

# Curriculum Vitae

## Informations Personnelles

Martine OLIVI

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## Formation

- 25 Octobre 2010    HDR, université de Nice Sophia Antipolis.
- 25 Juin 1987        Thèse de troisième cycle de Mathématiques,  
Université de Provence (Marseille)
- 1985                Agrégation de Mathématiques
- 1981-1983         École Nationale Supérieure des Mines de St-Etienne
- Juin 1982         DEA de Mathématiques,  
Université de Provence (Marseille)

## Activités Professionnelles

- depuis Sept 88    Chargée de recherche l'INRIA Sophia-Antipolis,  
Projet MIAOU, puis APICS
- 1986-88            Stagiaire INRIA sur contrat DRET jeune chercheur
- 1985-86            Stagiaire CPR au lycée du Portail Rouge  
(St. Etienne, Académie de Lyon)

## Activités d'enseignement et d'encadrement

- 2005-2012        Cours de mathématiques pour l'ingénieur, Polytech'Nice-Sophia, section Mathématiques Appliquées et Modélisation ;
- 2007-2008        Participation à l'encadrement de la thèse de V. Lunot
- 1991-1994        Participation à l'encadrement de la thèse de P. Fulcheri
- 1987-1990        Participation à l'encadrement de la thèse de M. Cardelli
- 1986-1991        Travaux dirigés à l'université de Nice :  
– calcul différentiel, licence mathématique, 1991-1992 ;

- théorie des langages, ESSI 1ère année, 1991-1992 ;
  - groupes de symétrie, maîtrise mathématique, 1990-1991 ;
  - optimisation, maîtrise MIM, 1986-87,
- 1983-1986 Travaux dirigés à l'école des Mines de St-Etienne :
- programmation linéaire, théorie des graphes, 1985-86 ;
  - intégration, analyse fonctionnelle, 1983-85 ;
- 1983-1986 Colles en Mathématiques Supérieures aux lycées Fauriel (St-Etienne) et Thiers (Marseille)

## Logiciels

**RARL2** J. P. MARMORAT, M. OLIVI (2004)

Ce logiciel calcule une approximation rationnelle stable de degré fixé  $n$ , d'une fonction matricielle dans l'espace de Hardy  $H^2$  du complémentaire du disque unité. Ce logiciel permet de faire de la réduction de modèle et de l'identification fréquentielle. Intégré au logiciel PRESTO-HF (F. SEYFERT) dédié à l'identification de filtres hyperfréquences, il a été distribué à l'IRCOM, Alcatel Space, Thalès. Il est aussi intégré au prologiciel FindSource3D (J. LEBLOND, M. CLERC, J.P. MARMORAT, R. BASSILA) de localisation de sources en électroencéphalographie.

## Publications

### Articles de journaux

- [A.15] M. OLIVI, F. SEYFERT AND J.P. MARMORAT, *Identification of microwave filters by analytic and rational  $H^2$  Approximation*, Automatica, 49 (2013), 317-325
- [A.14] L. BARATCHART, S. KUPIN, V. LUNOT, M. OLIVI, *Multipoint Schur algorithm and orthogonal rational functions : convergence properties*, Journal d'Analyse 112(2011), 207-255, url=<http://arxiv.org/abs/0812.2050v3>.
- [A.13] L. BARATCHART, P. ENQVIST, A. GOMBANI, M. OLIVI, *Minimal symmetric Darlington synthesis*, Math. of Control, Signal and Systems 4(2007), 283-311.
- [A.12] R.L.M. PEETERS, B. HANZON AND M. OLIVI, *Canonical lossless state-space systems : staircase forms and the Schur algorithm*, Linear Algebra and its Applications, 425 (2007), 404-433, Special Issue in honor of Paul Fuhrmann.
- [A.11] J.P. MARMORAT AND M. OLIVI, *Nudelman Interpolation, Parametrization of Lossless Functions and balanced realizations*, Automatica, 43 (2007), 1329-1338
- [A.10] B. HANZON, M. OLIVI AND R.L.M. PEETERS, *Balanced realizations of discrete-time stable all-pass systems and the tangential Schur algorithm*, Linear Algebra and its Applications, 418 (2006), 793-820
- [A.9] M. OLIVI, *The Laplace transform in control theory*, Lecture Notes in Control and Information Sciences, 327 (2006), 193-209
- [A.8] A. GOMBANI AND M. OLIVI, *A new parametrization of rational inner functions of fixed degree : schur parameters and realizations*, MCSS, 13 (2000), pp. 156-177.
- [A.7] J. LEBLOND AND M. OLIVI, *Weighted  $H^2$  approximation of transfer functions*, MCSS, 11 (1998), pp. 28-39.
- [A.6] P. FULCHERI AND M. OLIVI, *rational  $H^2$ -approximation : a gradient algorithm based on Schur analysis*, SIAM Journal on Control and Optimization, 36, No.6 (1998),

