Curriculum Vitae

Dr. TRYFON DARAS

Associate Professor Department of Chemical and Environmental Engineering Stochastic models lab.

Technical University of Crete

Research area

«Probability-Statistics»

PERSONAL INFORMATION

Name:	TRYFON DARAS	
Currently employed:	Assistant Professor School of Chemical and Environmental Engineering,	
	Address:	Work
Sch. of Chemical & Environmental Engineering		
Technical University of Crete		
Kounoupidiana		
73100, Chania, Crete.		Kounoupidiana
Tel.:	28210-37754, 6972558076 (mob.)	73100 Chania
e-mail:	tryfondaras@gmail.com or tdaras@isc.tuc.gr	

STUDIES

- **B.S. in Mathematics**, Dept of Mathematics, University of Patras, October 1984. Diploma grade 8.42.
- **M.Sc.** *Probability-Statistics*, certificate of a 2-year graduate studies program, Dept of Mathematics, University of Patras, July 1987.
- **M.Sc.** *Probability-Statistics*, Dept of Mathematics, Case Western Reserve University, Cleveland Ohio, U.S.A. July 1990.
- **Ph.D.** *Probability-Statistics*, Dept of Mathematics, Case Western Reserve University, Cleveland Ohio, U.S.A. July 1995.

Dissertation title "Some Large and Moderate Deviations results for Exchangeable sequences". Advisor: Alejandro de Acosta.

RESEARCH INTERESTS

My research interests are in the area of Probability Theory and Mathematical Statistics. More precisely in.

- Large Deviations Theory: asymptotic computation of "small" probabilities of exponential scale. Generalization of the theory in the case of exchangeable sequences of r.v.s.
- > **Stochastic Calculus**: Generalization of theorems in the case of Stochastic Differential Equations and their applications in
 - ➢ Finance.
 - Meteorology
 - > Medicine
- Combinatorics and their applications e.g balls-ballot problems and application to cluster of disease cases.

WORKING EXPERIENCE – ACADEMIA

Technical University of Crete

- **December 2018 today**: Associate Professor, School of Chemical & Environmental Engineering, Section of Environmental management, (*Probability-Statistics*).
- August 2009 November 2018: Assistant Professor, School of Environmental Engineering, Section of Environmental management, (*Probability-Statistics*).
- **December 2003-August 2009** Lecturer, Department of Sciences, Section of Mathematics (*Probability-Statistics*).
- September 2001-December 2003: Instructor, Department of Sciences, Section of Mathematics.
- March 1999-August 2001: Instructor, Department of Sciences, Section of Mathematics.

Greek Open University

- September 2019 today: Department of Sciences and Technology, Graduates Studies Program "Quality Control" teaching instructor, course title "Basic principles of Quality Control".
- September 2010- August 2019: Department of Sciences and Technology) Graduates Studies Program: "*Graduate Studies in Mathematics*", thesis supervising.
- September 2017 June 2019: Department. of Sciences and Technology: Undergraduates Studies Program "Information Theory" teaching instructor, course title "Mathematics for Information Theory I".
- September 2013 September 2017: Department of Sciences and Technology (a) Graduates Studies Program "*Quality Control*" teaching instructor, course title "Basic principles of Quality Control". Also, (b) Graduates Studies "*Quality Control*": thesis supervising.
- July 2000-August 2012: Lecturer, Department of Sciences and Technology, Undergraduate studies Program "*Studies in Sciences*".

Mediterranean Agronomic Institute of Chania (M.A.I.CH.)

- Acad. years 2011-12, 2012-13, 2013-14, 2014-15: Visiting Professor, Departments (α) Environmental Engineering, (β) Food Quality Management and Chemistry of Natural Products.
- Acad. years 2008-9, 2009-10, 2010-11: Visiting Professor, Department Environmental Engineering.

Department of Political Sciences, University of Crete

• March 2000-August 2000: Instructor, Department of Political Sciences.

S.E.L.E.T.E (preparatory college for teaching in technological education)

- September 2000-February 2001: Visiting Professor, Dept of Electronics..
- September 1999-February 2000: Visiting Professor, Dept of Electronics.
- September 1998- February 1999: Visiting Professor, Dept of Engineering.

Technological Educational Institute of Athens

- September 1998- August 1999: Visiting Professor, Dept of Mathematics.
- March 1999- August 1999: Visiting Professor, Dept of Information Technology.

Sivitanidios public institute (I.E.K.).

- September 1999- February 2000: Instructor, Finance course.
- September 1998- August 1999: Instructor, Taxation course.

Department of Mathematics, Case Western Reserve University, Cleveland, Ohio, U.S.A.

- August 1995- August 1997: Lecturer.
- June 1987- August 1994: Instructor, (Summer semesters: June, July, August).

OTHER WORKING EXPERIENCE

- March 1999-July 1999: Instructor, Nurses School, St. Sophia Children's Hospital (General Mathematics).
- September 1987- June 1988: Instructor, Greek-American School, Cleveland Heights, Ohio, U.S.A. (Teaching Math to high school students).

