SAMIS TREVEZAS

PERSONAL DATA

Date of Birth	:	21 November 1979
Nationality	:	Hellenic
Marital Status	:	Married, two children
Address	:	Department of Mathematics, University of Athens, Panepistemiopolis 157 84, Athens
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EDUCATION

Ph.D. in Statistics **2008**
Dissertation: "Maximum Likelihood Estimation for Markov, semi-Markov & hidden semi-Markov models and Applications", University of Technology of Compiegne, France

MSc in Statistics and Operations Research (Grade 9.5/10) **2007**
Department of Mathematics in the University of Athens, Greece

BSc in Mathematics (Grade 8.16/10) **2004**
Department of Mathematics in the University of Athens, Greece

WORK EXPERIENCE

Lecturer, Department of Mathematics, University of Athens, Greece **2014-Present**

Research fellow, Ecole Centrale Paris, France **2012-2014**

Expert Engineer – INRIA, Ecole Centrale Paris, France **2010-2012**

Postdoctoral Fellowship - INRIA, Ecole Centrale Paris, France **2009-2010**
Subject: "Parametric Identification of Plant Growth Models"

Adjunct Lecturer (ATER), University of Technology of Compiegne, France **2008-2009**
Department of Mathematics in the University of Athens, Greece

AWARDS

Best 2011 student paper award in Journal of Nonparametric Statistics **2011**

LANGUAGES

- **Greek:** Native
- **English :** excellent knowledge and Certificate of Proficiency in English (Cambridge)
- **French :** excellent knowledge (9 years in France) and Certificat de la langue Francaise (Delf)

COMPUTATIONAL SKILLS

Programming Languages: Matlab, R, C++
Other Programs: Word, Excel, LaTeX

RESEARCH INTERESTS

Statistical inference for stochastic processes, Markov and semi-Markov models, Hidden Markov and semi-Markov models, Parameter estimation for complex models, Plant-growth modeling, Stochastic and Monte-Carlo type algorithms

FUNDED RESEARCH PROJECTS

Project "CANTIA", French National Research Project supported by the European Union between Academics and industry to develop NTIC in Agriculture, Budget: 3.000.000 €, member in the development of methods for the parameterization of plant growth models.

CO-SUPERVISION OF PHD THESIS IN ECOLE CENTRALE PARIS

Baey Charlotte « Modeling inter-individual variability in plant growth models and model selection for prediction», February 2014 (principal director: Pr. Paul-Henry Cournède)

Chen Yuting « Bayesian Inference in plant growth models for prediction and characterization of uncertainties», June 2014 (principal director: Pr. Paul-Henry Cournede)

SUPERVISION OF MSC THESES IN NKUA: 7 completed and 3 in progress

1. Kordalis Leonidas, Discrete Time Convolution & elements of Markov Renewal Theory, 05-03-2020

2. Katogianni Ioanna, Random Graph simulation with prescribed degree sequence, 18-12-2019 (text in greek).

3. Motis Nikolaos, Hidden semi-Markov models &Applications to financial Time series, 18-12-2019.

4. Giannadaki Christina, Statistical techniques for improving prediction in crop progress stages with meteorological and satellite data, 18-12-2019.

5. Thivaiou Paraskevi, Hamiltonian Monte Carlo & Applications on Bayesian Linear Regression

16-09-2019.

6. Karalekas Eleftherios, BIC selection criteria for model selection in mixed effects models and extensions, 04-04-2017 (text in greek).

7. Logothetis Dimitris, Algorithmic Techniques of classical and Bayesian Statistics in plant growth models and convergence issues on the boundary of the Parameter space, 05-10-2016 (text in greek).

8-10. supervision of 3 MSc students in progress: Desipri A, Katachana K., Oikonomidis I.

PUBLICATIONS IN REFEREED INTERNATIONAL JOURNALS

1. **Mixed-effects estimation in dynamic models of plant growth for the assessment of inter-individual variability** **2018**
Baey C., Mathieu A., Jullien A., Trevezas S., Cournède P.-H. *Journal of Agricultural, Biological, and Environmental Statistics, 23(2), 208-232*

2. **A nonlinear mixed effects model of plant growth and estimation via stochastic variants of the EM algorithm** **2016**
Baey, C, Trevezas S, Cournède, *P-H, Communications in Statistics – Theory and Methods, 45(6), 1643-1669*

3. **A regularized particle filter EM algorithm based on Gaussian randomization with an Application to plant modeling** **2015**
Chen, Y Trevezas S, Cournède *P-H, Methodology & Computing in Applied Probability, 17(4), 847-870*

4. **Parameter estimation via stochastic variants of the ECM algorithm with applications to plant growth modeling** **2014**
Trevezas S, Malefaki S, Cournède *P-H, Computational Statistics & Data Analysis, 01/2014; 78, 82–99.*

5. **A sequential Monte Carlo approach for MLE in a plant growth model** **2013**
Trevezas S, Cournède P-H, *Journal of Agricultural, Biological, and Environmental Statistics*, *18(2), 250-270*

