Charlotte Truchet

Curriculum Vitae

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Personal Data

Education

2004 **PhD in Computer Science**, *University of Paris 7*, Paris.
Title: Constraints, Local Search and Computer Assisted Composition
Defended: on March 19th 2004, with Honors (*Très honorable avec les félicitations du jury*)
Advisors: Pr. Philippe Codognet, University of Paris 6, and Gérard Assayag, IRCAM
Laboratory: Computer Science Laboratory of Paris 6 University (LIP6), in collaboration with the Musical Representation team at IRCAM (Institute for music/acoustic research and coordination)
Keywords: Constraint Programming, Computer-assisted Music Composition

1998 **Master Degree in Computer Science**, *University of Paris 7 and Ecole Normale Supérieure*, Paris.
Research dissertation: Non-topological Continuity and Calculabilty
Supervisor: Giuseppe Longo, Ecole Normale Supérieure
Mention: Bien
Keywords: Theoretical computer science, Semantics, Logic, Category theory

1997 **Maîtrise (*Forth year of university study*) in Mathematics**, *University of Paris 7 and Ecole Normale Supérieure*, Paris.
Dissertation: Evolution of large components in random graphs,
Supervisor: Philippe Biane, ENS
Keywords: Graph theory, Ecole Normale Supérieure theory

1996 **Maîtrise (*Forth year of university study*) in Computer Science**, *University of Paris 7 and Ecole Normale Supérieure*, Paris.
Dissertation: Formal methods applied to verification and certification of distributed systems,
Supervisor: Roberto Amadio, Ecole des Mines de Paris
Keywords: Logic, Distributed languages

1995 **Admission**, *Ecole Normale Supérieure*, in mathematics, C/S 95.

Experience

2005–present **Maître de Conférences (Assistant Professor)**, *Université de Nantes*, Nantes, with two interruptions for maternity leaves in 2008 and 2013 (16 weeks each).

I have been a member of LINA (UMR 6241), the computer science laboratory in Nantes, since 2004. In 2017 the laboratory was reorganized and became LS2N (UMR 6004), of which I am a member now. From September 2015 to August 2016, I had a temporary position at INRIA in the Celtique team in Rennes.

2004–2005 **Demi ATER (Teaching Assistant)**, *University of Nantes*, Nantes.

The demi-ATER is a part-time position in French Universities. During this period, I have also been a Research Engineer on the MusiqueLab2 project at IRCAM for four months. I developed plug-ins for this project, which aimed at producing a teaching and practicing environment based on the classical, tonal musical framework.

2003–2004 **Research engineer**, *LIP6 (Computer Science Laboratory at University of Paris 6)*, Paris.

2000–2003 **Allocataire Moniteur (Graduate Assistant)**, *LIP6 (Computer Science Laboratory at U. of Paris 6)*, Paris.

1995–2000 ***Elève fonctionnaire stagiaire***, *Ecole Normale Supérieure*, Paris.

1997–2000 **Journalist**, *Magazine La Recherche*, Paris.

During three years, I was in charge of computer science for the French magazine La Recherche, which had a circulation of around 80.000. My work included: edition of articles, writing of articles (in particular for the CS page: four short papers each month, and from 1998 same for the web page), participation to the editorial board. I started as a freelance journalist (*pigiste*), from 1997 to 1999, and was then the journalist in charge of computer science (*Rédactrice*, holder of the *carte de presse*) in 1999/2000.

1995–2000 **Elève fonctionnaire stagiaire**, *Ecole Normale Supérieure*, Paris.

Research activities

PhD and Master Students

PhD Students and Post-Doctoral Fellows

2016–now **Giovanni Lo Bianco**, *Analyse du mécanisme propagation-recherche en programmation par contraintes*, Ecole des Mines de Nantes, PhD Director: Xavier Lorca.

Giovanni is working on probabilistic models for the analysis of constraint programming tools, in particular propagators for global constraints, starting with the global cardinality constraint and potentially other constraints from the same family (cardinality constraints, *e.g.* nvalue, atmost, atleast, etc).

2016–2017 **Daniel Cortes**, *Post-doctoral fellow*, Université de Nantes, Co-advisor: François-Xavier Felpin.

Daniel is working, in collaboration with the CEISAM laboratory in chemistry, on the SmartCat project. Daniel implemented our Nelder-Mead-like algorithm, and also worked on the architecture of the whole flow chemistry machinery (data acquisition, optimization, control, interfaces).

