



Date of birth :  
27/04/1975  
Nationality : French

Personal address :  
19 Rue des Magnolias  
84000 Avignon  
France  
Phone : +1-33-(0)6-8855-4223  
E-mail : rplasson@gmail.com

Professional address :  
UMR 408 SQPOV, Université d'Avignon  
33 rue Pasteur,  
84029 Avignon cedex 1, France  
Phone : +1-33-(0)6-9014-4444  
E-mail : raphael.plasson@univ-avignon.fr

## Education and Positions

- 2013- **MAÎTRE DE CONFÉRENCE (ASSISTANT PROFESSOR)**  
Université d'Avignon et des Pays du Vaucluse, France
- 2012-2013 **RESEARCH ASSOCIATE**  
Harvard University, Cambridge, MA, USA
- 2010-2011 **ASSISTANT PROFESSOR**  
Keio University, Yokohama, Japan
- 2007-2009 **POST-DOC (SUPPORTED BY NORDITA)**  
NORDITA, Stockholm, Sweden. Supervisor : Prof. A. Brandenburg. Subject : *Numerical and analytical analysis of complex chemical systems.*
- 02-08/2007 **POST-DOC (SUPPORTED BY ULB)**  
IRIDIA, Université libre de Bruxelles, Belgium. Supervisor : Prof. H. Bersini. Subject : *Development of an algorithm for the analysis of complex chemical systems.*
- 2004-2006 **POST-DOC (JSPS FELLOWSHIP, SUPPORTED BY THE JAPANESE GOVERNMENT)**  
Keio University, Tokyo, Japan. Supervisor : Prof. K. Asakura. Subject : *Emergence of homochirality in complex chemical systems.*
- 04-09/2004 **POST-DOC ("SHORT TERM SCIENTIFIC MISSION" SUPPORTED BY THE EUROPEAN PROGRAM COST D27)**  
IRIDIA, Université libre de Bruxelles, Belgium. Supervisor : Prof. H. Bersini. Subject : *Computer simulations of far-from-equilibrium chemical systems of amino acid derivatives.*
- 2003 **PH.D THESIS IN CHEMISTRY** : defended on the 19<sup>th</sup> of December 2003 at the university of Montpellier II, France, with distinction (Mention très Honorable). Jury : Dr. L. Boiteau (Montpellier), Prof. G. Bouchoux (Paris), Prof. A. Commeyras (Montpellier), Dr. A. Cottet (Montpellier), Prof. P.-L. Desbène (Rouen) and Prof. J.-C. Micheau (Toulouse).
- 2002-2003 **TEACHER AND RESEARCHER ASSISTANT**  
Université Montpellier II, France.
- 1999-2002 **PH.D. STUDENT WITH GOVERNMENT FELLOWSHIP**  
Université Montpellier II, France.
- 1999 **DIPLOMA OF SECOND CYCLE OF HIGHER EDUCATION, IN MOLECULAR PHYSICAL CHEMISTRY (MAGISTÈRE)**  
Université Paris XI (Orsay, France).
- 1999 **FIFTH YEAR OF HIGHER EDUCATION DIPLOMA, IN BIOMOLECULES CHEMISTRY (DEA).**  
Université Montpellier II, France. With distinction (Mention Assez Bien). Ranked 4<sup>th</sup>.
- 1998 **NATIONAL HIGH-LEVEL COMPETITIVE EXAMINATION FOR RECRUITMENT OF CHEMISTRY TEACHERS (AGRÉGATION DE CHIMIE)**  
Prepared at the École Normale Supérieure de Cachan (Paris, France). Ranked 17<sup>th</sup> at the national level.
- 1995-1997 **THIRD AND FOURTH YEAR OF HIGHER EDUCATION DIPLOMA, IN MOLECULAR PHYSICAL CHEMISTRY (LICENCE AND MAÎTRISE PCM)**  
Université Paris XI (Orsay, France). Modules of organic chemistry and of biochemistry. With distinction (Mention Assez Bien).
- 1995-1999 **STUDENT AT THE ÉCOLE NORMALE SUPÉRIEURE DE CACHAN (PARIS, FRANCE).**  
French high school for education of teachers and researchers. Chemistry section.
- 1993-1995 **STUDENT IN PREPARATORY SCHOOL AT THE LYCÉE DU PARC (LYON, FRANCE)**  
Preparation to high schools examinations. First cycle of higher education class in Mathematics, Physics and Chemistry.

