2 for 100 %)
1 CNAM engineer supervision (for 50 %)

TEACHING ACTIVITIES

2009- **Régional Delegate for French Olympiades de la Chimie**, Rouen Academy

2008- **Member of the Chemistry Department** of the University Institute of Technology (IUT), University of Rouen, France.

Disciplines taught : physical chemistry, general chemistry, kinetics, thermodynamics, spectral methods

DUT and professional degree trainee supervision

1997-2008 **Member of the Science and Technology Department**, Chemistry Service, University of Rouen, France.

Disciplines taught : physical chemistry, general chemistry, analytical chemistry, NMR, Molecular Modelling

PUBLICATIONS

Publications in international peer-reviewed journals

P31. *Characterization of β-turns by electronic circular dichroism spectroscopy: a coupled molecular dynamics and time-dependent density functional theory computational study.*
M. Migliore, A. Bonvicini, V. Tognetti, L. Guilhaudis, M. Baaden, H. Oulyadi, L. Joubert, I. Ségalas-Milazzo (2020) *Phys Chem Chem Phys.* 22, 1611-1623. **IF = 3,57**

P30. *Biochemical and biophysical combined study of bicarinalin, an ant venom antimicrobial peptide.*
N. Téné, E. Bonnafé, F. Berger, A. Rifflet., L. Guilhaudis, **I. Ségalas-Milazzo**, B. Pipy, A. Coste, J. Leprince & M. Treilhou (2016) *Peptides* 79, 103-13. **IF = 2,70**

P29. *Lethal neonatal progression of fetal cardiomegaly associated to ACAD9 deficiency.*
J. Lagoutte-Renosi, **I. Ségalas-Milazzo**, M. Crahes, F. Renosi, L. Menu-Bouaouiche, S. Torre, C. Lardennois, M. Rio, S. Marret, C. Brasse-Lagnel, A. Laquerrière & S. Bekri (2016) *J. of Inherited Metabolic Disease* 28, 1-10. **IF = 3,36**

P28. *Determination of Multimodal Isotopic Distributions: The Case of a ^{15}N Labeled Protein Produced into Hairy Roots.*
R. Trouillard, M. Hubert-Roux, V. Tognetti, L. Guilhaudis, C. Plasson, L. Menu-Bouaouiche, L. Coquet, F. Guerineau, J. Hardouin, J.P. Ele Ekouna, P. Cosette, P.

Lerouge, M. Boitel-Conti, C. Afonso & **I. Ségalas-Milazzo** (2015) *Anal. Chem.* 87, 5938-46. **IF = 5,64**

P27. *Molecular basis of agonist docking in a human GPR103 homology model by site-directed mutagenesis and structure-activity relationship studies.*
C. Neveu, F. Dulin, B. Lefranc, L. Galas, C. Calbrix, R. Bureau, S. Rault, J. Chuquet, J.A. Boutin, L. Guilhaudis, **I. Ségalas-Milazzo**, D. Vaudry, H. Vaudry, J.S. Santos & J. Leprince (2014) *Br. J. Pharmacol.* 171, 4425-39. **IF = 4,84**

P26. *Fluorinated pseudopeptide analogues of the neuropeptide 26RFa: synthesis, biological, and structural studies.*
C. Pierry, S. Couve-Bonnaire, L. Guilhaudis, C. Neveu, A. Marotte, B. Lefranc, D. Cahard, **I. Ségalas-Milazzo**, J. Leprince & X. Pannecoucke (2013) *Chembiochem.* 14, 1620-33. **IF = 3,06**

P25. *Rational design of a low molecular weight, stable, potent, and long-lasting GPR103 aza-β^3-pseudopeptide agonist.*
C. Neveu, B. Lefranc, O. Tasseau, J.C. Do-Rego, A. Bourmaud, P. Chan, P. Bauchat, O. Le Marec, J. Chuquet, L. Guilhaudis, J.A. Boutin, **I. Ségalas-Milazzo**, J. Costentin, H. Vaudry, M. Baudy-Floc'h, D. Vaudry & J. Leprince (2012) *J. Med. Chem.* 55, 7516-7524. **IF = 4,09**

P24. *In vivo and in vitro structure-activity relationships and structural conformation of Kisspeptin-10-related peptides.*
E. Gutierrez-Pascual, J. Leprince, A. J. Martinez-Fuentes, **I. Ségalas-Milazzo**, R. Pineda, J. Roa, M. Duran-Prado, L. Guilhaudis, E. Desperrois, A. Lebreton, L. Pinilla, M. C. Tonon, M. M. Malagon, H. Vaudry, M. Tena-Sempere & J. P. Castano (2009) *Mol. Pharmacol.* 76, 58-67. **IF = 4,89**

