Curriculum Vitæ

Suzy S. MADDAH, Ph.D. 2015 ‖ Citizenship: Lebanese ‖ Birth year: 1988 ‖ Gender: Female

☞ **Postdoctoral Researcher, INRIA Saclay**
The French National Institute for Computer Science and Applied Mathematics
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Postdoctoral Research Fellowships

Jan 2016 – present INRIA	SpecFun Team, INRIA Saclay Ile-de-France Advisor: Frédéric Chyzak ‖ Project: Connection Formulas for Special Functions.
Sep 2015 – Dec 2015 Fields	Fields Institute for Research in Mathematical Sciences, Thematic Program on Computer Algebra, Toronto, Canada.

Research

	16 conference talks, 3 conferences co-organisation, 9 seminar talks 7 computer algebra packages (software), 3 peer-reviewed papers + 3 submitted papers

Education

Feb 2012 – Sep 2015 Limoges	**Ph.D.** in Mathematics and its Applications University of Limoges, XLIM Research Institute, France Advisor: Moulay A. Barkatou, DMI, Computer Algebra Team Algorithms, linear algebra, first-order partial differential equations, singularly-perturbed differential systems, turning points, formal solutions, formal reduction, singularities, computer algebra
Sep 2008 – Jul 2010	**Master of Research** in Applied Mathematics Ecole Doctorale des Sciences et de Technologie, Lebanese University, Lebanon Partial differential equations and numerical analysis
Sep 2005 – Jul 2008	**Bachelor** of Pure Mathematics Faculty of Sciences, Lebanese University, Beirut, Lebanon

Teaching

Dec 2014 –
Aug 2015

Computer
Science

Teaching and Research Assistant (ATER)
Department of Computer Science, University of Limoges
Teaching language: French

Course	Semester	TD	TP
Asymptotic analysis and perturbation methods	Master ACSYON	10 h	
Computer algebra	M1 Math.	9 h	12 h
Artificial intelligence	M1 Comp. Sci.	9 h	
Object-oriented analysis and design	S6		30 h
Computer architecture	S4/S6	25.5 h	1.5 h
Logic programming with Prolog	S4		18 h
Info 2	S2	27 h	15 h
Info advanced	S2	7.5 h	12 h

Sep 2010 –
Dec 2012

Math
for
Engineers

Lecturer/ Teaching Assistant
Beirut Arab University, Beirut, Lebanon
Faculty of Engineering, Physics and Mathematics Department
Teaching language: English

Lectures and exercise sessions, undergraduate level, $\approx$ 200h TD and 50h lecture:
  Linear algebra, calculus, differential equations, vector analysis, complex analysis, numerical analysis and introduction to Matlab.

Languages

Programm-
ing

Maple (advanced), Mathemagix (intermediate), C/C++ (intermediate), Prolog (familiar), Matlab (familiar), Python (familiar)

Natural

English (Fluent)
French (Good)
Arabic (Native language)

Referees

Referenes available upon request

List of Publications, Talks, and Software

Suzy S. MADDAH

Ph.D. Thesis

Formal reduction of differential systems : Singularly-perturbed linear differential systems and completely integrable Pfaffian systems with normal crossings, University of Limoges, Sep. 2015.

The order of authors in mathematics is alphabetical.

Papers

Published papers

Proceedings of premier international conferences for research in symbolic computation and computer algebra (with reviewing process):

[1] M.A. Barkatou, S.S. Maddah (2015). Removing Apparent Singularities of Systems of Linear Differential Equations with Rational Function Coefficients. In *Proceedings of the 40th International Symposium on Symbolic and Algebraic Computation* (ISSAC), ACM Press, pp. 53-60. Consult paper.

[2] H. Abbas, M.A. Barkatou, S.S. Maddah (2014). On the Reduction of Singularly-Perturbed Linear Differential Systems. In *Proceedings of the 39th International Symposium on Symbolic and Algebraic Computation* (ISSAC), ACM Press, pp. 320-327.
Consult paper or preprint.

[3] H. Abbas, M.A. Barkatou, S.S. Maddah (2014). Formal Solutions of a Class of Pfaffian Systems in Two Variables. In *Proceedings of the 39th International Symposium on Symbolic and Algebraic Computation* (ISSAC), ACM Press, pp. 312-319.
Consult paper or preprint.