## General Skills

### CHEMISTRY

Organic and inorganic synthesis. Determination of kinetic data.  
Use of standard analytical equipments (UV, IR, HPLC, stc.). Common use of NMR apparatus (Brücker 250 MHz) and capillary electrophoresis apparatus (Beckman P/ACE MDQ).  
Kinetic and far-from-equilibrium thermodynamic study of complex chemical systems.  
Computer modelling of complex chemical systems.

### PROGRAMMING

Shell Programming (bash).  
Procedural languages (C, Fortran, Pascal), object-oriented languages (C++, Python), parallel programming (CUDA).  
Development of scientific code (Pencil code : <http://code.google.com/p/pencil-code/>).

### COMPUTING

Use of computers in several environments : Unix (GNU/Linux and Irix), MS-Windows and MacOs.  
Use of office softwares (TeX, MS-Office, OpenOffice), scientific softwares (ChemDraw, Hyperchem, KaledaGraph, Origin, Grace, Gnuplot), database search (Beilstein, Chemical Abstract), vectorial drawing (Inkscape), imaging softwares (Photoshop, The Gimp).

**SPOKEN LANGUAGES**

French (mother tongue).  
 English (fluent).  
 Japanese (good base).  
 Spanish (good base).  
 Swedish (basic notions).

**Research**

- 2013- MAÎTRE DE CONFÉRENCE**  
 UAPV, Avignon  
 Study of the antioxidant action on complex oxidative systems of natural products at the theoretical/experimental interface.
- 2012-2013 RESEARCH ASSOCIATE**  
 Harvard, USA  
 Development of a stochastic PDE simulator on GPU machines (CUDA), for the study of self-organization in noisy environment. Control of pattern generation by noise in Gray-Scott and Belousov-Zabotinsky systems.
- 2011 SCIENTIFIC COLLABORATOR**  
 IRIDIA, ULB, Belgium  
 Elaboration of a modular computer platform for the simulation, design and optimization of chemical reaction networks.
- 2010/2011 ASSISTANT PROFESSOR**  
 Keio University, Department of Applied Chemistry  
 Development of computer simulations of experimental non-equilibrium systems, for the validation of hypothetical mechanisms, and the design of novel systems.
- 02/2008 CO-ORGANIZER OF THE PROGRAM AND CONFERENCE "ORIGINS OF HOMOCHIRALITY"**  
 NORDITA, Stockholm. <http://agenda.albanova.se/conferenceDisplay.py?confId=322>
- 2007/2009 POST-DOCTORAL WORK**  
 Nordita, Stockholm, Sweden, Supervisor : Prof. A. Brandenburg  
 Numerical and analytical study of complex chemical systems. Introduction of spatial inhomogeneities in complex reaction-diffusion-advection systems.
- 02-08/2007 POST-DOCTORAL WORK**  
 IRIDIA, ULB, Belgium, Supervisor : Prof. H. Bersini  
 Elaboration and implementation of algorithms for the automatic decomposition of chemical reaction networks in sub-elements.
- 2004-2006 POST-DOCTORAL WORK (JSPS FELLOWSHIP FUNDED BY THE JAPANESE GOVERNMENT)**  
 Keio University, Department of Applied Chemistry Supervisor : Prof. K. Asakura.  
 Experimental and theoretical study of enantiomeric amplification phenomenon and spontaneous symmetry breaking within out-of-equilibrium systems of association/dissociation of elementary subunits.
- 04-09/2004 POST-DOCTORAL WORK ("SHORT TERM SCIENTIFIC MISSION" FUNDED BY THE EUROPEAN COST D27 PROGRAM)**  
 IRIDIA, ULB, Belgium Supervisor : Prof. H. Bersini Development of a computer simulation of chemical systems based on the experimental data studied during the Ph.D. The relevance for such systems to present spontaneous symmetry breaking towards homochirality was shown.
- 1999-2003 PH.D. THESIS :**  
 Laboratoire Organisation moléculaire, Évolution & Matériaux fluorés, Université Montpellier II. Supervisor : Prof. A. Commeiras. Co-supervisors : Dr. L. Boiteau, Dr. H. Cottet.  
 Synthesis of N-carboxyanhydrides (NCA) of several amino acids, and their polymerization in aqueous solutions. Development of a separation method of oligopeptides by capillary electrophoresis. Study of physico-chemical properties of oligopeptides by capillary electrophoresis ( $pK_a$  and electrophoretic mobilities), and structural determination of peptides by mobilities modelling. Study of NCAs reactivity in water in presence of nucleophiles or bases. Determination of kinetic constants of hydrolysis and coupling. Study of stereoselectivity of polymerization. Kinetic modelling of a cyclic set of reactions : activation, polymerization and depolymerization, involving NCAs, amino acids and peptides. Development of a computer program (C++/Python) describing this model (stochastic algorithm). Study of emergence of homochirality in this system.
- 1998-1999 5<sup>TH</sup> YEAR OF HIGHER EDUCATION, LABORATORY TRAINING (6 MONTHS) :**  
 Laboratoire Organisation moléculaire, Évolution & Matériaux fluorés, Université Montpellier II. Supervisor : Dr. L. Boiteau.  
 Synthesis of NCA of glycine. Study of its polymerization and hydrolysis in aqueous solution by HPLC and mass spectroscopy. Development of simple computer simulation of NCA hydrolysis/polymerization cycles.
- 06-07/1997 4<sup>TH</sup> YEAR OF HIGHER EDUCATION LABORATORY TRAINING (2 MONTHS) :**  
 Laboratoire Stéréochimie & Interactions Moléculaires, École Normale Supérieure de Lyon. Supervisor : Dr. C. Andraud.  
 Organic synthesis of molecules having non-linear optical properties. Synthesis of silica monolith by sol-gel process. Synthesis of composite organic/inorganic material by sol-gel process.
- 1997 4<sup>TH</sup> YEAR OF HIGHER EDUCATION SHORT LABORATORY TRAINING :**  
 2 weeks in biochemistry laboratory : Treatment, purification and crystallisation of viral proteins. Gene cloning in E. Coli.