TEACHING EXPERIENCE

Technical University of Crete

- School of Production Engineering and Management, graduate courses
 - MULTIVARIABLE STATISTICS, graduate course/ mandatory, graduate program «Applied Mathematics for Engineering Science», (3 hours/ week), spring semester, acad. year 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21,
 - STOCHASTIC FINANCE, graduate course/ elective, graduate program «Applied Mathematics for Engineering Science», (3 hours/ week), spring semester, acad. year 2014-15, 2017-18.
- School of Chemical & Environmental Engineering, semester courses
 - STATISTICS, mandatory course, (3 hours/week), fall semester, acad. years 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21.

- ORDINARY DIFFERENTIAL EQUATIONS, mandatory course, (3 hours/week), fall semester, acad. years 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21.
- NUMERICAL METHODS IN ENVIRONMENTAL ENGINEERING, mandatory course, (3 hours/week), spring semester, acad. years 2018-19, 2019-20, 2020-21.
- STOCHASTIC PROCESSES, graduate course/ elective, (3 hours/week, graduate program "Environmental Engineering", fall semester, acad. year 2013-2014, 2016-17, 2017-18, 2018-19, 2019-20.
- STOCHASTIC BEHAVIOR AND TIME SERIES ANALYSIS graduate course/elective (Ph.D level), (3 hours/week, graduate program "Environmental Engineering", spring semester, acad. year 2015-16, 2016-17, 2017-18, 2018-19, 2020-21.
- APPLIED MATHEMATICS FOR ENVIRONMENTAL ENGINEERS, graduate course/elective, (3 hours/week, graduate program "Environmental Engineering", fall semester, acad. year 2019-20, 2020-21.
- Department of Sciences, Technical University of Crete, semester courses.
 - PROBABILITY THEORY, STATISTICS, Dept of Electronic and Computer Engineering (4 hrs/wk), fall semester academic yrs 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-10, 2010-11, 2011-12, 2012-13.
 - STATISTICS, Environmental Engineering Dept (3 hrs/wk), spring semester academic yrs 1999-2000, 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-10, 2010-11, 2011-12, 2012-13.
 - STOCHASTIC PROCESSES QUEUING THEORY, Dept of Electronic and Computer Engineering (4 hrs/wk), fall semester academic yrs 1999-2000, 2000-01, 2001-02, 2002-03, 2003-04.
 - PROBABILITY, STOCHASTIC PROCESSES, graduate course, Applied and Computational Mathematics Graduate Program, Dept of Sciences, Section of Mathematics, Technical University of Crete (3 hrs/wk), fall semester academic yrs 2005-06, 2007-08, 2008-09, 2009-10, 2011012.
 - SPECIAL TOPICS IN PROBABILITY, graduate course, Applied and Computational Mathematics Graduate Program, Dept of Sciences, Section of Mathematics, Technical University of Crete (3 hrs/wk), spring semester academic yrs 2005-06, 2008-09, 2009-10.
 - QUALITATIVE METHODS FOR SOCIAL SCIENCES, graduate course Social and Technological Development Graduate Program, Section of Political Sciences, (3 hrs/wk), fall semester, yrs 2001-02, 2003-04, spring semester acad. yrs 2006-07, 2007-08, 2010-11, 2011-12.

Greek Open University,

MATHEMATICS FOR INFORMATION THEORY I, undergraduate course, στο undergraduate program "Information Technology»: acad. year 2017-18, 2018-19.

- MATHEMATICS I, undergraduate course, academic yrs 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-10, 2010-11, 2011-2012.
- BASIC TOOLS AND METHODS FOR QUALITY CONTROL, graduate course, academic yrs 2013-14, 2014-15, 2015-16, 2016-17, 2020-21, 2021-22

Mediterranean Agronomic Institute of Chania (M.A.I.CH.)

- SPATIAL STATISTICS, graduate course, Dept of Environmental Engineering for students coming from 14 different countries of the Mediterranean region October 2008, 2009, 2010, 2011, 2012, 2013, 2014.
- STATISTICS, graduate course, Dept of Environmental Engineering and Dept. of Food Quality Management and Chemistry of Natural Products, for students coming from 14 different countries of the Mediterranean region October 2011, 2012, 2013, 2014.

Department of Political Sciences, University of Crete.

STATISTICS FOR THE SOCIAL SCIENCES, (4 hrs/ wk), spring semester, academic yr 1999-2000.

Department of Electronics, S.E.L.E.T.E.

MATHEMATICS III (Differential Equations), (4 hrs/wk), fall semester, academic yrs 1999-2000, 2000-01.

Department of Engineering, S.E.L.E.T.E.

NUMERICAL ANALYSIS, (4 hrs/wk), fall semester, acad. yrs. 1998-1999.

Department of Mathematics, T.E.I. Athens.

PROBABILITY-STATISTICS, Dept of Information Technology (2 hrs/wk) academic yrs. 1998-1999.

Department of Information Technology, T.E.I. Athens.

STATISTICS WITH THE USE OF S.P.S.S., Dept of Information Technology (3 hrs/wk), spring semester, academic yr. 1998-1999.

Department of Taxation, Sivitanidios institute (I.E.K.),

MATHEMATICS OF FINANCE, (3 hrs/wk), academic yr. 1999-2000.

Department of Finance, Sivitanidios institute (I.E.K.),

STATISTICS, (3 hrs/wk), fall semester, academic yr 1999-2000.