P23. *Molecular and conformational determinants of pituitary adenylate cyclase-activating polypeptide (PACAP) for activation of the PAC1 receptor.*
S. Bourgault, D. Vaudry, **I. Ségalas-Milazzo**, L. Guilhaudis, A. Couvineau, M. Laburthe, H. Vaudry & A. Fournier (2009) *J. Med. Chem.* 52, 3308-3316. **IF = 4,09**

P22. *Model of three-dimensional structure of the human urotensin-II receptor: docking of human urotensin-II and non-peptide antagonists in the binding site and comparison with an antagonist pharmacophore model.*
E. Lescot, J. Sopkova-de Oliveira Santos, N. Colloc'h, J. Rodrigo, **I. Milazzo-Ségalas**, R. Bureau & S. Rault (2008) *Proteins* 73, 173-184. **IF = 3,73**

P21. *Solution structure of urotensin-II receptor extracellular loop III & characterization of its interaction with urotensin-II.*
S. Boivin, **I. Ségalas-Milazzo**, L. Guilhaudis, H. Oulyadi, A. Fournier & D. Davoust (2008) *Peptides* 29, 700-710. **IF = 2,70**

P20. *Structure-activity relationships of urotensin II and URP.*

J. Leprince, D. Chatenet, C. Dubessy, A. Fournier, B. Pfeiffer, E. Scalbert, P. Renard, P. Pacaud, H. Oulyadi, **I. Ségalas-Milazzo**, L. Guilhaudis, D. Davoust, M. C. Tonon & H. Vaudry (2008) *Peptides* 29, 658-673. **IF = 2,70**

P19. *Solution structure of the region 51-160 of human KIN17 reveals an atypical Winged Helix domain.*
L. Carlier, J. Couprie, A. le Maire, L. Guilhaudis, **I. Milazzo-Ségalas**, M. Gondry, D. Davoust, B. Gilquin & S. Zinn-Justin (2007) *Protein Sci.* 16, 2750-2755. **IF = 3,46**

P18. *NMR assignment of region 51-160 of human KIN17, a DNA and RNA-binding protein.*
L. Carlier, A. le Maire, S. Braud, C. Masson, M. Gondry, S. Zinn-Justin, L. Guilhaudis, **I. Milazzo**, D. Davoust, B. Gilquin & J. Couprie (2006) *J. Biomol. NMR,* 36 Suppl. 1, 29. **IF = 1,79**

P17. *Characterization of Urotensin-II receptor structural domains involved in the recognition of U-II, URP, and Urantide.*
S. Boivin, L. Guilhaudis, **I. Milazzo**, H. Oulyadi, D. Davoust & A. Fournier (2006) *Biochemistry* 45, 5993-6002. **IF = 3,63**

P16. *Structural changes of region 1-16 of the Alzheimer disease amyloid ✂-peptide upon zinc binding and in vitro aging.*
S. Zirah, S. A. Kozin, A. K. Mazur, A. Blond, M. Cheminant, **I. Ségalas-Milazzo**, P. Debey & S. Rebuffat (2006) *J. Biol. Chem.* 281, 2151-2161. **IF = 5,81**

P15. *Structure and functions of the novel hypothalamic RFamide neuropeptides R-RFa and 26RFa in vertebrates.*
N. Chartrel, F . Bruzzone, J. Leprince, H. Tollemer, Y. Anouar, J.-C. Do-Rego, **I. Ségalas-Milazzo**, L. Guilhaudis, P. Cosette, T. Jouenne, G. Simonnet, J.-C. Beauvillain, J. Costentin & H. Vaudry (2006) *Peptides* 27, 1110-1120. **IF = 2,70**

P14. *Structural studies on 26RFa, a novel human RFamide-related peptide with orexigenic activity.*
R. Thuau, L. Guilhaudis, **I. Ségalas-Milazzo**, N. Chartrel, H. Oulyadi, S. Boivin, A. Fournier, J. Leprince, D. Davoust & H. Vaudry (2005) *Peptides* 26, 779-789. **IF = 2,70**

P13. *Structure-activity relationships and structural conformation of a novel urotensin II-related peptide.*
D. Chatenet, C. Dubessy, J. Leprince, C. Boularan, L. Carlier, **I. Ségalas-Milazzo**, L. Guilhaudis, H. Oulyadi, D. Davoust, E. Scalbert, B. Pfeiffer, P. Renard, M.-C. Tonon, I. Lihrmann, P. Pacaud & H. Vaudry (2004) *Peptides* 25, 1819-1830. **IF = 2,70**