**07/1996 3<sup>RD</sup> YEAR OF HIGHER EDUCATION LABORATORY TRAINING (1 MONTH) :**

Laboratoire Traitement du Signal et de l'Information, Université de St. Étienne. Supervisor : Dr. D. Blanc.  
Preparation and characterisation of thin films of titanium oxide upon glass surfaces by dipping process.  
Preparation of composite thin films of titanium oxides/organic molecules.

## Teaching

- 2013- **MAÎTRE DE CONFÉRENCE, UAPV** Various teaching in theoretical and inorganic chemistry at Licence and Master levels.
- 2011 **ASSISTANT TEACHER IN ULB** Lab classes of programming. Initiation to programming in Python. Database access with SQL. Dynamic website programming (Python/CGI).
- 2010 **ASSISTANT PROFESSOR IN KEIO UNIVERSITY :**  
Lectures for graduate students : numerical methods for kinetic simulations of non-linear chemical systems. Numerical methods for solving ODE systems : general (Euler) and high-order (Runge Kutta) methods. Algorithm stability (stiff systems). Stochastic algorithms (Gillespie). Spacialization : cellular automaton, and introduction to PDE systems.
- 2007 **TEACHING FOR THE "ASTROBIOLOGY GRADUATE SCHOOL" (STOCKHOLM UNIVERSITY)**  
Seminar about "Emergence of protometabolisms", and organization of computer practical work in modelling. Level : PhD students.
- 2002-2003 **TEMPORARY ASSISTANT OF EDUCATION AND RESEARCH (ATER) :** Teaching at the Université Montpellier II (144 hours of practical works a year) :  
*Practical work of electrochemistry* : Use of common apparatus of electrochemistry (Level : 4<sup>th</sup> year of higher education) : Experimental plotting of intensity/potential curve. Amperometric and potentiometric titrations. Polarography by anodic redissolution and impulsional polarography, and application to titrations of traces of metallic ions.  
*Introduction to computer tools (practical work)* : Use of OpenOffice software in Linux environment : use of spreadsheet and presentation software. (Level : 1<sup>st</sup> year of higher education)
- 1999-2002 **TEACHING DURING PH.D. THESIS (MONITORAT) :** Teaching at the Université Montpellier II (96 hours a year of practical works, for 3 years). Level : 1<sup>st</sup> and 2<sup>nd</sup> year of higher education :  
*Practical work of organic chemistry* : Introduction to synthesis, extraction, purification and analysis of organic products.  
*Practical of organic chemistry* : Teaching and exercises of organic chemistry : Equilibration of oxydo-reduction equations. Introduction to laboratory technique. Stereochemistry. Reactivity : nucleophile substitution reactions and elimination reactions of first and second order on substituted alkanes, addition reactions on alkenes and alkynes.
- 1996 **TEACHER TRAINING :**  
20h of lessons and practical works of chemistry and physics in secondary school, at Lycée St. Denis, Annonay. Level : sixth and seventh year of secondary school.