2015–now **Ghiles Ziat**, *Combinaison de l'interprétation abstraite et de la programmation par contraintes : fondements et applications à l'amélioration de l'analyse de programmes et de la résolution de contraintes*, Université de Paris 6, PhD Director: Antoine Miné.

Ghiles' PhD is funded by the Coverif project. Ghiles is working on AbSolute, and in particular on the polyedra abstract domain. Polyedra are expensive but they can capture all the linear constraints of a problem in one propagation pass. Ghiles also developed the reduce product in AbSolute: this allows the solver to use several abstract domains at the same time, each domain exchanging informations with the others when necessary. For instance, the reduced product between polyedra and boxes allows the solver to deal with the linear constraints of a problem once and for all, and then concentrate the search effort on the non-linear constraints in the boxes.

2014–now **Anicet Bart**, *Constraint Modelling and Solving of Two Verification Problems*, Ecole des Mines de Nantes, PhD Director: Eric Monfroy.

Anicet worked on two verification problems that could be solved with CP. The first one comes from a real-time language for audio processing, Faust (similar to the synchronous language Lustre). Faust performs computation on streams, and we developed a constraint model, based on a new global constraint, for computing safe over-approximations of Faust outputs. Now, Anicet is working on a CP model for the verification of interval markov chains with parameters.

2011–2014 **Bruno Belin**, *Conception interactive d'environnements urbains durables à base de résolution de contraintes*, Defended on Nov. 27th, 2014, Université de Nantes, PhD director: Frédéric Benhamou, co-advisor: Marc Christie.

Bruno worked on constraint optimization for urban planning on the Sustain project. He first developed the model of the problem, and then the resolution algorithm, based on a parallel local search algorithm and including interactive tools for partially re-solving, taking into account the user's preferences. His PhD supervisor was Frédéric Benhamou, University of Nantes,, and Marc Christie, University of Rennes 1, was co-advisor. Bruno is now working on embedded systems and smart products for AC-TECHNOLOGIES in Angers.

2009–2012 **Marie Pelleau**, *Domaines abstraits en programmation par contraintes*, Defended on Nov. 29th, 2012, Université de Nantes, PhD directors: Frédéric Benhamou, Pascal Van Hentenryck.

Marie worked on abstract domains for constraint programming, in particular on the Octagon abstract domain and on the development of AbSolute. Marie's PhD supervisors where Frédéric Benhamou, University of Nantes, and Pascal Van Hentenryck, NICTA (at the time). After a 2 years post-doctoral position in the Optimization Group in the University of Montréal, Marie is currently a post-doctoral fellow on the Coverif project, at the University of Paris 6.

Master and Graduate Students

2017 **Simon Durand**, *Master intern from Université de Caen (6 months)*, Université de Nantes, Coverif project.
Simon Durand, whose co-advisor is David Cachera from the ENS Rennes (IRISA), is working on a new abstract domain for integer intervals with parameters.

2016 **Aurèle Barrière**, *BSc intern from ENS Rennes (3 months).*
Aurèle Barrière worked on a safe and accurate approximation of loop counters with constraints, which is one of the component of worst case execution time estimation. His tool, based on Absolute, can be used with the Interproc demonstrator, and with the SawjaCard analyzer for JavaCard code.

2013 **Julie Laniau**, *Master thesis from University of Nantes (4 months).*
Julie Laniau worked on a constraint-based model for the verification of real-time computations on stream, with an application to the Faust language.

2010 **Wenjie Fang**, *BSc intern from ENS (2 months).*
Wenjie worked, in collaboration with Frédéric Saubion in Angers, on the correlation between SAT instances difficulty (as measured in SAT competitions in terms of computation time to solve them), and several high elvel criteria on the formula.

2007 **Damien Noguès**, *BSc intern from ENS (2 months).*
Damien Noguès implemented and tested a probabilistic model of LS as Markov chains. In this model, he worked in particular on the influence of the parameters on the computation time.

Projects

2015–2020 **Coverif, ANR, Partner investigator** Coverif is a project funded by the French National Research Agency (148 096 euros for the LINA), and gathers the Ecole Polytechnique, the University of Paris 6, the University of Nice and the University of Nantes. The goal of the project is to develop methods at the crossroad of abstract interpretation and constraint programming for program verification, with a focus on embedded softwares with floating-point computations.