P12. *Thermolysin-linearized microcin J25 retains the structured core of the native macrocyclic peptide and displays antimicrobial activity.*
A. Blond, M. Cheminant, D. Destoumieux-Garzon, **I. Ségalas-Milazzo**, J. Peduzzi, C. Goulard & S. Rebuffat (2002) *Eur. J. Biochem.* 269, 6212-6222. **IF = 3,58**

P11. *Conformational properties of ✂-dendrotoxin using electrospray mass spectrometry.*
H. Belva, **I. Ségalas-Milazzo** & C. Lange (2001) *Eur. J. Mass. Spectrom.* 7, 373-383. **IF = 1,44**

P10. *Solution structure of microcin J25, the single macrocyclic antimicrobial peptide of Escherichia coli.*
A. Blond, M. Cheminant, **I. Ségalas-Milazzo**, J. Peduzzi, M. Barthelemy, C. Goulard, R. Salomon, F. Moreno, R. Farias & S. Rebuffat (2001) *Eur. J. Biochem.* 268, 2124-2133. **IF = 3,58**

P9. *Spectroscopic structural study of the R2 repetition of the c-Myb transcription factor.*
P. Fuchs, **I. Ségalas**, F. Toma & A. J. P. Alix (2001) *J. Mol. Struct.* 563-564, 111-114. **IF = 1,50**

P8. *NMR studies of the R2 repeat and related peptide fragments of the DNA-binding domain of c-Myb. New light on the structure and folding of R2.*
I. Ségalas, S. Desjardins, H. Oulyadi, Y. Prigent, S. Tribouillard, E. Bernardi, A. R. Schoofs, D. Davoust & F. Toma (1999) *J. Chim. Phys.* 96, 1580-1584.

P7. *Characterization of a type of β-bend ribbon spiral generated by the repeating (Xaa-Yaa-Aib-Pro) motif: the solution structure of harzianin HC IX, a 14-residue peptaibol forming voltage-dependent ion channels.*
I. Ségalas, Y. Prigent, D. Davoust, B. Bodo & S. Rebuffat (1999) *Biopolymers* **50**, 71-85. **IF = 2,48**

P6. *Three-dimensional structure of the ion-channel forming peptide trichorzianin TAVII bound to sodium dodecyl sulfate micelles.*
E. Condamine, S. Rebuffat, Y. Prigent, **I. Ségalas**, B. Bodo & D. Davoust (1998) *Biopolymers* 46, 75-88. **IF = 2,48**

P5. *A particularly labile Asp-Pro bond in the green mamba muscarinic toxin. Effect of protein conformation on the rate of cleavage.*
I. Ségalas, R. Thaï, R. Ménez & C. Vita (1995) *FEBS Letters* 371, 171-175. **IF = 3,37**

P4. *Solution structure of a green mamba toxin that activates muscarinic acetylcholine receptors, as studied by Nuclear Magnetic Resonance and Molecular Modeling.*
I. Ségalas, C. Roumestand, S. Zinn-Justin, B. Gilquin, R. Ménez, A. Ménez, & F. Toma (1995) *Biochemistry* 34, 1248-1260. **IF = 3,63**

P3. *Solution structure determination by NMR spectroscopy of a synthetic peptide corresponding to a putative amphipathic $\beta\beta$-helix of Spiraline: resonance assignment, distance geometry, simulated annealing.*
A. Bondon, P. Berthault, **I. Ségalas**, B. Perly, & H. Wroblewski (1995) *Biochim. Biophys. Acta - Biomembranes* 1235, 169-177. **IF = 3,59**

P2. *Preparation and structure of silver complexes with 4-nitroimidazole.*
I. Ségalas & A. Beauchamp (1992) *Can. J. Chem.* 70, 943-951. **IF = 1,15**

P1. *Structure of 4-nitroimidazole.*
I. Ségalas, J. Poitras, & A. Beauchamp (1992) *Acta Crystallogr. C : Cryst. Struc. Commun.* C48, 295-298. **IF = 0,90**

Book chapter

C1. *26RFa.*
J. Leprince, C. Neveu, B. Lefranc, L. Guilhaudis, **I. Ségalas-Milazzo**, M. Tena-Sempere, K. Tsutsui, H. Vaudry. (2013). *In Kastin A.J. Ed, Hankbook of Biologically Active Peptides, 2nd Edition*. ISBN: 9780123850959.