## Publications

### ARTICLES

5(4*H*)-Oxazolones as Intermediates in the Carbodiimide- and Cyanamide-Promoted Peptide Activations in Aqueous Solution G. Danger, A. Michaut, M. Bucchi, L. Boiteau, J. Canal, R. Plasson & R. Pascal, *Angew. Chem.* 52, (2013) 611-614

Energy propagation throughout a protometabolism leading to the local emergence of singular stationary concentration profiles M. Emond, T. Le Saux, J.-F. Allemand, P. Pelupessy, R. Plasson & L. Jullien, *Chem. Eur. J.*, 18 (2012) 14375-14383

Pathways for the formation and evolution of peptides in prebiotic environments G. Danger, R. Plasson, & R. Pascal, *Chem. Soc. Rev.* 41, (2012) 5416-5429

Reactivity of Alanylalanine Diastereoisomers in Neutral and Acid Aqueous Solutions : a Versatile Stereoselectivity. R. Plasson, M. Tsuji, M. Kamata, & K. Asakura, *Orig. Life Evol. Biosph.* 41, (2011) 413-435.

Autocatalyses. R. Plasson, A. Brandenburg, L. Jullien & H. Bersini, *J. Phys. Chem. A* 115, (2011) 8073-8085.

Autocatalysis : at the root of self-replication. R. Plasson, A. Brandenburg, L. Jullien & H. Bersini, *ALife* 17 (2011) 219-236.

Programming an in vitro DNA oscillator using a molecular networking strategy. K. Montagne, R. Plasson, Y. Sakai, T. Fujii & Y. Rondelez, *Mol. Sys. Biol.* 7 (2011) 466.

An experimental investigation of the evolution of chirality in a potential dynamic peptide system : N-terminal epimerization and degradation into diketopiperazine. G. Danger, R. Plasson & R. Pascal, *Astrobiology* 10, (2010), 651-662.

2-Hydroxyazobenzenes to tailor pH pulses and oscillations with light. M. Emond, T. Le Saux, S. Maurin, J.B. Baudin, R. Plasson & L. Jullien, *Chem. Eur. J.* 16 (2010) 8822-8831.

Homochirality and the need for energy. R. Plasson & A. Brandenburg, *Orig. Life Evol. Biospheres* 40 (2010) 93-110. <http://dx.doi.org/10.1007/s11084-009-9181-6>.

Energetic and entropic analysis of a mirror symmetry breaking processes in a recycled microreversible chemical system. R. Plasson & H. Bersini, *J. Phys. Chem. B* 113 (2009) 3477-3490. <http://arxiv.org/abs/0804.4834>.