2014 **Ulysses PHC, 2014, Project Leader** This bilateral project aims at developing collaborations with the Cork Constraint Computation Center (4C) in Ireland. It involves four researchers on the French side and five on the Irish side. It is the occasion of developing the parallel methods we develop in Nantes on a particular application of the 4C, the k-medoids problem.

2010–2014 **SUSTAIN** The goal of SUSTAIN was to build a computer-assisted tool for urban planning and evaluation of the energy issues. This project gathers researchers in computer science (LINA, LIMSI, Armines), industries (Areva TA, Artelys, Artefacto) and urbanists (EPA Marne). It is labelled by the *PÃ‡le de Compétitivité Advancity* and funded by french public agencies (DGCIS, Ile de France region and Conseil Général de Seine et Marne). In the process of designing new cities, the early stages of urban planning consist in drawing coarse-grained maps, on which the discussions between the different actors (politics, urbanists, public) are based. Usually, the energy issues (transportation, energy production, energy networks...) are not considered at this stage. Sustain aims at modeling the problem of urban planning, in order to take into account the energy issues as soon as possible, define energy scenarios for the future city, and place the energy decisions at the core of the urban planning process.

2009–2013 **BOOLE, Quantifying Boolean Frameworks** (ANR *programme blanc, édition 2009*). This project aims at formalizing and studying mathematical structures of several boolean satisfaction problems, in order to quantify a number of phenomena : phase transition for extensions of SAT problems, probability laws of random boolean functions. The project is headed by Versailles University. It includes researchers in computer science, mathematics and physics from the Universities of Versailles Saint-Quentin, Caen, Paris 8, Nantes, Aix-Marseille 1, Aix-Marseille 2, Paris Nord, Paris 11, and the INRIA, CNRS, ENS Ulm. It has been granted a total amount of 497.000 euros.

2008–2010 **Constraints, Music and Interaction, AFIM Research Group, Project Leader**. This Research Group has been funded by the french Association for Music and Computer Science for an amount of 5.500 euros (`http://www.lina.sciences.univ-nantes.fr/ContraintesMusique/`). The groups includes nine computer scientists from the LINA, IRCAM, Bordeaux University and Orléans University, and four composers. It aims at adding interaction into musical constraints frameworks, with an application to interactive score. The research group was also the base of the book *Constraint Programming in Music* [**2**] that we published in 2011.

Reviewing

Chair Positions

2017 **Workshop and Tutorial Chair for CP'17** The *23rd International Conference on Principles and Practice of Constraint Programming*, will be held in Melbourn in August 2017 `http://cp2017.a4cp.org/`

2017 **Senoir Program Committee of IJCAI'17** The *26th International Joint Conference on Artificial Intelligence* will be held in Melbourne on August 19-25, 2017 `https://ijcai-17.org/program-committee.html`

2016 **Senior Program Chair of CP'16, and Area Chair for the Music Track** The *22nd International Conference on Principles and Practice of Constraint Programming*, was held in Toulouse in Septembre 2016 `http://cp2016.a4cp.org/`

2013 **Program Chair of JFPC'13** The *Journées Francophones de Programmation par Contraintes*, the french Constraint Conference, were held in Aix en Provence in June 2013 `http://www.lsis.org/jfpc-jiaf2013/jfpc/`. A selection of articles of the conference were later published as a special issue of the *Revue Française d'Intelligence Artificielle* (Artificial Intelligence French Journal) in 2015 [**1**].

Program Committees and Reviewing

I have been a reviewer for the following journals:

- Constraint (Springer),
- Journal of Artificiel Intelligence Research (AAAI Press),
- Journal of Heuristics (Springer),
- Formal Methods in System Design (Springer).

I have also been a member of the program committee of the following conferences:

- IJCAI, *International Joint Conference on Artificial Intelligence* in 2013, 2015, 2016 and 2017,
- ECAI, *European Conference on Artificial Intelligence* in 2012,
- JFPC, *Journées Francophones de Programmation par Contraintes*, the french Constraint Conference, from 2004 to 2013 (except in 2008 when I was organization chair),
- MCM, *Mathematics and Computation in Music*, in 2009,
- ICMC, *International Computer Music Conference*, session "Languages for Computer Music, in 2005.