pp. 2103–2127.

- [A.5] L. BARATCHART AND M. OLIVI, *Critical points and error rank in best  $H^2$  matrix rational approximation of fixed McMillan degree*, Constructive Approximation, 14 (1998), pp. 273–300.
- [A.4] L. BARATCHART, M. OLIVI, AND F. WIELONSKY, *On a rational approximation problem in the real Hardy space  $H_2$* , Theoretical Computer Science, 94 (1992), pp. 175–197.
- [A.3] L. BARATCHART, M. CARDELLI, AND M. OLIVI, *Identification and rational  $L^2$  approximation : a gradient algorithm*, Automatica, 27, No.2 (1991), pp. 413–418.
- [A.2] M. OLIVI AND S. STEER *Approximation rationnelle en norme  $L^2$  des systemes dynamiques*, RAIRO, Autom. Prod. Inf. Ind. 24, No.5, 481-510 (1990).
- [A.1] L. BARATCHART AND M. OLIVI, *Index of critical points in  $l^2$ -approximation*, System and Control Letters, 10 (1988), pp. 167–174.

### Publications dans des conférences internationales

- [P.23] S. LEFTERIU, M. OLDONI, M. OLIVI, F. SEYFERT, *De-embedding multiplexers by Schur reduction*, CDC'13 (Florence, Italy), <http://hal.inria.fr/hal-00904794>
- [P.22] R. PEETERS, M. OLIVI AND B. HANZON, *Continuous-time lossless systems, boundary interpolation and pivot structures* SSSC'13 (Grenoble, France)
- [P.22] C. SEXTON, B. HANZON AND M. OLIVI, *Rational Approximation of Transfer Functions for Non-Negative EPT Densities* Sysid'12 (Brussels, Belgium)
- [P.20] L. BARATCHART, P. ENQVIST, A. GOMBANI AND M. OLIVI, *Minimal symmetric Darlington synthesis : the real case*, MTNS 2010 (Budapest, Hungary).
- [P.19] R. PEETERS, M. OLIVI AND B. HANZON, *Parametrization of matrix-valued lossless functions based on boundary interpolation*, MTNS 2010 (Budapest, Hungary).
- [P.18] D. AVANESSOFF, M. OLIVI AND F. SEYFERT, *Polynomial structure of  $3 \times 3$  reciprocal inner matrices*, MTNS 2010 (Budapest, Hungary).
- [P.17] R. PEETERS, M. OLIVI AND B. HANZON, *Subdiagonal pivot structures and associated canonical forms under state isometries*, Sysid'09 (St-Malo, France).
- [P.16] R. PEETERS, M. OLIVI AND B. HANZON, *Balanced realization of lossless systems : Schur parameters, canonical forms and applications*, Sysid'09 (St-Malo, France).
- [P.15] M. OLIVI, B. HANZON AND R. PEETERS, *Lossless scalar functions : boundary interpolation, Schur algorithm and Ober's canonical form*, CDC'08 (Cancun, Mexico)
- [P.14] M. OLIVI, B. HANZON AND R. PEETERS, *A Schur algorithm for symmetric inner functions*, CDC 2005 (Seville, Spain).
- [P.13] R.L.M. PEETERS, B. HANZON AND M. OLIVI, *Canonical lossless state-space systems : staircase forms and the Schur algorithm*, SSSC 2004 (Oaxaca, Mexico).
- [P.12] J.P. MARMORAT AND M. OLIVI, *Parametrization of Lossless Functions and balanced realizations*, SSSC 2004 (Oaxaca, Mexico).
- [P.11] M. OLIVI, J.P. MARMORAT, B. HANZON AND R. PEETERS, *Schur parametrizations and balanced realizations of real discrete-time stable all-pass systems*, CDC 2003 (Maui, USA).
- [P.10] J.P. MARMORAT, M. OLIVI, B. HANZON AND R. PEETERS, *Matrix rational  $H^2$ -approximation : a state-space approach using Schur parameters*, CDC 2002 (Las-Vegas, USA).
- [P.9] R.L.M. PEETERS, B. HANZON AND M. OLIVI, *On a recursive state-space method*