- Comment on "Re-examination of reversibility in reaction models for the spontaneous emergence of homochirality".* R. Plasson, J. Phys. Chem. B 112 (2008) 9550-9552. <http://arxiv.org/abs/0804.3939>.
- Determination of synthetic polypeptide conformations and molecular geometrical parameters by nonaqueous CE.* R. Plasson, W. Vayaboury, O. Giani & H. Cottet, Electrophoresis 28 (2007) 3617-3624.
- Emergence of homochirality in far-from-equilibrium systems : mechanisms and role in prebiotic chemistry.* R. Plasson, D.K. Kondepudi, H. Bersini, A. Commeyras & K. Asakura, Chirality 19 (2007) 589-600.
- Experimental evidence and theoretical analysis for the chiral symmetry breaking in growth front of conglomerate crystal phase of 1,1'-binaphthyl.* K. Asakura, R. Plasson & D.K. Kondepudi, Chaos 16 (2006) 037116.
- Determination and modeling of peptide pKa by capillary zone electrophoresis.* R. Plasson & H. Cottet, Anal. Chem 78 (2006) 5394-5402.
- Three-Dimensional Description of the Spontaneous Onset of Homochirality on the Surface of a Conglomerate Crystal Phase.* R. Plasson, D.K. Kondepudi & K. Asakura, J. Phys. Chem. B 110 (2006) 8481-8487.
- Determination of Homopolyptide Conformational Changes by the Modeling of Electrophoretic Mobilities.* R. Plasson & H. Cottet, Anal. Chem 77 (2005) 6047-6054.
- Recycling Frank : Spontaneous Emergence of Homochirality in noncatalytic systems.* R. Plasson, H. Bersini & A. Commeyras, Proc. Nat. Acad. Sci. USA 11 (2004) 16733-16738.
- Dynamic Co-evolution of Peptides and Chemical Energetics, a Gateway to the Emergence of Homochirality and the Catalytic Activity of Peptides.* A. Commeyras, J. Taillades, H. Collet, L. Boiteau, O. Vandeneabeele, R. Pascal, A. Rousset, L. Garrel, J.C. Rossi, J.Ph. Biron, O. Lagrille, R. Plasson, E. Souaid, G. Danger, F. Selsis, M. Dobrijevic & H. Martin, Orig. Life Evol. Biosp. 34 (2004) 35-55.
- Kinetic study of the polymerization of  $\alpha$ -amino acid N-carboxyanhydrides in aqueous solution using capillary electrophoresis.* R. Plasson, J.Ph. Biron, H. Cottet, A. Commeyras, J.Taillades, J. Chromatogr. A 952 (2002) 239-248.
- Prebiotic Synthesis of sequential peptides on the hadean beach by a molecular engine working with nitrogen oxides as energy source.* A. Commeyras, H. Collet, L. Boiteau, J. Taillades, O. Vandeneabeele, L. Mion, J.Ph. Biron, O. Lagrille, R. Plasson, H. Cottet, H. Martin, F. Selsis & M. Dobrijevic, Polymer International 51 (2002) 661-665.

#### BOOK CHAPTERS

- Synthetic Biochemical Dynamic Circuits* R. Plasson and Y Rondelez in *Multiscale Analysis and Nonlinear Dynamics* (ed. M. Pesenson), Wiley, (2013) (in press).
- Mirror Symmetry Breaking in High Order Autocatalytic Systems* R. Plasson, in *The Soai Reaction and Related Topic* (ed. G. Pályi, C. Zucchi and L. Caglioti), Artestampa - Accademia Nazionale di Scienze, Lettere ed Arti, Modena, (2012).
- Self-replication.* R. Plasson, in *Encyclopedia of Astrobiology*, (ed. M. Gargaud, et al.), Springer Part 19 (2011), 1498-1500, DOI : [10.1007/978-3-642-11274-4\\_1422](https://doi.org/10.1007/978-3-642-11274-4_1422).
- Chemical reaction network.* R. Plasson, in *Encyclopedia of Astrobiology*, (ed. M. Gargaud, et al.), Springer Part 3 (2011), 287-288, DOI : [10.1007/978-3-642-11274-4\\_269](https://doi.org/10.1007/978-3-642-11274-4_269).
- Approche dynamique de la synthèse des peptides et de leurs précurseurs sur la Terre primitive.* A. Commeyras, J. Taillades, H. Collet, L. Boiteau, R. Pascal, O. Vandeneabeele, A. Rousset, L. Garrel, J.-C. Rossi, H. Cottet, J.-P. Biron, O. Lagrille, R. Plasson, E. Souaid, F. Selsis, M. Dobrijevic & H.Martin, in "Les traces du vivant", (ed. M. Gargaud, D. Despois, J.-P. Parisot) Presses Universitaires de Bordeaux, (2003) 115-163.