PhD Dissertation Jury

I was a member of the jury (Defender) for the PhD Dissertation of Joseph Scott, at the University of Uppsala. Joseph Scott successfully defended his PhD, entitled *Other Things Besides Number: Abstraction, Constraint Propagation, and String Variable Types* on March 14th, 2016.

Invited Talks

2016 **Tutorial on CP and music at CP'16** At the conference CP'16, I presented a tutorial on CP and Music where I both presented an overview of the field and introduced the papers of the music track.

2015 **Invited talk at the Doctoral Program of CP'15** The Doctoral Program at CP usually features two invited talks, and short talks by the PhD students of the community. I gave a talk entitled "How to deal with unconventional CP applications?", based on the examples of the applications I worked on in music and urban planning. The idea was to convince young researchers in the field of the importance of widening the range of CP applications.

2015 **Masterclass on Constraint Programming and Verification at CPAIOR'15** In 2015, I have been invited with Antoine Miné to present our work on CP and Abstract Interpretation during the Masterclass organized by Pascal Van Hentenryck at the CPAIOR conference.

2004 **Invited talk at JFPLC'04** In June, 2004, I have been invited as a plenary speaker for the opening of the *Journées Francophones de Programmation en Logique et de programmation par Contraintes*, the french constraint conference, to present my PhD work on musical constraints.

I have also been invited to four "Dagstuhl-like" seminars:

- Dagstuhl Seminar *Decision Procedures and Abstract Interpretation* in August 2014,
- NII Shonan Meeting on *Parallel Methods for Constraint Solving and Combinatorial Optimization*, Shonan, Kamakura pref., Japan, in June 2012,
- *Seminars for Mathematical Music Theory*: I have been invited in 2001 and 2002, to present my works on musical constraints for contemporary composition (2001) and musical analysis (2002).

Organization of scientific events

2010 **Internal seminar of the LINA** I have organized the first internal seminar of the laboratory. It took place on the Berder Island, on October 19th and 20th, and gathered 55 LINA members. The webpage can be found at `http://www.lina.univ-nantes.fr/conf/SiteSemAuVert/`.

2008 **Chair of JFPC'08** I organized the JFPC08 in Nantes in June 2008. The conference gathered a hundred researchers in constraint programming, mostly from Europe and North America, and had a budget of 25.600 euros. The website can be found at `http://www.lina.sciences.univ-nantes.fr/JFPC08/jfpc08/index.php`.

2001 **Organizer of the Musical Constraints Workshop** at the Constraint Programming Conference CP01 in Cyprus.

Administration

In this section, are described my administrative tasks. Instead of organizing them chronologically, I chose to focus on three axes: academic administration, scientific communication (for which I rely on my former experience as a journalist) and equal opportunity.

Scientific communication

2015–now **Member of the Binaire editorial team (computer science blog)** Since August 2015, I am a member of the editorial board of Binaire, a French-speaking blog on lemonde.fr (`binaire.blog.lemonde.fr`). Binaire articles are written either by the editors, or by researchers in computer science. They are about any aspect of computer science, in an accessible way, for the general public. Tweets on the Binaire papers typically have around 4000 impressions and a few hundred engagements. Among others, I have written an article on constraint programming `https://tinyurl.com/kc5x56v`. I also edit articles, for instance explaining the Top500 supercomputer ranking, why and how to certify phone OS, why everybody should be interested in creative coding... I have proposed and organized a special track called "Il était une fois... ma thèse" ("Once upon a time... my PhD"), where a new Doctor tells the story of his/her PhD, in a short paper, without any technical notions. This series is active and quite appreciated, and has had a dozen contributors for now.

2013–now **Workshop on sound processing for the *Fête de la Science*** The *Fête de la Science*, or Science Party, is an event organised each year for highschool students. The LINA is involved since 2014, and receives around 250 students who visit the lab and participate in different activities. At this occasion, I organize a small workshop on sound processing, based on R2D2, a robot character from the StarWars movies. A first step consists in having the students determine some basic features of R2D2's voice, by listening to short extracts of the movies and visualizing the sounds and their spectral distribution. After that, they configure "by ear" a R2D2 generator that I have made in PureData. They need to play with the parameters of a simple additive synthesis model, to create a R2D2 base sound (what would be a syllable in a natural language). Finally, this sound is used into a R2D2 generator, also in PureData, which can produce sentences based on some criteria (musical mode, amplitude, percentages of different sounds or patterns, durations...). The students have to tune the parameters to reproduce some of R2D2's moods (angry, scared, calm, happy...). In practice, this workshop works quite well because of the fame of the character, and its fun nature. Besides, it allows the students to see, on a practical example, sound notions such as the spectrum of a sound, the modal nature of a sound sequence, etc. All the patches can be found on my webpage (no documentation though).