6. **Some parameter Estimation Issues in Functional-Structural Plant Modeling** **2011**
Cournède P-H, Letort V, Mathieu A, Kang M.Z., Lemaire S, Trevezas S, Houllier F and De Reffye P, *Mathematical Modeling of Natural Phenomena, 6(2), 133-159.*

7**. Exact MLE and asymptotic properties for nonparametric Semi-Markov models** **2011**
Trevezas S, Limnios N, *Journal of Nonparametric Statistics, 23(3), 719-739.*

8. **An EM and a Stochastic Version of the EM algorithm for non-parametric Hidden semi-Markov models** **2010**
Malefaki S, Trevezas S, Limnios N, *Communications in Statistics, Simulation & Computation, 32(2), 240-261.*

9. **Variance Estimation in the Central Limit Theorem for Markov chains** **2009**
Trevezas S, Limnios N, *Journal of Statistical Planning and Inference, 139 (7), 2242-2253.*

10. **Maximum likelihood Estimation for general hidden semi-Markov processes with backward recurrence time dependence** **2009**
Trevezas S, Limnios N, *Journal of Mathematical Sciences, 163 (3), 262-274.*

PAPERS IN REFEREED CONFERENCE PROCEEDINGS

1. **Bayesian estimation for the Greenlab model adapted to sugar beet plant**
2014
Malefaki S, Trevezas S, Cournède P-H, In Proceedings: 27th Annual Panhellenic Statistics Meeting, 23-26 April, Thessaloniki, Greece

2. **Iterative convolution particle filtering for nonlinear parameter estimation and data assimilation with application to crop yield prediction** **2013**
Chen Y, Trevezas S, Gupta A., Cournède P-H, Proceedings of the Conference on Control and its Applications, SIAM, USA, pp. 67-74.

3. **Some sequential Monte Carlo techniques for data assimilation in a plant growth model** **2013**
Chen Y, Trevezas S, Cournède *P-H, In Proceedings:* 15th ASMDA Intern. Conference*, 25-28 juin, Mataro (Barcelone), Spain.*

4. **A nonlinear mixed effects model to explain inter-individual variability in plants populations** **2013**
Baey C, Trevezas S, Cournède P-H, In Proceedings: *15th ASMDA Intern. Conference*, 25-28 juin, Mataro (Barcelone), Spain.

5. **Parameter Estimation of a Plant Growth Model via Stochastic Variants of the EM algorithm** **2012**
Malefaki S, Trevezas S, Cournède P-H, In Proceedings: 25th *Ann. Panhellenic Statistics Meeting*, 18-22 april, Volos, Greece

6. **Filtrage par Noyaux de Convolution Itératif** **2012**
Chen Y, Bayol B, Loi C, Trevezas S, Cournède P-H, In Proceedings: *44e Journées de Statistique*, 21-25 mai, Bruxelles.

7. ***Bayesian Estimation in Functional-Structural Plant models with Stochastic Organogenesis*** **2011**
Loi C, Cournède P-H, Trevezas S, In Proceedings: *14th ASMDA Intern. Confer.*, 7-10 juin, Rome, Italy.

CITATIONS: 163 citations according to Google Scholar (01/06/2020)

ORAL COMMUNICATIONS IN CONFERENCES

- Asymptotic calculus with a functional analytic approach for estimation in Markov type models, Mathematical Analysis in Athens in honor of Katavolos and Nestoridis, Athens, December 15-19, 2017
- Maximum Likelihood Estimation for Nonparametric denumerable Markov models, International Semina on Stability Problems for Stochastic Models XXXIV, Debrecen, 25-29 August, Hungary, 2017
- Presentation of the Conference paper No [4], 15th ASMDA Intern. Conference, 25-28 June, Mataro (Barcelone), Spain, 2013.
- Stochastic Variants of the EM algorithm for Parameter Estimation in plant growth models, 15th ASMDA Intern. Conference, 25-28 June, Mataro (Barcelone), Spain, 2013.

- Presentation of the Conference paper No [16], 14th ASMDA Intern. Conference, 7-10 June, Rome, Italy, 2011.
- Functional-structural individual plant growth model and methods for its parametric identification, International Workshop MODECOL, Modeling Clonal Plant Growth : from ecological concepts to mathematics, 7-8 June, University of Rennes, France, 2010. (Invited Talk)
- Exact MLE and asymptotic properties for nonparametric Semi-Markov models, ISC 2009, 17-19 June, Cagliari, Italy, 2009.
- Improved EM and SEM algorithm for nonparametric HSMMs, IWAP 2008, 7-10 July, Compiegne, France, 2008.
- MLE for variants of Hidden Semi-Markov Models and algorithmic techniques, FIE 2008, 5-9 May, Vasteras, Sweden, 2008. (Invited Talk)
- S. Trevezas, Maximum likelihood estimation for general hidden semi-Markov processes with backward recurrence time dependence, ASMDA, 2007, 29 May-1 June, Crete, Greece, 2007.