Department of Mathematics, Case Western Reserve University, Cleveland Ohio, U.S.A., (4 hrs/wk)

- **LINEAR ALGEBRA**.
- > MATHEMATICS OF FINANCE I & II
- > CALCULUS FOR SCIENCE AND ENGINEERING I, IV
- > MULTIVARIABLE CALCULUS.
- > DIFFERENTIAL EQUATIONS
- > PROBABILITY
- > STATISTICS I.
- > BASIC STATISTICS FOR THE SOCIAL SCIENCES
- ►. MATHEMATICS I, II

Department t of Mathematics, Case Western Reserve University, Cleveland Ohio, U.S.A.

- Computer Lab Assistant: Teaching "Mathematica", to undergraduate students, for the use in Calculus courses, Graduate School, Case Western Reserve University, academic yr 1992-93.
- Math Lab Assistant: weekly tutoring to University's undergraduate students. Graduate School, Case Western Reserve University, academic yr 1992-93.
- Tutor: Tutoring Undergraduate students, Educational Support Services, Case Western Reserve University, academic yrs 1991-92.

Graduate Studies, Department of Mathematics, University of Patras. Tutoring (3 hrs/wk) on the following courses:

- > SET THEORY
- > OPERATIONAL RESEARCH
- > STATISTICS
- > STOCHASTIC PROCESSES

during the academic years 1985-1986, 1986-1987.

ACADEMIC ACTIVITIES (part)

- 1. Member of the organizing committee and referee of the 33rd Hellenic Conference on Mathematical Education, (Greek Mathematical Society) Chania, November 4-6, **2016**.
- 2. Member of a Ph.D dissertation (examination) committee, thesis title: *«Development of new geostatistical methods for spatial analysis and applications in reserves estimation and quality characteristics of coal deposits»*, School of Mineral Resources (2016).
- 3. Member of entrance examinations committee, Technical University Of Crete, Departments of Environmental Engineering, Computer Science, Mineral Resources, Production and Management, acad. years 2008-09, 2009-10, 2010-11, 2011-12, 2012-13.

- 4. Member of the electoral committee and the electoral body for electing the newly appointed professors among candidates, in the rank of Assistant Professor, in the cognitive objects of "Probability-Statistics", Department Of Statistics and Actuarial Mathematics, University of Aegean (2010).
- **5.** President of local organization committee and member of the organization committee of the 22nd Panhellenic (National) Statistics conference "*Statistics in Health*", Chania, Crete **2009.**
- 6. Scientific advisor in the research "*Imprintings of cancer characteristics in Crete*" in cooperation with the Associate Professor of the Medical school of the University of Crete C. Lioni, the Assistant Professor of the Technical University of Crete D. Manousaki, and the Visiting Professor I. Apostolakis, of the National Public Health Institute. (2009).
- 7. Scientific advisor for the quantitative research "*Investigating the parameters of Academic and social function of the Technical University of Crete*". The research was conducted in cooperation with I. Apostolakis, Visiting Professor of the National Public Health Institute. (2009).
- 8. Scientific advisor for the research "*Examination of parameters for the energy performance of school buildings in the region of Chania*" in cooperation with the Assistant Professor E. Maria of the Technical University of Crete, the Assistant Professor D. Kolokotsa of the Technical Educational Institute of Crete, and the Visiting Professor I. Apostolakis, of the National Public Health Institute. (2009 2010).
- **9.** Organizer and main speaker of a series of lectures in the Seminar of the Dept of Sciences of the Technical University of Crete, titled "*Statistical analysis of data with the use of statistical packs*" for undergraduate and graduate students of the Technical University as well as for the members of the Academic community aiming at educating them on the usage of Statistical packs (SPSS and others.). Joint effort with I. Apostolaki, spring semester **2008**.
- **10.** Substitute member of the electoral body for electing the newly appointed professors among candidates, in the rank of Lecturer, in the cognitive objects:
 - > «Statistics»
 - ➢ «Probability»
 - Actuarial Mathematics»

Dept of Statistics and Actuarial Mathematics, University of Piraeus (2008).

- **11.** Organizer of weekly seminars for postgraduate students of the Dept of Mathematics, Case Western Reserve University, Academic yrs **1991-1993**.
- **12.** One of the organizers and member of a 9 month seminar in "Statistics for Mathematicians", Dept. of Mathematics. University of Patras, Academic yrs **1986-1987**.

M.S. // Ph.D Thesis supervising

Technical University of Crete – Department of Sciences/ Section of Mathematics

M.S. Thesis supervising -- Applied and Computational Mathematics Graduate Program

- **1. A. Palieraki,** «Applied Martingale Theory: 1. Random walks 2. Branching chainç", 2005-06.
- **2. Kontakis Christos** "Health Services in the metropolitan region of Municipality of Chania. Present situation and prospects", 2007-08.