#### PROCEEDINGS

- Autocatalyses* R. Plasson, A. Brandenburg, L. Jullien & H. Bersini, Proc. of the Artificial Life XII Conference, Odense, Denmark, (2010) 4-11.
- Homochirality as Fixed-Point of Prebiotic Chemistry.* R. Plasson, H. Bersini & A. Commeyras, *Artificial Life IX : Proceedings of the Ninth International Conference on the Simulation and Synthesis of Living Systems* (ed. Jordan Pollack, Mark Bedau, Phil Husbands, Takashi Ikegami, et al.), MIT Press (2004) 470-483.
- Molecular origins of life : peptide prebiotic emergence and evolution through a permanent, cyclic molecular engine (the primary pump). Influence on the emergence of homochirality.* L. Boiteau, R. Plasson, H. Collet, J. Taillades, O. Lagrille & A. Commeyras, *Frontiers of Life, Proceedings of the XII<sup>th</sup> Rencontres de Blois, 25 juin-1<sup>er</sup> juillet 2000* (ed. L. M. Celkinier & J. Trần Thanh Vân), The Gioi Publishers (Vietnam), (2003) 33-35.
- Molecular origins of life : when chemistry became cyclic. The primary pump, a model for prebiotic emergence and evolution of peptides.* L. Boiteau, R. Plasson, H. Collet, O. Lagrille, J.Ph. Biron, O. Vandeneabeele-Trambouze, J. Taillades & A. Commeyras, *Fundamentals of Life, Proceedings of the workshop on life, a satellite meeting of the Rome world meeting of university professors, (Modène, Italie, 3-8 septembre 2000)*, ed. G. Pályi, C. Zucchi & L. Caglioti, Éditions scientifiques et médicales Elsevier SAS, (2002) 211-218.
- Molecular origins of life : peptide prebiotic emergence and evolution through a permanent, cyclic molecular engine (the primary pump). Influence on the emergence of homochirality.* L. Boiteau, H. Collet, H. Cottet, O. Lagrille, R. Plasson, J.-P. Biron, O. Vandeneabeele-Trambouze, J. Taillades, A. Commeyras, F. Selsis, M. Dobrijevic & H. Martin, *Proceedings of the first European Workshop on Exo/Astrobiology*, ed. P.Ehrenfreund, O. Angerer & B. Battrick (Frascati, Italie, 21-23 mai 2001) ESA-SP-496, (2001) 305-308.

## International Communications

### ORAL COMMUNICATIONS

*A DNA toolbox for engineering in vitro life-like behaviors.* R. Plasson, K. Montagne, A. Padirac, T. Fujii, Y. Rondelez, ECAL 2011 Conference, Paris, **8-12 August 2011**

*A DNA toolbox for engineering in vitro life-like behaviors.* R. Plasson, K. Montagne, A. Padirac, T. Fujii, Y. Rondelez, Origins 2011 Conference, Montpellier, **3-8 July 2011**

*Design of complex chemical systems : balancing theory and experiments.* R. Plasson, K. Montagne, Y. Rondelez, M. Emond, T. Le Saux, L. Jullien, "Non-linear reaction and cooperative phenomenon" Meeting, Kagoshima, **8-9 January 2011**

*Building homochirality : Mechanistic and Energetic aspects* R. Plasson, A. Brandenburg, L. Jullien & H. Bersini, (Plenary lecture) 8th Symposium on Chemical Approaches to Chirality, Tokyo, **1 december 2010**

*Theoretical evaluation of the influence of surface roughness of sunscreen agents generated by directional viscous fingering during their coating on sun protection factor* R. Plasson, A. Kuroda, D. Maezawa & K. Asakura, 49th annual meeting of the Japan Oil Chemists' Society, Hakodate, Japan **15-17 september 2010**

*Autocatalyses* R. Plasson, A. Brandenburg, L. Jullien & H. Bersini, Artificial Life XII Conference, Odense, Denmark, **19-23 August 2010**

*Theoretical Study of Complex Chemical Networks : Towards Automatic Detection of Autocatalysis ?* R. Plasson, A. Brandenburg, H. Bersini & L. Jullien, ChembioGenesis 2009, KickOff Meeting of COST Action CM0703 "Systems Chemistry", Balatonfüred, Hongrie, **23-27 octobre 2009**.

*Simulating non-equilibrium chemical systems with the Pencil code : the problem of stiffness* R. Plasson, A. Brandenburg, M. Emond & L. Jullien, Pencil Code Meeting 2009, Heidelberg, Allemagne **24-28 aout 2009**.