Proceedings

P'9. A. Marotte, L. Guilhaudis, Ganesan, C. Neveu, B. Lefranc, J. Leprince, H. Vaudry, **I. Ségalas-Milazzo**. Investigating the structural determinants of neuropeptide 26RFa required for the activation of the receptor GPR103 (2012) *In Peptides 2012, Proceedings of the 32nd European Peptide Symposium, Eds. Georges Kokotos, Violetta Constantinou-Kokotou, John Matsoukas, The European Peptide Society, pp 534-535.*

P'8. R. Thuau, **I. Ségalas-Milazzo**, N. Chartrel, G. Coadou, P. Lameiras, D. Davoust & L. Guilhaudis. Structural studies on human neuropeptide FF. (2008) *In Peptides 2008, Proceedings of the 30th European Peptide Symposium, Ed. Hilkka Lankinen, The Finnish Peptide Society and The European Peptide Society,* pp 342-343.

P'7. O. Le Marec, C. Neveu, O. Tasseau, L. Guilhaudis, **I. Ségalas-Milazzo**, B. Lefranc, M. Tena-Sempere, M.C. Tonon, M. Baudy-Floc'h, H. Vaudry & J. Leprince. Synthesis and biological activity of a series of aza-β3-pseudopeptides related to 26RFa, the endogenous ligand of GPR103. (2008) *In Peptides 2008, Proceedings of the 30th European Peptide Symposium, Ed. Hilkka Lankinen, The Finnish Peptide Society and The European Peptide Society,* pp 524-525.

P'6. O. Le Marec, C. Dubessy, J.-C. Do-Régo, O. Nosjean, V. Audinot, J.A. Boutin, N. Chartrel, L. Guilhaudis, **I. Ségalas-Milazzo**, D. Davoust, M. Tena-Sempere, J. Costentin, H. Vaudry, M.-C. Tonon & J. Leprince. Agonist and antagonist activities of peptides related to 26RFa, the last member of the RFamide peptide superfamily. (2007) *In Peptides 2006, Proceedings of the 29th European Peptide Symposium, Eds. Rolka K., Rekowski P., Silberring J., Kenes International, Geneva, Switzerland,* pp 378-379.

P'5. S. Boivin, L. Guilhaudis, **I. Ségalas-Milazzo**, H. Oulyadi, D. Davoust & A. Fournier. NMR study of urotensin-II receptor structural domains involved in the recognition of U-II, URP and Urantide. (2007) *In Peptides 2006, Proceedings of the 29th European Peptide Symposium, Eds. Rolka K., Rekowski P., Silberring J., Kenes International, Geneva, Switzerland,* pp 246-247.

P'4. A. Blond, M. Cheminant, **I. Ségalas-Milazzo**, D. Destoulieux-Garzon, C. Goulard, J. Péduzzi & S. Rebuffat. Three-dimensional structure of thermolysin-linearized microcin J25: evidence for an essential role of the 11-16 loop in microcin J25 structure and antimicrobial activity. (2002) In *Peptides 2002. Proceedings of the 27th European Peptide Symposium, Sorrento (Italie), 31 august - 6 september 2002,* E. Benedetti, C. Pedone Eds, Edizioni Ziino, Napoli, Italy.

P'3. G. Leclerc, M. Cheminant, **I. Ségalas**, A. Blond, J. Péduzzi, B. Bodo & S. Rebuffat**.** The NMR three-dimensional structure of the peptaibol antibiotic, Longibrachin LGA I. (2001) In *Peptides 2000. Proceedings of the 26th European Peptide Symposium, Montpellier (France), 10-15 september 2000,* J. Martinez, J.-A. Fehrentz Eds, EDK Editions, Paris, France, pp 497-498.

P'2. A. Blond, M. Cheminant, **I. Ségalas**, J. Péduzzi, M. Barthélémy, R. Salomon, F. Moreno & S. Rebuffat. The compact three-dimensional structure of the 21-residue cyclic antibiotic peptide, Microcin J25. (2001) In *Peptides 2000. Proceedings of the 26th European Peptide Symposium, Montpellier (France), 10-15 september 2000,* J. Martinez, J.-A. Fehrentz Eds, EDK Editions, Paris, France, pp 453-454.

P'1. **I. Ségalas**, Y. Prigent, D. Davoust, B. Bodo & S. Rebuffat**.** NMR-based solution structure of the 14-residue peptaibol, Harzianin HC IX. (1999) In *Peptides 1998. Proceedings of the 25th European Peptide Symposium, Budapest (Hongrie), 30 august – 4 september 1998,* S. Bajusz, F. Hudecz Eds, Akademiai Kiado, Budapest, Hongrie.