Submitted papers

[4] M.A. Barkatou, M. Jaroschek, S.S. Maddah (2015). Formal Solutions of a Class of Pfaffian Systems in Several Variables.
Consult preprint (31 pages).

Under Redaction

[5] M.A. Barkatou, S. S. Maddah (2015-2016). Formal Solutions of Singularly-Perturbed Linear Differential Systems (55 pages).

[6] F. Chyzak, S. S. Maddah (2016). Generalized Hypergeometric Solutions of Linear Differential Systems (35 pages).

Software

Maple

[7] AppSing: Package for removing apparent singularities of systems of linear differential equations with rational function coefficients. Based on paper [1].

[8] ParamInt: Package for symbolic resolution of singularly-perturbed linear systems of differential equations. Based on papers [2] and [5].

[9] PfaffInt: Package for symbolic resolution of completely integrable pfaffian systems with normal crossings. Based on papers [3] and [4].

[10] miniISOLDE: Package for symbolic resolution of linear systems of differential equations with singularities.

[11] ParamAlg: Package for differential-like reduction of matrices perturbed by a parameter.

[12] GenHypSols: Package for computing generalized hypergeometric solutions of differential systems. Based on paper [6].

Mathemagix

[12] Lindalg: Package for symbolic resolution of linear systems of differential equations with singularities. Developed within Google Summer of Code 2014.

The packages and examples of computations are available online.

Conference co-organisation

- 11-14 Jul 2016: Session on Software for the Symbolic Study of Functional Equations at the 5th International Congress on Mathematical Software ICMS. With: Moulay Barkatou and Thomas Cluzeau.

- 29-31 Mar 2016 and 23-25 Mar 2015: Functional Equational in LIMoges FELIM'15 and FELIM'16, XLIM, University of Limoges, France. With: Moulay Barkatou, Thomas Cluzeau, Carole ElBacha, and Jacques-Arthur Weil.

Talks

Conferences

- 11-14 Jul 2016: Session on Software for the Symbolic Study of Functional Equations, The 5th International Congress on Mathematical Software ICMS, Berlin, Germany.

- 21-22 Sep 2015: Mathemagix Days, Laboratoire d'Informatique de l'École polytechnique, Palaiseau, France.

- 14-20 Sep 2015: Workshop on Symbolic Combinatorics and Computational Differential Algebra, Fields Institute, Toronto, Canada.

- 20-23 Jul 2015: The 21st International Conference on Applications of Computer Algebra ACA, Kalamata, Greece.

- 11-12 Dec 2014: Integrability days, XLIM, University of Limoges, France.

- 25 Oct 2014: Doctoral students workshop, "A Peek into a Black Hole", XLIM, University of limoges, France.

- 23-25 Jul 2014: The 39th International Symposium on Symbolic and Algebraic Computation ISSAC , Kobe, Japan.

- 9-12 Jul 2014: The 20th International Conference on Applications of Computer Algebra ACA, New York, U.S.A.

- 1-2 Apr 2014: Functional Equations in Limoges FELIM, XLIM, University Limoges, France.

- 26-27 May 2014: Structured Matrix Days SMD, XLIM, University of Limoges, France.

- 4-8 Nov 2014: Joint Presentation at the 7th Week of Math-Enterprises, University of Limoges, France.

- 2-6 Jul 2013: The 19th International Conference on Applications of Computer Algebra ACA, Malaga, Spain.

- 13-17 May 2013: Journées Nationales de Calcul Formel JNCF, CIRM, Luminy, France.

Seminars

- 14 Mar 2016 and 10 Oct 2016: SpecFun Seminar, INRIA Saclay Ile-de-France.

- 03 Dec 2015: Symbolic Computation Group, David R. Cheriton School of Computer Science University of Waterloo, Canada.

- 6 Nov 2015: Special Lecture Series, Thematic Program on Computer Algebra, Fields Institute, Canada.

- 14 Jul 2014: Kolchin Seminar, Graduate Center, City University of New York, U.S.A.

- 12 May 2014: SpecFun Seminar, INRIA Saclay Ile-de-France.

- 17 Jun 2014: Functional Equations Seminar, IRMA, University of Strasbourg, France.

- 11 Apr 2013: Computer Algebra Seminar, DMI- XLIM, University of Limoges.

- 14 Dec 2012: Mathematics Seminar, Laboratory of Mathematics, Beirut, Lebanese University.