*Emergence of protometabolisms and the self-organization of non-equilibrium reaction networks.* R. Plasson, H. Bersini & A. Brandenburg, ChembioGenesis 2008, KickOff Meeting of COST Action CM0703 Maratea, Italy, **8-10 October 2008**.

*Emergence of protometabolisms and the self-organization of non-equilibrium reaction networks.* R. Plasson, H. Bersini and A. Brandenburg, (Keynote Lecture) EANA08, Neuchâtel, Suisse, **1<sup>st</sup>-3 September 2008**.

*Decomposition of Complex Reaction Networks into Building Blocks.* R. Plasson, A. Brandenburg & H. Bersini, Netsci08, Norwich, UK, **23-27 June 2008**.

*Thermodynamics of chirality.* R. Plasson, Origins of homochirality program, Nordita, Stockholm, Suède, **25-29 February 2008**.

*Emergence of Homochirality and Molecular Evolution.* R. Plasson, H. Bersini & A. Brandenburg, EANA07, Turku, Finland, **22-24 October 2007**.

*Spontaneous deracemization of organic compounds in far-from-equilibrium systems.* R. Plasson, D.K. Kondepudi & K. Asakura, Chiral2006 : 18<sup>th</sup> International Symposium on Chirality, Busan, Korea, **25-28 June 2006**.

*Spontaneous emergence of homochirality in coupled non-catalytic reaction networks.* R. Plasson & K. Asakura, NASA Astrobiology Science Conference 2006, Washington D.C., USA, **26-30 March 2006**.

*Spontaneous Emergence of Homochirality in Dynamic Chemical System : from Theory to Experiments.* R. Plasson, H. Bersini, A. Commeyras & K. Asakura, Pacificchem 2005, Honolulu, USA, **15-20 December 2005**.

*Recycling Frank : Spontaneous Emergence of Homochirality in noncatalytic systems.* R. Plasson, H. Bersini & A. Commeyras, 3<sup>rd</sup> COST D27 workshop, Heraklion, Greece, **1<sup>st</sup>-2 October 2004**.

### POSTER COMMUNICATIONS

*Emergence of protometabolisms and the self-organization of non-equilibrium reaction networks.* R. Plasson, H. Bersini & A. Brandenburg, ISSOL08, Florance, Italie, **24-29 August 2008**.

*Spontaneous Deracemization in Systems of Activated Polymerization.* R. Plasson, T. Lenaerts, H. Bersini & A. Brandenburg, Chirality at the Nanoscale 2007, Barcelona, Espagne, **17-21 September 2007**.

*Study of Prebiotic Reaction Networks : Origin of Protometabolisms.* R. Plasson & H. Bersini, Netsci07, New York, USA, **20-25 May 2007**.

*Stable Non-Racemic States in Far-from-Equilibrium Systems as Origin of Homochirality.* R. Plasson, K. Asakura & D.K. Kondepudi, ISSOL05 : 14<sup>th</sup> International Congress on the Origin of Life, Beijing, China, **19-24 June 2005**.

*Electrophoretic Behavior of Homopolypeptides : Relationship between Actual Mobility, Geometrical Parameters and Polypeptide Conformations.* R. Plasson, H. Cottet, J. Taillades & A. Commeyras, 25<sup>th</sup> International symposium on chromatography, Paris, France, **4-8 October 2004**.

*Homochirality as Fixed-Point of Prebiotic Chemistry.* R. Plasson, H. Bersini & A. Commeyras, Artificial Life IX : Ninth International Conference on the Simulation and Synthesis of Living Systems, Boston, USA, **12-15 September 2004**.

*Electrophoretic Behavior of Homopolypeptides : Relationship between Actual Mobility, Geometrical Parameters and Polypeptide Conformations.* R. Plasson, H. Cottet, J. Taillades & A. Commeyras, HPCE04, 17<sup>th</sup> International Symposium on Microscale Separations and Analysis, Salzburg, AUSTRIA, **8-12 February 2004**.

*Étude du comportement électrophorétique d'oligopeptides par électrophorèse capillaire.* R. Plasson, H. Cottet, J. Taillades & A. Commeyras, SEP03, 5<sup>ème</sup> congrès francophone sur les techniques séparatives et les couplages, Lyon, **13-15 May 2003**.