- **3. Viziraki Georgia** "Assessment of banking institutions and their services in the *Prefecture of Chania*", 2007-09.
- 4. Strilakos Athanasios "Queuing theory: theory and real life problems", 2007-09.
- 5. Rouvali Efi "Stochastic analysis and Finance", 2007-09.
- 6. Manioudaki Katerina, "Discrete Stochastic Analysis: the pricing of options", 2008-09.
- 7. Fasoula Eleni, "Open distance learning for health care professionals", 2008-10.
- **8.** Pantoula Vasiliki, "Examination of parameters for the energy performance of school buildings in the region of Chania", 2009-10.
- 9. Vardoulaki Maria, "Stochastic models for the data analysis of survival", 2010-11.
- 10. Verdi Dimitra "Stochastic models in Finance", 2010-11.
- 11. Chalkiadakis Michalis "Analysis of random signals", 2012-13.
- 12. Papadopoulou Georgia "Time series Analysis", 2012-13.

Technical University of Crete – School of Production Engineering and Management

M.S. Thesis supervising

- 1. Tsiligianni Anastasia "Statistical analysis of Greek child cancer registry", 2016-17.
- 2. Papadaki Angeliki "Landscape notions among Greek university students", 2016-17.
- 3. Kataki Fani "Stochastic differential equations in finance", 2016-17.
- 4. Saricaki Argyro "Linear algebra and principal component analysis", 2017-18.
- **5.** Milousi Maria, "Stochastic life cycle assessment and cost analysis in renewable energy systems", 2017-18.
- 6. Stratinakis Nikos, "Applied Cluster Analysis", 2017-18.
- 7. Nikiforaki Vasiliki, "Individual secondary education students profile Characteristics, factors influencing it and their statistical correlations", 2019-20.

Technical university of Crete– School of Chemical & Environmental Engineering

A. Ph.D dissertation.

- 1. Sgourakis Nikos, No subject title yet, Ph.D thesis, 2020-21 (in progress).
- **2. Pantoula Vasiliki**, "Stochastic models in Biology: theory and applications", Ph.D thesis, 2020-21 (in progress).
- 3. **Dimitroulia Ageliki**, "*Natural Disasters: Designing, Educating Children and Implementing Civil Protection in Schools*", Ph.D thesis, 2018-19 (in progress).
- **4. Koniditsiotis Tasos,** *«Stochastic Meteorology models»*, Ph.D thesis, 2014-2015 (in progress).

B. Thesis supervising (undergraduate)

- 1. Kontos Zois "African dust", 2015-16.
- **2. Xanthidou Chrisovalantou,** "Noise: definition, sources and study of its effects to the human life", 2016-17.
- **3.** Larashi, Loren: "Statistical Analysis of Atmospheric pollution data in the wider area of *Athens*", 2017-18.
- **4.** Tsiami, Maria, "Statistical analysis on hygiene and safety conditions of Greek enterprises: trends, perspectives and proposals", 2017-18.
- **5.** Tziviloglou Maria, "Statistical analysis of the feasibility of installing shoreline wave energy devices at Aegean Sea Ports", 2018-19.
- **6.** Kouretas Theodoros, "Investigation of land values and factors that affecting them: The case of Kastella.", 2018-19.
- **7.** Koutribanos Alexandros, "*Time series analysis of hydrometeorological data in the area of Tympaki*", 2019-20.
- **8.** Boura Danai, "The impact of climate change on climate types (classification by Koppen -- Geiger), of the countries of the Mediterranean basin", 2020-21.
- **9.** Antonakaki Kleanthi. «Analysis of rainfall time series in cities of Northern Crete. Connection with climate change", 2021-22 (in progress).
- **C.** Member of thesis examination committee for more than 30 graduate students: Department of Sciences, School Of Chemical & Environmental Engineering, School Of Production Engineering and Management, Greek Open University.

Greek Open University

M.S. Thesis supervising

- A. Graduate Program: "Graduate studies in Mathematics". Dept. of Science and Technology
 - **1. Simitsis Christos:** "Introduction to stochastic analysis of Finance: Black-Scholes formula", 2010-11.
 - **2. Sarafidi Evangelia** "Probability distributions: examples, applications and relations between the distributions", 2010-11.
 - 3. Psaroudaki Eftihia "Brownian motion: theory and applications", 2011-12.
 - 4. Pefanis Pantelis "Derivatives options' strategies", 2012-13.
 - 5. Zafiri Anastasia: "Pricing options: the binomial model", 2012-13.
 - 6. Marougas Christos: «The mathematics of financial derivatives», 2013-14.
 - 7. Efstathiou Petros: «Financial Analysis and derivatives», 2013-14.
 - 8. Micha Eleni: «Futures and forwards: pricing and hedging», 2015-16.

- **9.** Touzopoulou Anastasia "Basic principles of signal and image processing", 2015-16.
- **10. Stathatou Aikaterini** "Introduction to stochastic integration in finance", 2016-17.
- 11. Ledaki Maria, "Stochastic time series: theory and applications", 2017-18.
- **12. Laurentakis Antonios,** *"Stochastic integration and stochastic differential equations"*, 2019-20.
- **13. Fiorentinou Panagiota**, "Special topics in Multivariable Statistics. Theory and applications", 2019-20.

