

CURRICULUM VITÆ

Name : David Cohen

Title : Doctor in Mathematics

Nationality : Swiss

Civil status : Unmarried

Address : Mathematisches Institut, Universität Basel, Rheinsprung 21, CH-4051 Basel,
Switzerland

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Birth date : October 09, 1977

Birth place : Geneva, Switzerland

Languages

French : mother tongue

English : good

German : good

Norwegian : beginner

Education

September 2007 : Assistenzprofessor at the University of Basel, Switzerland

October 2006 : Post-doc at the NTNU, Trondheim (*Geometric Analysis in Lie Groups and Applications* project)

October 2005 : Post-doc at the University of Tübingen (financed by the SFB 382 *Verfahren und Algorithmen zur Simulation physikalischer Prozesse auf Höchstleistungsrechnern*)

October 2004 : Post-doc at the University of Tübingen (financed by the Swiss National Science Foundation)

June 2004 : Ph.D. in Mathematics at the University of Geneva, titled “Analysis and Numerical Treatment of Highly Oscillatory Differential Equations” (advisor Ernst Hairer)

May 2000 : Diploma in Mathematics at the University of Geneva (advisor Ernst Hairer)

Academic Interests

Ordinary differential equations. Numerical methods. Geometric numerical integration. Molecular dynamics. Wave equations. Programming.

Employment

2007–20?? : Assistenzprofessor at the University of Basel

2006–2007 : Post-doc at the NTNU, Trondheim

2004–2005 : Post-doc at the University of Tübingen

2000–2004 : Assistant at the University of Geneva

1999–2001 : Replacements in various colleges in Geneva

Other Professional Abilities

Programs in FORTRAN, C++, OPENGL and mathematical languages (MAPLE, MATLAB, MINITAB)

Publications

- [1] D. Cohen and E. Hairer and C. Lubich, *Modulated Fourier expansions of highly oscillatory differential equations*, *Foundations of Comput. Math.*, 2003 (**3**), 327–345.
- [2] D. Cohen and E. Hairer and C. Lubich, *Numerical energy conservation for multi-frequency oscillatory differential equations*, *BIT*, 2005 (**45**), 287–305.
- [3] D. Cohen, *Conservation properties of numerical integrators for highly oscillatory Hamiltonian systems*, *IMA Journal of numerical analysis*, 2006 (**26**), 34–59.
- [4] D. Cohen, T. Jahnke, K. Lorenz and C. Lubich, *Numerical integrators for highly oscillatory Hamiltonian systems: a review*, to appear in *Analysis, Modeling and Simulation of Multiscale Problems*, A. Mielke (ed.), Springer, Berlin, 2006.
- [5] D. Cohen, E. Hairer and C. Lubich, *Long-time analysis of nonlinearly perturbed wave equations via modulated Fourier expansions*, accepted for publication in *Arch. Rat. Mech. Anal.* (April 2007).
- [6] E. Celledoni, D. Cohen and B. Owren, *Symmetric exponential integrators with an application to the cubic Schrödinger equation*, submitted (November 2006).
- [7] D. Cohen, E. Hairer and C. Lubich, *Conservation of energy, momentum and actions in numerical discretizations of nonlinear wave equations*, submitted (April 2007).
- [8] D. Cohen, B. Owren and X. Raynaud, *Multi-symplectic integration of the Camassa-Holm equation*, submitted (July 2007).

Presentations and Conferences

- July* 2007 : SciCADE 2007, Saint-Malo, France (lecture delivered, titled “Geometric integrators for the Camassa-Holm equation”)
- June* 2007 : Workshop on Highly Oscillatory Problems, Cambridge, United Kingdom
- April* 2007 : Symposium in Applied and Computational Mathematics, Basel, Switzerland (lecture delivered, titled “A lot of oscillations . . .”)
- April* 2007 : Workshop on Applying Geometric Integrators, Edinburgh, United Kingdom (lecture delivered, titled “Highly oscillatory Hamiltonian systems with non-constant mass matrix”)
- March* 2007 : Workshop on Highly Oscillatory Problems, Cambridge, United Kingdom (lecture delivered, titled “Highly oscillatory Hamiltonian systems with non-constant mass matrix”)
- February* 2007 : Workshop MaGIC, Atnasjøen, Norway (lecture delivered, titled “Modulated Fourier expansion for highly oscillatory differential equations”)
- September* 2006 : Conference on Geometric Integration, Castellón, Spain (lecture delivered, titled “Long-time analysis of nonlinearly perturbed wave equations via modulated Fourier expansions”)
- September* 2006 : Sonderforschungsbereich 382 Verfahren und Algorithmen zur Simulation physikalischer Prozesse auf Höchstleistungsrechnern, abschlusskolloquium, Stuttgart (presentation of a poster)
- May* 2006 : Audition poste Maître de conférence, INSA Toulouse (GMM), France
- May* 2006 : Colloquium, Fribourg, Switzerland (lecture delivered, titled “Highly oscillatory Hamiltonian systems”)
- April* 2006 : Colloque Numérique Suisse, Lausanne, Switzerland
- March* 2006 : Workshop on “Geometric Numerical Integration”, Oberwolfach (lecture delivered, titled “Highly oscillatory Hamiltonian systems”)
- February* 2006 : Workshop on Numerical Relativity, Tübingen, Germany
- May* 2005 : SCICADE 05, Nagoya, Japan (lecture delivered, titled “Conservation properties of numerical integrators for highly oscillatory Hamiltonian systems”)
- March* 2005 : Schweizer Numerik Kolloquium, Zürich, Switzerland (lecture delivered, titled “Highly oscillatory differential equations”)
- December* 2004 : Molecular simulation: Algorithmic and Mathematical aspects, Paris, France
- September* 2004 : Journées d’automne de la Société Mathématique Suisse, Lausanne, Switzerland (lecture delivered, titled “Analyse et traitement numérique des équations différentielles à grandes oscillations”)
- February* 2004 : Rencontre des doctorants (École doctorale), Neuchâtel, Switzerland (lecture delivered, titled “EDOs à grandes oscillations”)
- June* 2003 : Basler Numerik-Tage 2003, Bâle, Switzerland
- June* 2002 : Conference on Scientific Computation, Genève, Switzerland (help to the organisation)
- June* 2000 : Numerical Methods for ODEs (summer school), Dobbiaco, Italy

Hobbies and Interests

Cycling (coach “Jeunesse & Sport”), swimming.

References

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