

# Curriculum Vitae of Mohamed HMISSI



**Full Name:** Mohamed Abderrahman HMISSI

**Date / Place of Birth:** August 11, 1955 / Takelssa (Tunisia)

**Citizenship:** Tunisia

**Martial Status:** Married, one son (17 years).

**Function:** : Mathematics Professor

**Present Address:** Department of Mathematics and Statistics, College of Science, Al-Imam Muhammad Ibn Saud Islamic University, P.O. Box 90950, Riyadh 11623, Saudi Arabia

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**Field of Specialization:** Potential Analysis; Stochastic Analysis.

**Languages:** Arabic: native; French: very good; English: good; German: good

## ACADEMIC QUALIFICATIONS

- 1992** : Doctorate of State at the University of Tunis Elmanar (with high honors).  
Prepared in the University of Frankfurt.  
**Title:** Dynamical Systems and Integral Representation in Potential Theory  
**Scientific Committee:** Mohamed Amara (Tunis), Abdennibi Achour (Tunis), Abderrahman Boukricha (Tunis), Ezeddine Salhi (Sfax), Wolfhard Hansen (Bielefeld), Klaus Janssen (Duesseldorf), Malte Sieveking (Frankfurt), Ghorge Bucur (Bucharest).
- 1984** : Doctorate of Speciality at the University of Tunis Elmanar (with high honors)  
**Title:** Deterministic Semigroups, Poisson Kernels  
**Advisor:** Malte Sieveking (Frankfurt).
- 1979** : Master of Sciences in Mathematics at the University of Tunis Elmanar.  
**Title:** Integral Representation of Potentials  
**Advisor:** Malte Sieveking (Frankfurt).
- 1978** : Bachelor of Sciences in Mathematics at the University of Tunis Elmanar

## POSITIONS

- 2014-Now** : Professor at Al-Imam University, Riyadh (Saudi Arabia)  
**1997-2014** : Professor at the University of Tunis Elmanar (Tunisia)  
**1992-1997** : Associate Professor at the University of Tunis Elmanar (Tunisia)  
**1989-1992** : Assistant Professor at the University of Frankfurt (Germany)  
**1984-1989** : Assistant Professor at the University of Tunis Elmanar (Tunisia)  
**1978-1984** : Assistant at the University of Tunis Elmanar (Tunisia)

## UNIVERSITY ACTIVITIES

- 1995-1998 : Director of the Research Unity **Potential Theory** (E16/C15) at the University of Tunis Elmanar (Faculty of Sciences).
- 1999-2011 : Director of the Research Unity **Potential Analysis** (99/UR/15-11) at the University of Tunis Elmanar (Faculty of Sciences)
- 2003-2009 : Director of the Graduate School of Pure and Applied Mathematics at the University of Tunis Elmanar.
- 1997-2002 : Elected member of the Scientific Council, Faculty of Sciences of Tunis.
- 1999- 2014 : Responsible for the weekly Seminar **Stochastic Analysis and Applications**, Faculty of Sciences of Tunis.

## SCIENTIFIC ACTIVITIES

- Referee for the following Journals: Arkiv der Mathematik, Potential Analysis, Journal of Theoretical Probability, Journal of Mathematical Analysis and Applications, ESAIM Proceedings, Stochastics.
- Referee for: 1 Doctorate of State, 1 Habilitation and 8 Ph. D. Theses.
- Co-Guest Editor of the Journal Potential Analysis, Volume 15, 2001.
- Reviewer in Mathematical Reviews since 1994 and in Zentralblatt Math since 1998.
- Supervisor of 21 Masters and 8 Theses of Doctorate.
- Author of 32 publications in international mathematical journals between 1987 and 2016.