B. Graduate Program: "Quality Control"

- **1. Giannoukou Eleni:** *«Statistical analysis and efficiency indices on data of the production section of a pharmaceutical company»*, 2014-2015.
- 2. Diolatzis Grigoris: «Statistical analysis on pilot's training data», 2014-2015.
- **3. Margoni Niki:** *«Statistical analysis in production of microwave radio systems»*, 2015-2016.
- **4.** Gitziri Evagelia: «An essay on the impact of social media on student's behavior and character», 2015-2016.
- **5. Karakatsanis Georgios:** *«The effect of local government's financial management to the perceived quality of services provided to their citizens»,* 2015-2016.
- 6. Skoura Penelopi: «ABC pricing: theory and applications», 2016-17 (in progress).
- **7. Demesoukas Ioannis** *"Samaria National Park: trends, interventions, and prospects"*, 2016-17.
- 8. Dimou Panagiotis, "Technology transfer of a pharmaceutical product", 2016-17.
- **9. Tsilimbari Irini** "Development of a QA/QC system for air pollution monitoring station. Technical assessment according to ELOT EN ISO 17025", 2016-17.

SCHOLARSHIPS/AWARDS

- Exceptional Teaching Award of undergraduate students: C.W.R.U.'s Greek System, Faculty Member of the month, Case Western Reserve University, Cleveland Ohio, U.S.A, November 1996.
- Scholarship: Institution of Greek Government Scholarships (I.K.Y): graduate studies (exceptional graduate progress), acad. Yrs :

1985-1986 kai 1986-1987.

• Scholarship: Institution of Greek Government Scholarships (I.K.Y): Undergraduate studies (exceptional undergraduate progress), academic yrs

1980-1981 (rank 9th), 1981-1982 (rank 4th), 1982-1983 (rank 1st), 1983-1984 (rank 1st).

PUBLICATIONS

- I. Published papers (in journals)
 - 1. D. Tarasi, T. Daras, T. Tsoutsos, "Is Cycling an Attractive Transport Solution in a Mediterranean City?", Sustainable Mobility for Island Destinations, e-book, Springer Verlang (2021), 101-118.
 - 2. D. Tarasi, T. Daras, S. Tournaki, T. Tsoutsos, "Transportation in the Mediterranean during the COVID-19 pandemic era", *Global Transitions*, Elsevier, (2021), V3, 55-71.
 - **3.** N. Savvakis, S. Tournaki, D. Tarasi, N. Kallergis, T. Daras, T. Tsoutsos, "Environmental effects from the use of traditional biomass for heating in rural areas: a case study of Anogeia, Crete", *Environment, Development and Sustainability* (2021)
 - 4. N. Sifakis, M. Aryblia, T. Daras, S. Tournaki, T. Tsoutsos, 'The impact of COVID-19 pandemic in Mediterranean urban air pollution and mobility", *Energy Sources, Part A: Recovery, Utilization, and Environmental Effect* (2021).
 - P. Asteris, M. Douvika, C. Karamani, A. Skentou, K. Chlichlia, T. Daras, L. Cavaleri, D. Armaghani, T. Zaoutis, "A novel heuristic algorithm for the modeling and risk assessment of the COVID-19 pandemic phenomenon", *Computer Modeling in Engineering* & *Sciences*, DOI:10.32604/cmes.2020.013280, (2020).
 - 6. N. Sifakis, T. Daras, T. Tsoutsos, "How much Energy Efficient are Renewable Energy Resources Cooperatives' initiatives", *Energies* 13 (2020), 1136.
 - T. Terkenli, T. Daras, E. Maria, "Landscape Notions among Greek Engineering Students: Exploring Landscape Perceptions, Knowledge and Participation", Land, 8 (2019), 83.
 - 8. N. Sifakis, N. Savvakis, T. Daras, T. Tsoutsos, "Analysis of the Energy Consumption Behavior of European RES Cooperative Members" *Energies* 12 (2019), 970.
 - 9. I. Petidis, M. Aryblia, T. Daras, T. Tsoutsos, "Energy saving and thermal comfort interventions based on occupants' needs. A students' residence building case", *Energy and Buildings*, 174 (2018), 347-364.
 - 10. M. Valavanides, T. Daras "Definition and Counting of Configurational Microstates in Steady-State Two-Phase Flows in Pore Networks", *Entropy* (2016), 18(2), 54.
 - T. Daras, M. Valavanides, "Number of microstates and configurational entropy for steady state two-phase flows in pore networks", *American Institute of Physics*, (2015), V. 1641, pp. 147-154.
 - M. Tsitoura, T.Tsoutsos, T. Daras, "Evaluation of comfort conditions in urban open spaces. Application in the island of Crete", *Energy Conversion and Management*, (2014), Vol 86, pp 250-258.
 - **13. T. Daras**: "Large and moderate deviations for projective systems and projective limits", *Applied Mathematics, Special issue: "Probability and its applications"*, (2012), Vol. 3, No 12A, 2041-2047.
 - A. Chatzimichali, A. Zoumpouli, M. Metaxari, I. Apostolakis, T. Daras, N. Tzanakis, H. Askitopoulou: "Heart Rate Variability May Identify Patients Who Will Develop Severe Bradycardia During Spinal Anesthesia", *Acta Anaesthesiologica Scandinavica*, 1, (2010), 1-8.