TALKS IN SEMINARS

- Biomathematics Seminar, 11th Edition, MLE and asymptotic properties of characteristics related to discrete time nonparametric Markov type models, Corfu, Greece, 9-12/07/2019 (**Invited Talk**).
- Estimating Crop Progress with Remote Sensing and Meteorological Data - A Case Study, Biomathematics Seminar 2018, 10th Edition, Heraklion, 12-15 June 2018, Greece. (**Invited Talk**).
- Recent advances in Parameter Estimation for the GreenLab model, Workshop Digiplante 2016, 6-7 July, Etretat, France, 2016. (**Invited Talk**).
- Some basics of the EM algorithm and more, *Workshop Digiplante 2013, 4-5 juin, Barbizon, France.*
- Estimation paramétrique d'un modèle de croissance des plantes via des variantes stochastiques de l'algorithme EM, *Workshop Digiplante 2012, 28-29 juin, Tavers-Beaugency, France.*
- MLE for discrete Nonparametric Semi-Markov Models, *Workshop Digiplante 2011, 16-17 juin, Reims, France.*
- Hidden Models and Application to GreenLab model Identification, *Workshop Digiplante 2010, 3-4 juin, Vallée de la Loire, France*.
- *Hidden Variable Models meet the GreenLab model of Plant Growth*, *Journée Scientifique du Laboratoire MAS, ECP, 13 décembre, Châtenay-Malabry, France, 2010.*
- Maximum Likelihood Estimation for Semi-Markov and Hidden Semi-Markov Models and Applications, *Groupe de Travail en Statistique, 2 avril, LMRS, Université de Rouen, France, 2010.*
- Etude de l'Estimation du Maximum de Vraisemblance dans des modèles semi-Markoviens et semi-Markoviens Cachés avec Applications**,** *Séminaire au groupe « Statistics for Systems Biology », 3 Mars, AgroParisTech, Paris, France, 2009* (**Invited Talk**).
- Propriétés Asymptotiques d'EMV et des Caractéristiques principales pour des MSMC Journée Scientifique du LMAC, 12 juin, Compiègne, France, 2007.
- *Estimation du Maximum de Vraisemblance pour les processus semi-markoviens cachés généraux* dépendant de temps de récurrence en arrière, Séminaire « Biostatistique et Qualité de Vie », Université Paris VI, 23 avril, Paris, France, 2007 (**Invited Talk**).

OTHER SCIENTIFIC ACTIVITIES/INVITATIONS

Visiting Professor in Ecole Centrale Paris/ Centrale-Supelec
[2 times; France, July 2016 (1 month) & July 2019 (1 month)] and
in University of Rouen
[2 times; France, June 2017 (2 weeks) & April-May 2019 (2 weeks)]
Organizer of a regular seminar in Theoretical Statistics in the Department of Mathematics in Athens, 2016-17

Invited Talk in the Summer School in Business Mathematics, Semi-Markov Models Estimation and Applications, Olympia, Greece, 21-26/07/2019.

Invited Talk in the Summer School in Business Mathematics, Semi-Markov Models Estimation and Applications, Nafplio, Greece, 16-21/07/2018.

Invited Talk in the Summer School of the Business Mathematics Master Program, "semi-Markov models, estimation and applications", Nafplio, 13-17 july, 2017.

Member of the organizing committee of the ASMDA international conference 2015, 30 juin -4 july, Piraeus, Greece.

Organizer and chairman of the Special session *« Monte Carlo Methods for parameter estimation in Plant Growth Models »*, 15th ASMDA international conference, 25-28 juin 2013, Mataro (Barcelone), Spain.

Member of the organizing committee of the international workshop IWAP 2008, 7-10 july, Compiegne, France.

Referee for Scientific Journals: Mathematical Reviews of American Mathematical Society (permanent reviewer), Methodology & Computing in Applied Probability, Communications in Statistics - Theory & Methods, Brazilian Journal of Probability and Statistics, Future Generation Computer Systems, Trees- Structure and Function, Journal of Agricultural, Biological and Environmental Statistics, Statistica Neerlandica

TEACHING EXPERIENCE & MATERIAL

Undergraduate courses: Probability I (Elementary; NKUA, ECP, UTC), Probability II (measure theoretic), Statistics I (mathematical statistics; NKUA, ECP), Applied Regression Analysis (NKUA), Advanced Statistics (Markov chains and Regression Analysis; ECP), Analysis (Multivariate Calculus; UTC), Linear Algebra (UTC)

Postgraduate courses: Statistical Inference for Stochastic Processes, Time Series, Stochastic Dynamic Programming

Short Notes (written in LaTeX): NonParametric Statistics (for undergraduate students)

NonParametric Statistics (for postgraduate students)

Statistics for Stochastic Processes (for postgraduate students)

ADMINISTRATIVE DUTIES

2019 – 2020	Chairman of the courses recognition committee, Department of Mathematics, NKUA, Greece.
2018 – 2020	Member of the curriculum committee of the Department of Mathematics, NKUA, Greece.
2017 – 2020	Member of the Erasmus courses equivalence committee, Dpt. of Math., NKUA
2017 – 2018	Member of the selection committee for the Master program of Statistics & Operations Research, Department of Mathematics, NKUA, Greece.