## INTERNATIONAL CONFERENCES

- **International Conference on Potential Analysis:** Prag (Czech Republic) 1987, Utrecht (Holland) 1991, Kouti (Czech Republic) 1994 (Chairman), Hammamet (Tunisia) 1998 (Co-Organizer), Bielefeld (Germany) 2003 (Chairman).
- **European Conference on Iteration Theory (ECIT):** Chairman since 1996.  
Batschuns (Austria) 1989, Lisboa (Portugal) 1991, Opava (Czech Republic) 1994, Urbino (Italy) 1996, Muszyna (Poland) 1998, Murcia (Spain) 2000, Evora (Portugal) 2002, Batschuns (Austria) 2004, Gargnano (Italy) 2006, Jalta (Ukraine), 2008, Nant (France) 2010, Ponta Delgada (Azores, Portugal) 2012.
- **The 100th Anniversary of the DMV (German Association of Mathematicians):** Bremen (Germany) 1990.
- **International Conference on Functional Equations and Inequalities:** Muszyna (Poland) 1995.
- **The conferences of the Tunisian Mathematical Society:** Tabarka (Tunisia) 1995, Sousse (Tunisia) 2010. ( I often attended this annual conference since 1994).
- **International Conference on Stochastic Analysis and Applications (ICSAA):** Hammamet (Tunisia). 2009 (Chairman), 2011 and 2013 (Member of the Scientific Committee).  
( I often attended this conference, each two years since 2001).
- **Connected International Meetings Professional Association:** CIMPA School and Conference, Lévy Processes and Self-Similarity, Tunis and Hammamet 2013 (Chairman).

## AWARDS AND SCHOLARSHIPS

- Invited from the Universities of Prague (Czech Republic), June 1991; Krakov (Poland), September 1998; Dusseldorf and Frankfurt (Germany), September 1994, 1995 and 1998, March 2003, September 2004, June 2007, May 2009, June 2013 and March 2016.
- Grand from the CNRS (National Center for Scientific Research), University of Paris 6, France (April 1984, May 1985 and June 1986), University of Every, France (June 1998).
- Grant from the DAAD (German Academic Exchange Service), University of Dusseldorf, Germany (May-July 1989).
- Tunisian Government Scholarship for graduate studies in France, 1975.
- The first regional award for excellence diploma from high school in the governorate of Nabeul, 1974.

## **SCIENTIFIC RESEARCH**

### **Supervised Theses:**

- Supervised Master Theses: 21 (achieved) + 3 in preparation.
- Supervised Ph. D These: 4 achieved + 4 in preparation.
- Supervised Habilitation: 1 achieved + 3 in preparation.

## UNIVERSITY TEACHING

### **Bachelors Degree in Mathematics:**

- Abstract algebra; Linear algebra; Calculus; Real Analysis.
- Differential Equations; Measures Theory; Probability; Mathematical Statistics.

### **Master in Mathematics: Potential and Stochastic Analysis**

- **Probability:** Conditional Expectation, Stopping Time, Martingale.
- **Markov Processes:** Transition Function, Brownian Motion, Lévy Process, Markov Chains.
- **Potential Theory:** Resolvent, Semigroup, Excessive Functions, Potentials, Integral Representation.
- **Dynamical Systems in infinite dimensional spaces:** Translation Shift, Wiener Shift, Transfer Operator, Ergodicity, Mixing.
- **Stochastic Differential Equations:** Stochastic Calculus, Itô Integral, Itô Formula, Diffusions, Applications.

- **Random Dynamical Systems:** Cocycles, Random Iterations, Random Differential and Stochastic Equations, Invariant Measures, Random Fix Points, Applications.

**Manuscripts** (In French)

- Probability for Bachelors (with Farida Hmissi).
- Probability for Master (with Farida Hmissi).
- Markov Processes.
- Stochastic Differential Equations.
- Random Dynamical Systems.

## PUBLICATIONS

1. M. Hmissi: Régularité relative au noyau de Poisson. Lecture Notes in Mathematics 1235, Springer-Verlag, 88-104 (1987)
2. M. Hmissi: Semi-groupes déterministes. Lecture Notes in Mathematics 1393, Springer-Verlag, 135-144 (1989)
3. M. Hmissi: Cônes de potentiels stables par produit et systèmes semi-dynamiques. Expositiones Math. 7, Springer-Verlag, 265-273 (1989)
4. M. Hmissi: Sur l'équation fonctionnelle des cocycles d'un système semi-dynamique. Proceedings European Conference in Iteration Theory, Batschuns 89, World Scientific, 149-156 (1991)
5. M. Hmissi: Recouvrement parallélisable du plan. Proceedings European Conference in Iteration Theory, Lisboa 91, World Scientific, 136-145 (1992)
6. M. Hmissi: Lois de sortie et semi-groupes basiques. Manuscripta Math. 75, Springer-Verlag, 293-302 (1992)
7. M. Hmissi: Sur les solutions globales de l'équation des cocycles. Aequationes Math. 48, Springer-Verlag, 143-156 (1993)
8. M. Hmissi: Sur la représentation par les lois de sorties. Math. Zeitschrift 213, Springer-Verlag, 647-656 (1993)
9. M. Hmissi: Sur les systèmes dynamiques instables. Potential Analysis 3, Springer-Verlag, 145-152 (1994)