- **15. T. Daras:** "Kolmogorov's inequality for exchangeable r.v.'s,", *Far East Journal Of Theoretical Statistics*, **26**, issue 2, (2008), 193-206.
- 16. T. Daras: "Hoeffding type inequalities and their applications in Statistics and Operations Research", *American Institute of Physics*, (2007), 936, 140-146.
- 17. T. Daras: "Large Deviations for the Empirical Process of a Symmetric Measure: a lower bound". *Statistics and Probability Letters*, 66, (2004) 197-204.
- 18. T. Daras: "Trajectories of an Exchangeable sequence: Large and Moderate Deviations results", *Statistics and Probability Letters*, 39, (1998) 287-304.
- **19. T. Daras:** "Large and Moderate Deviations for the Empirical Measure of an Exchangeable sequence", Statistics and Probability Letters, **36**, (1997) 91-100.

II. Papers in conference proceedings (refereed)

- 1. T. Terkenli, T. Daras, E. Maria, "Exploring the human-landscape relationship in contemporary Greece: the case of engineering students' landscape education, perceptions and attitudes", ASCSA conference (2019), Athens.
- 2. T. Tsoutsos, T. Daras, N. Savvakis, N.Sifakis, "*REScoop Plus –WP2:Statistical Testing*", 7th Consortium Meeting Paris, (2018).
- **3.** N.Sifakis, T. Daras, T. Tsoutsos, N. Savvakis, "Renewable Energy Cooperatives as prosumers. Results from the REScoop Plus project" Sustainable Urban Energy Systems conference, (2018), Delft University of Technology, Delft.
- **4.** Sarikaki A, Daras T. : "*Principal Component Analysis*", 31st Annual Conference, Greek Statistical Institute, (2018), May 4-6, Lamia Greece.
- **5. T. Daras, M. Valavanides** : "*Number of microstates and configurational entropy for steady state two-phase flows in pore networks*", MAXENT (2014), Amboisse France.
- 6. A. Tsouchlaraki, T. Daras, I. Apostolakis, V. Mantadaki «Statistical investigation of the environmental quality parameters of the Municipality of Chania urban streets", Proceedings of the 3rd International CEMEPE & SECOTOX Conference Skiathos, June 19-24, 2011, ISBN 978-960-6865-43-5.
- 7. T. Daras, D. Kolokotsa, E. Maria, I. Apostolakis : "*Examination of parameters for the energy performance of school buildings in the region of Chania*", 3rd International Conference on Passive and Low Energy Cooling for the Built Environment (PALENC 2010), Rhodes.
- 8. T. Daras, M.A. Stamouli, I. Apostolakis: "Attitudes and behaviours of hospital administrative personnel for distance learning", Proceedings 5th International Conference in Open & Distance Learning, (2009), volume C, part A, 58-68, Athens
- **9.** A. Chantzimichali, I. Apostolakis,, T. Daras, E Askitopoulou: "*Heart Rate Variability May Identify Patients Who Will Develop Severe Bradycardia During Spinal Anesthesia*" Part B, Proceedings, 11th National Conference in Management of Health and Social care Services (2009), Georgioupolis, Chania, **pp. 52.**
- **10. G. Viziraki, T. Daras, I. Apostolakis**: "Assessment of banking institutions and their services in the Prefecture of Chania", Proceedings, 22nd Annual Conference, Greek Statistical Institute, (2009), 65-74, Chania.

- **11.** A. Chantzimichali,, A. Zoumpouli, I. Apostolakis, T. Daras, E Askitopoulou: "Heart Rate Variability and Severe Bradycardia During Spinal Anesthesia", Proceedings, 22nd Annual Conference, Greek Statistical Institute, (2009), 259-268, Technical university of Crete, Chania.
- **12. T. Daras:** "*Bernstein's inequality and its applications*", Proceedings, 12th Mathematical Analysis conference (2008), Dept of Mathematics, University of Athens.
- **13.** I. Apostolakis, T. Daras: "Electronic Trade Services in enterprises of Municipality of Chania", 21st Annual Conference, Greek Statistical Institute, Proceedings, (2008), University of Aegean, Samos.
- **14. T. Daras, A. Palieraki :** "*Probability of extinction and branching chains*", 20th Annual Conference, Greek Statistical Institute Proceedings (2007), 137-146, University of Cyprus.
- **15. T. Daras:** "*Exponential type inequalities and Martingales*", Proceedings, 11th Annual Mathematical Analysis conference (2006), Dept. Of Mathematics, University of Thessaloniki..
- **16. T. Daras, A. Palieraki:** "Branching chains and their applications", Proceedings, 22nd Annual conference, Greek Mathematical Society (2005), T.E.I. Lamia.
- **17. T. Daras:** "*Martingales and exchangeable sequences of r.v.s*", 18th Annual Conference, Greek Statistical Institute Proceedings, (2005), 89-98, University of Aegean,, Rhodes.
- **18. T. Daras**: *"Projective systems, projective limits, large and moderate deviations"*, Proceedings, 10th Mathematical Analysis conference, (2004), 41-48, Athens.

Posters (international conference)

I. Metallidou, D. Venieri, T. Daras, E. Maria, "The Nagoya Protocol and collections of microorganisms: current situation of the Greek collections of microorganisms, implementation issues and development prospects", 9th Conference of Mikrobiokosmos, 16-18/12 (**2021**), Athens

III. Papers in progress

A. Chiras, N. Sifakis, T. Daras, T. Tsoutsos, "Analysis of failures in grid-connected photovoltaic systems. The case study of Greece" (sent for publishing).