2007 **Nuit des Chercheurs** I have participated to the organization of a musical and scientific event for the *Nuit des chercheurs*, funded by the European Union, in 2007. We organized a concert where two professional jazz musicians played with the OMax automatic improvisation system, and then two researchers of the OMax team then proposed a conference to explain the public how the system, based on a factor oracle, works.

Administrative duties

Administration of the Scientific Community

2016-now **International Association for CP** I was elected on the Executive Committee of the Association for Constraint Programming, which organizes the main conference in CP (the CP conference) and is also involved in other events, such as the ACP summer school for young researchers. In particular, I am in charge of communication and outreach. `http://www.a4cp.org/`

2016 **Chair of the ACP Doctoral Research Award** The webpage for the award can be found here: `http://www.a4cp.org/awards/doctoral-research-award`.

2006-2012 **French Association for CP** I was a Secretary of the AFPC, the french-speaking Constraint Programming association, from 2009 to 2012, and an elected member of the *Conseil d'administration* in 2006-2012. The secretary is in charge of the management of the members, and participates to the association board (bureau), in charge of the scientific and administrative management of the association. `http://afpc.greyc.fr/web/`

Administrative duties in French Institutions

2016–now **Member of the jury of the *Prix de thèse SIF-Gilles Kahn*** The PhD award of the French Computer Society *SIF-Société Informatique de France* is given annually to a PhD thesis of great quality.

2015–now **Elected member, Scientific Council of the INS2I** The INS2I, *Institut des Sciences de l'Informatique et de leurs interactions*, is the CNRS (the main research agency in France) institute for computer science and automatic. Its scientific council has an advisory role for its Director, both on scientific and politic issues.

2009–2013 **Elected member of the *Conseil de Gestion*** of the Faculty of Sciences in the University of Nantes. The council advises the Dean of the Faculty on administrative issues, with a particular focus on teaching and administrative issues.

2008–2012 **Elected member of the laboratory council** at LINA. The council is the laboratory organ where all the research decision are discussed. It depends of the Head of the Laboratory for whom it has an advisory role.

2007–2011 **Assistant chief of the Constraint Team (TASC)** at LINA. Headed by Nicolas Beldiceanu, the Constraint teams had then 13 permanent researchers and a total of 18 members. I helped Nicolas in his various administrative tasks, in particular preparing the application file of the team to be an INRIA project team.

Member of the Recruitment Commission for Assistant Professor positions in Computer Science, *section 27*, in the following Universities:

- Nice and Caen in 2017,
- Lens and Caen in 2015,
- Angers University in 2014,
- Bordeaux 1 University in 2011,
- Nantes University in 2008, in 2009 (as secretary of the commission) and 2012.

Equal Opportunity

2015 **Organizer of a session on Gender Equality** at the Scientific Council of the INS2I at CNRS. In September 2015, I organized a special session on gender equality in computer science. After this, the council voted a series of recommandations for the computer science laboratories of the CNRS, for the promotion of gender equality. `https://tinyurl.com/n454r4c`

2012-2015 **Equal Opportunity Officer** at Nantes University. In Oct. 2012, I have been appointed Equal Opportunity Officer by the President of Nantes University. I was in charge of gender equality. The situation of the University of Nantes is not really good on that matter, with a ratio of 42% of women among the Assistant Professors, and 23% among the Professors (below the average of French Universities). The balance is better in the administrative staff, although there also appear to be a glass ceiling. During the first year, I have designed a poll for all the researchers and teachers of the University, in order to better understand where and how the problems occured. It obtained 534 answers and allowed us to better understand several issues - I have been invited to present this work to a conference called "Women in the Academic World" at the University of Paris 7 in March 2015. I also presented this work at the Administration Board and had a *Charte pour l'égalité* voted unanimously. I then worked on a program against sexual harassment, in collaboration with the human resources office. This program has been approved, unanimously again, by the *Comité Hygiène, Sécurité et Conditions de Travail*, and is to be presented at the Academic Council. I then now worked on a wider program to improve gender equality at Nantes University, including better work conditions for parents, measures to avoid inequalities during the recruitments processes, measures to reduce discriminations based on gender, etc.