for discrete-time  $H^2$ -approximation, MTNS 2002 (Notre-Dame, USA).

- [P.8] R.L.M. PEETERS, B. HANZON AND M. OLIVI, *Linear fractional transformations and balanced realization of discrete-time stable all-pass systems*, 1st IFAC Symposium on System Structure and Control 2001 (Prague).
- [P.7] L. BARATCHART, A. GOMBANI AND M. OLIVI, *Parameter determination for surface acoustic wave filters*, CDC 2000 (Sydney).
- [P.6] P. FULCHERI AND M. OLIVI, *Matrix rational  $H^2$  approximation and Schur parameters*, CDC'99 (Phoenix).
- [P.5] R.L.M. PEETERS, B. HANZON AND M. OLIVI, *Balanced realizations of discrete-time stable all-pass systems and the tangential Schur algorithm*, ECC'99 (Karlsruhe).
- [P.4] J. LEBLOND AND M. OLIVI, *Weighted  $H^2$  approximation of transfer functions*, 17<sup>e</sup> Conf. IFIP TC7 "System Modelling and Optimization", Prague, 1995, pp. 99–106.
- [P.3] L. BARATCHART AND M. OLIVI, *Inner-unstable factorization of stable rational transfer functions*, in Modeling, Estimation and Control of Systems with Uncertainty, G. D. Masi, A. Gombani, and A. Kurzhansky, eds., vol. 10 of Progress in System and Control Theory, Birkhauser, 1991, pp. 22–39.
- [P.2] L. BARATCHART, M. OLIVI AND F. WIELONSKY. *Asymptotic properties in rational  $\ell^2$ -approximation* Analysis and optimization of systems, 9th Int. Conf., Antibes/Fr. 1990, Lect. Notes Control Inf. Sci. 144, 477-486 (1990).
- [P.1] L. BARATCHART, M. OLIVI, *New tools in rational  $L^2$  approximation*, IFAC, Pekin (1988).

## Rapports

- [R7] V. LUNOT, L. BARATCHART, S. KUPIN AND M. OLIVI, *Multipoint Schur's algorithm, rational orthogonal functions, asymptotic properties and Schur rational approximation*, INRIA research report 6620, 2008.
- [R6] B. HANZON, M. OLIVI AND R.L.M. PEETERS *Balanced realizations of discrete-time stable all-pass systems and the tangential Schur algorithm* INRIA research report 5111, 2004.
- [R5] L. BARATCHART, P. ENQVIST, A. GOMBANI AND M. OLIVI, *Surface Acoustic Wave Filters, Unitary Extensions and Schur Analysis*, Report No. 44, Institut Mittag-Leffler, 2003.
- [R4] L. BARATCHART, J. GRIMM, J. LEBLOND, M. OLIVI, F. SEYFERT, AND F. WIELONSKY, *Identification d'un filtre hyperfréquences par approximation dans le domaine complexe*. Rapport Technique INRIA, RT-219, Mars 1998.
- [R3] L. BARATCHART AND M. OLIVI, *Critical points and error rank in matrix  $H^2$  rational approximation of fixed McMillan degree*, Rapport de recherche INRIA no. 2970, Sept. 1996.
- [R2] J. LEBLOND AND M. OLIVI, *Weighted  $H^2$  approximation of transfer functions*, Rapport de recherche INRIA no. 2863, 1996.
- [R1] P. FULCHERI AND M. OLIVI, *Identification and matrix rational  $H^2$ -approximation : a gradient algorithm based on Schur analysis*, Rapport de recherche INRIA no. 2520, Avril 1995.

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