IV. Published books

- 1. T. Daras P. Sypsas: "Stochastic Processes Theory and Applications", Ziti Publ., 2003
- 2. I. Apostolakis T. Daras M.A. Stamouli: "Computational Statistics problems for health Sciences, Multivariable models", book B, Papazisis Publ., February 2009.
- 3. T. Daras P. Sypsas: "Probability and Statistics: Theory and Applications", Ziti Publ., 2010.
- 4. I. Apostolakis T. Daras M.A. Stamouli: "Computational Statistics problems for health Sciences", book B, Papazisis Publ., (to be published, February 2022).

VI. Alternative forms of teaching material.

- 1. **T. Daras:** "*Statistics*" Book in the form of webcast, Graduate program "Graduate Studies in Mathematics", Greek Open University, (February 2008). Material for the graduate course "*Basic theories and methods in Mathematics*".
- T. Daras: "Probability Theory Statistics" Book in the form of hypertext, Graduate program "Graduate Studies in Mathematics", Greek Open University (August 2007). Material for the graduate course "Basic theories and methods in Mathematics".

VII. Undergraduate teaching notes

- 1. "*Probability Statistics*" Dept of Electronic and Computer Engineering, Technical University of Crete, October 2000.
- 2. "Statistics" Dept. of Political Science, University of Crete, May 2000.
- **3.** *"Statistics* " Dept of Environmental Engineering, Technical University of Crete, April **2000**.
- 4. "*Stochastic Processes Queuing theory*" Dept of Electronic and Computer Engineering, Technical University of Crete, (2000).
- 5. "Mathematics", Dept of Electronics, S.E.L.E.T.E, October 1999.
- 6. "Statistics" Dept of Finance, Sivitanidios institute (I.E.K.), Fall 1999.
- 7. "Statistics", Dept of Information Technology, T.E.I. Athens, Fall 1998.
- 8. "Mathematics of Finance" Dept of Taxation, Sivitanidios institute (I.E.K.), Fall 1998.

Participation in Research projects

- 1. "Horizon 2020 (H20202), Societal Challenges, Rescoop Plus-Code. 81348, parts WP2 & WP7.
- **2. ΕΣΠΑ 2014-2020**, Interreg MED, Compose, code 81336, Testing, Activity 3.11 Biomass potential in rural island communities (Case of Anogia- Crete) (**2017 και 2018**).
- **3.** Archimedes III, participation in -*«ImproDeProF:* Two-Phase Flow in Pore Network Systems, M Valavanides, Assistant Professor, Department of Civil Infrastructure, Ref. No. TEI-Athens 23.59.6.
- 4. EIIEAEK II (European community program), "*Reformation of the undergraduate program of the Technical university of Crete*". Reformation of the content, way of teaching e.t.c. of the undergraduate course "*Probability*", use of e-class e.t.c., (2008), Dept. of Sciences, Technical University of Crete.
- **5. EIIEAEK II** (European community program), "*Reformation of the undergraduate program of the Technical university of Crete*". Reformation of the content, way of teaching e.t.c. of the undergraduate course "*Statistics*", use of e-class e.t.c., (**2008**), Dept. of Sciences, Technical University of Crete.

- 6. T. Daras: "*Statistics*" Book in the form of webcast, Graduate program "Graduate Studies in Mathematics", Greek Open University, (February 2008). Material for the graduate course "*Basic theories and methods in Mathematics*". EIIEAEK (European community program)
- **7. T. Daras:** "*Probability Theory Statistics*" Book in the form of hypertext, Graduate program "Graduate Studies in Mathematics", Greek Open University (August 2007). Material for the graduate course "*Basic theories and methods in Mathematics*". EIIEAEK (European community program)

GRADUATE PROGRAM EVALUATION

Member of an evaluation committee (Cyprus Ministry of Education), for the graduate programs:

- 1. Environmental Impacts Assessment and Sustainability Management Neapolis University Pafos.
- 2. Master of Science in Environmental Management and Environmental Education University of Nicosia.

Cyprus, 2017.

SEMINAR LECTURES

Department of Sciences Seminars (Dept. of Sciences, Technical University of Crete)

- (2001) "Convolution of measures and its applications".
- (2000) "Large deviations theory, law of large numbers, and its applications in Statistics".

Probability and Stochastic Processes Seminar (Case Western Reserve University)

- (1997) "Large Deviations for the Empirical Process of a Symmetric Measure".
- (1994) "Moderate Deviations for the Trajectories of an Exchangeable sequence".
- (1993) "Large Deviations for the Trajectories of an Exchangeable sequence".
- (1993) "Moderate Deviations for the Empirical Measure of an Exchangeable sequence".
- (1993) "Large Deviations for the Empirical Measure of an Exchangeable sequence".
- (1992) "Large Deviations for Stationary Gaussian Processes".

Analysis Seminar (Case Western Reserve University)

(1995) "Exchangeability and related topics"

Analysis on Groups Seminar (Case Western Reserve University)

(1992) "Isomorphism theorems (ergodic theory), Entropy".

Nonstandard Analysis Seminar (Hall University, Hall England)

(1986) "Boolean Ultrapowers".