Teaching activities

Summary of Teaching activities

2005–now As an Assistant Professor, I teach at least 192 hours a year in front of students. This does not include organization of the exams, preparation of the courses, etc. This rule has several exceptions: in 2008, for my first maternity leave, I taught 60 hours less, and in 2013, for my second maternity leave, I taught 96 hours less. In addition, for the three academic years when I was Equal Opportunity Officer, I had to teach 50 hours less than the normal duty. Finally, I have been on temporary leave of the University in years 2009/2010 (I obtained a year off teaching to prepare works on average-case analysis of CP algorithms), 2010/2011 (I obtained a temporary position at INRIA to help Nicolas prepare the application file of our team) and in 2015/2016 (I had a temporary position at INRIA in the Celtique team in Rennes).

2004–2005 As a *demiATER* at the University of Nantes, I had to teach at least 96 hours on the same basis.

2000–2003 As a Teaching Assistant at the University of Paris 6, I taught at least 64 hours a year on the same basis.

Main courses

I detail only the courses for which I gave both the lecture and the tutorials, and for which I built part of, or all, of the courses.

2014–now **Local search, Master Degree** I give this course to students of the GIPAD master at the Ecoles des Mines de Nantes (*Génie Informatique pour l'Aide à la Décision*, computer engineering for computer-aided decision). The lecture was of 10hours in 2014/2015, and is now 15. I built the course from scratch. It includes: a smooth introduction to local search on SAT (via GSAT and WalkSAT to show the importance of randomness), then a review of different classic algorithms (tabu search and some of its variants, simulated annealing), a case study on a real problem and a few theoretic results.

2008–2012 **Computer-aided conception (sound), Master Degree** This course was for master degree students in the ALMA master of the University of Nantes. It was a two parts course: graphic computing, and sound design. I taught the sound design part (12hours lecture, 12hours tutorial), based on the Faust programming language for real-time sound processing, with also a short introduction to computer aided composition (at the score level). I built this course from scratch.

2005–2008 **Constraint programming, Master Degree** I taught this course (16hours of lectures, 16hours of practice) to students in *Maîtrise* (first year of master degree) in Nantes University. The course (9hours of lectures, 24hours of practice) was an introduction to discrete constraints: modeling problems with constraints, consistency and propagation, search. The language for programming exercises was GNU-Prolog with constraints. In this course, I also gave the students a modeling challenge as a free exercise (no scores, no reward), and some of them obtained amazingly good models. As an example, one of the subjects was the IJCAI modeling challenge of 2005. I produced part of the teaching material, and part of it came from the previous teacher.

2005–2008 **Imperative programming, Master Degree** I taught this courses to students in the *Connaissances Complémentaires en Informatique* (Master 2 CCI), which is a quite specific cursus: the students already have a master degree but not in computer science, and during the CCI master they learn programming. The course (16hours of lectures, 16hours of practice) was an introduction to the C language. I built this course from scratch, based on existing online courses that I adapted to the public (non computer science students).

Other responsibilities

2010–2012 **International Relations at the Computer Science Department** I was in charge of international relations, in particular for computer science students on the Erasmus program: for each student, an individual Learning Agreement, matching the courses of the input University to the courses of the output University, must be build in coherence with both cursus and the student's wishes and knowledge.

Edition

[1] Programmation par Contraintes (*Constraint Programming*)
Special issue of the *Revue d'Intelligence Artificielle* (French Artificial Intelligence Journal)
Charlotte Truchet (editor)
Hermès - Lavoisier
Volume 28, number 5, pages 520-636, January 2015.

[2] Constraint Programming in Music (2011).
Charlotte Truchet and Gérard Assayag (ed.),
ISTE/Wiley, ISBN 978-1-84821-288-6
`http://iste.co.uk/index.php?f=x&ACTION=View&id=413`
Also author and co-author of two chapters.