10. M. Hmissi: Potentiels et attracteurs d'un système dynamique. Proceedings of the International Conference on Potential Theory, Kouty 94, De Gruyter-Verlag, 359-365 (1996)
11. M. Hmissi: Sur l'existence des courbes de Siegel. Grazer Math. Berichte 334, Graz Universitaet Press, 139-146 (1997)
12. M. Hmissi: On the functional equation of exit laws for lattice semigroups. Rocznik Naukowo-Dydaktyczny WSP w Krakowie, Prace Mat. 196, 63-72 (1998)
13. M. Hmissi: Some characterizations about Siegel curves. Annales Mathematicae Silesianae 13, 143-148 (1999)
14. M. Hmissi: On the exit equation for semidynamical systems. Grazer Math. Berichte 339, 221-232 (1999)
15. F. Hmissi, M. Hmissi: Additive Kernels and Integral Representation of Potentials. Potential Analysis 15, Springer-Verlag, 123-132 (2001)
16. S. Ben Othman, S. Bouaziz, M. Hmissi: On Subordination of Convolution Semigroups. International Journal of Bifurcations and Chaos 13 No 7, World Scientific, 1917-1922 (2003)
17. F. Hmissi, M. Hmissi: Bochner Subordination and Ergodicity. Grazer Math. Berichte 346 , 211-221 (2004)
18. F. Hmissi, M. Hmissi: On Dynamical Systems generated by Homogeneous Processes. Grazer Math. Berichte 350, 144-155 (2006)
19. F. Hmissi, M. Hmissi, W. Maaouia: On Subordinated Exit laws for Densities. Grazer Math. Berichte 351, 52-65 (2007)
20. M. Hmissi, H. Mejri, E. Mliki: On the fractional powers of semidynamical systems. Grazer Math. Berichte 351, 66-78 (2007)
21. M. Hmissi, H. Mejri: On representation by exit laws for some Bochner subordinated semigroups. Annales Mathematicae Silesiannae 22, 7-26 (2008)
22. M. Hmissi, H. Mejri, E. Mliki: On the abstract exit equation. Grazer Math. Berichte 354, 84-98 (2009)

23. F. Hmissi, M. Hmissi: On subordination of resolvent and application to right processes. *Stochastic: An International Journal of Probability and Stochastic Processes* 351, Taylor and Francis, 52-65 (2009)
24. M. Hmissi, E. Mliki: On exit laws for subordinated semigroups by means of  $\mathcal{C}^1$ -subordinators, *Comment. Math. Univ. Carolinae* 51-4, 605-617 (2010)
25. M. Hmissi, W. Maaouia: On the Bochner subordination of exit laws. *Opuscula Mathematica* 31 No 2, 195-207 (2011)
26. M. Hmissi, I. ben Salah, H.Taouil: On the Helix Equation. in: Fournier-Prunaret D. et al.(eds.), *European Conference on Iteration Theory, Nant 2010, ESAIM: Proceedings and Surveys, Vol. 36*, 197-208 (2012)
27. A. Hmissi, F. Hmissi, M. Hmissi: On gradient-like random dynamical systems. in: Fournier-Prunaret D. et al.(eds.), *European Conference on Iteration Theory, Nant 2010, ESAIM: Proceedings and Surveys, Vol. 36*, 217-228 (2012)
28. M. Hmissi, K. Janssen: On  $S$ -subordination and applications to entrance laws. *Rev. Roumaine Math. Pures Appl.* 51 No 1, 105-121 (2014)
29. M. HMISSI: On Koopman and Perron-Frobenius operators of random dynamical systems. in: Jarczyk W. et al.(eds.), *European Conference on Iteration Theory, Ponta Delgada 2012, ESAIM: Proceedings and Surveys, Vol. 46*, 130-143 (2014)
30. M. Hmissi, F. Mokchaha, A. Hmissi: On potential kernels associated with random dynamical systems. *Opuscula Math.* 35, No. 4, 499-515 (2015)
31. M. Hmissi, W. Touhami: On exit laws for resolvents. To appear in *Analele Stiintifice ale Universitatii Al I Cuza din Iasi - Matematica* (2016)
32. M. Hmissi, C.N. Jmaili: On  $S$ -subordination and entrance laws for Markov processes. Submitted (2016)