Refereed journal publications

[3] *A global constraint for over-approximation of real-time streams*, Anicet Bart, **Charlotte Truchet** and Eric Monfroy, Constraints, Volume 22, Number 3, pages 463-490, 2017, Springer Verlag.
Extended version of 12

[4] *Estimating Parallel Runtimes for Randomized Algorithms in Constraint Solving*, **Charlotte Truchet**, Alejandro Arbelaez, Florian Richoux and Philippe Codognet, Journal of Heuristics, 22(4): 613-648 (2016)
Extended version and synthesis of 7 and 14

[5] *Optimizing the Heck-Matsuda Reaction in Flow with a Constraint-Adapted Direct Search Algorithm*, Cortès-Borda, Daniel and Kutonova, Ksenia V. and Jamet, Corentin and Trusova, Marina E. and Zammattio, Françoise and **Truchet, Charlotte** and Rodriguez-Zubiri, Mireia and Felpin, François-Xavier, Journal of Organic Process Research & Development, volume 20, number 11, pages 1979-1987, 2016

[6] *The octagon abstract domain for continuous constraints*, Marie Pelleau **Charlotte Truchet** and Frédéric Benhamou, Constraints, Volume 19, Number 3, pp 309-337, June 2014, Springer Verlag.
Extended version of 17

[7] *Using sequential runtime distributions for the parallel speedup prediction of SAT local search*, Alejandro Arbelaez, **Charlotte Truchet** and Philippe Codognet, Theory and Practice in Logic Programming, Volume 13, Number 4-5, pp 625-639, October 2013, Cambridge University Press
Article presented at the ICLP 2013 conferences: for ICLP, the proceedings articles are automatically published in this journal.

[8] *Solving Musical Constraints with Adaptive Search*, **C. Truchet**, P. Codognet, Soft Computing, volume 8, numéro 9, pages 633-640, septembre 2004, Springer Verlag.

[9] *Computation of words satisfying the "rhythmic oddity property"*, M. Chemillier, **C. Truchet**, Information Processing Letters, volume 86, numéro 5, pages 255 - 261, 15 juin 2003, Elsevier Science.

Refereed international conferences

with proceedings

[10] *Reachability in Parametric Interval Markov Chains using Constraints*, Anicet Bart, Benoit Delahaye, Didier Lime, Eric Monfroy and **Charlotte Truchet**, QEST 2017, **accepted, to appear**

[11] *Learning Sequential and Parallel Runtime Distributions for Randomized Algorithms*, Alejandro Arbelaez, Charlotte Truchet, Barry O'Sullivan, Proceedings of ICTAI 2016: 655-662

[12] *Verifying a Real-Time Language with Constraints*, Anicet Bart, **Charlotte Truchet** and Eric Monfroy, 27th IEEE International Conference on Tools with Artificial Intelligence, ICTAI 2015, Vietri sul Mare, Italy, November 9-11, 2015, **Best paper award**

[13] *Interactive Design of Sustainable Cities with a Distributed Local Search Solver*, Bruno Belin, Marc Christie and **Charlotte Truchet**, *Proceedings of CPAIOR*, pages 104-119, 2014, Cork, Ireland

[14] *Prediction of Parallel Speed-ups for Las Vegas Algorithms*, **Truchet C.**, Richoux F., Codognet P., Proceedings of the 2013 42nd International Conference on Parallel Processing - 42nd International Conference on Parallel Processing, Lyon, France, October 2013.

[15] *A Constraint Solver based on Abstract Domains*, Pelleau M., Miné A., Truchet C., Benhamou F., Proceedings of VMCAI 2013 - 14th International Conference on Verification, Model Checking, and Abstract Interpretation, Rome, Italie, January 2013.

[16] *When is it worthwhile to propagate a constraint? A probabilistic analysis of AllDifferent*, Du Boisberranger J., Gardy D., Lorca X., **Truchet C.**, Proceedings of the 10th Meeting on Analytic Algorithmics and Combinatorics, ANALCO 2013, New Orleans, USA, January 2013.

[17] *Octagonal Domains for Continuous Constraints*, Marie Pelleau, **Charlotte Truchet** and Frédéric Benhamou, Proceedings of the 17th International Conference on Principles and Practice of Constraint Programming (CP'11), Perrugia, Italy. **Best student paper award**

[18] *Abstract Domains for Constraint Programming, with the Example of Octagons*, **Charlotte Truchet**, Marie Pelleau and Frédéric Benhamou, Proceedings of Synasc'10 12th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, pp. 72-79, Timisoara, Romania

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