Mathematics Seminar (Department of Mathematics, University of Patras)

(1987) "Introduction to Non-Standard Analysis and some generalizations".

(1986) "Markov chains and Music".

(1986) "Boolean Powers".

Greek Mathematical Society Seminars (Patras' section)

(1987) "Non-Standard Analysis and its applications".

OTHER SEMINAR LECTURES – PARTICIPATION

- **1.** «Principal Component Analysis», 31st Annual Conference, Greek Statistical Institute Συνέδριο Ελληνικού Στατιστικού Ινστιτούτου, (**2018**), May 4-6, Lamia.
- 2. "Number of microstates and configurational entropy for steady state two-phase flows in pore networks", *MAXENT* (2014), Amboisse France.
- **3.** «Examination of parameters for the energy performance of school buildings in the region of Chania», 3rd International Conference on Passive and Low Energy Cooling for the Built Environment (PALENC **2010**), Rhodos.
- **4.** "*Attitudes and behaviours of hospital administrative personnel for distance learning*", 5th International Conference in Open & Distance Learning, (2009), Athens.
- **5.** "*Bernstein's inequality and its applications*", 12th Mathematical Analysis conference (**2008**), University of Athens.
- 6. "Electronic Trade Services in enterprises of Municipality of Chania", 21st Annual Conference, Greek Statistical Institute, (2008), University of Aegean, Samos.
- 7. "*Probability of extinction and branching chains*", 20th Annual Conference, Greek Statistical Institute (2007), University of Cyprus.
- 8. "*Exponential type inequalities and Martingales*", 11th Annual Mathematical Analysis conference (2006), Dept. Of Mathematics, University of Thessaloniki..
- **9.** "Branching chains and their applications', 22nd Annual Conference Greek Mathematical Society, (**2005**), Lamia.
- **10.** "*Martingales and exchangeable sequences of r.v.s*", 18th Annual Conference, Greek Statistical Institute (**2005**), University of Aegean, Rhodes.
- **11.** "Large and moderate deviations for projective systems and projective limits", 10th Mathematical Analysis conference, (**2004**), Athens.
- American Mathematical Society Annual Meeting, University of Wisconsin, WI, USA (1993).
- Midwest Probability Colloquium, Northwestern University, Evanston IL, USA (yrs 1989-1996).
- 14. Nonstandard Analysis Conference, Hall University, Hall England) (1986).

FOREIGN LANGUAGES

Excellent command of the English language

CITATIONS (part) Total 204

- P. Asteris, M. Douvika, C. Karamani, A. Skentou, K. Chlichlia, T. Daras, L. Cavaleri, D. Armaghani, T. Zaoutis, "A novel heuristic algorithm for the modeling and risk assessment of the COVID-19 pandemic phenomenon" Citations 38
- D. Tarasi, T. Daras, S. Tournaki ,T. Tsoutsos, "Transportation in the Mediterranean during the COVID-19 pandemic era" Citations 18
- 3. N. Sifakis, M. Aryblia, T. Daras, S. Tournaki, T. Tsoutsos, 'The impact of COVID-19 pandemic in Mediterranean urban air pollution and mobility" Citations 3
- N. Sifakis, T. Daras, T. Tsoutsos, "How much Energy Efficient are Renewable Energy Resources Cooperatives' initiatives" Citations 4
- T. Terkenli, T. Daras, E. Maria, "Landscape Notions among Greek Engineering Students: Exploring Landscape Perceptions, Knowledge and Participation". Citations 8
- 6. N. Sifakis, N. Savvakis, T. Daras, T. Tsoutsos, "Analysis of the Energy Consumption Behavior of European RES Cooperative Members". Citations 18
- 7. I. Petidis, M. Aryblia, T. Daras, T. Tsoutsos, "Energy saving and thermal comfort interventions based on occupants' needs. A students' residence building case".

Citations 20

- M. Valavanides, T. Daras "Definition and Counting of Configurational Microstates in Steady-State Two-Phase Flows in Pore Networks". Citations 7
- T. Daras, M. Valavanides, "Number of microstates and configurational entropy for steady state two-phase flows in pore networks". Citations 1
- 10. M. Tsitoura, T.Tsoutsos, T. Daras, "Evaluation of comfort conditions in urban pen spaces. Application in the island of Crete". Citations 38
- 11. A. Chatzimichali, A. Zoumpouli, M. Metaxari, I. Apostolakis, T. Daras, N. Tzanakis, H. Askitopoulou: "Heart Rate Variability May Identify Patients Who Will Develop Severe Bradycardia During Spinal Anesthesia".
- 12. T. Daras: "Large Deviations for the Empirical Process of a Symmetric Measure: a lower bound". Citations 2
- T. Daras: "Trajectories of an Exchangeable sequence: Large and Moderate Deviations results". Citations 2
- 14. T. Daras: "Large and Moderate Deviations for the Empirical Measure of an Exchangeable sequence. Citations 9

CITATIONS (part)

- Definition and Counting of Configurational Microstates in Steady-State Two-Phase Flows in Pore Networks
 - 1. Savani I., Berdaux D., e.t.c., "Ensemble distribution for immiscible two phase flow in porous media", Savani I., Berdaux D., e.t.c., Prysical review, E95, 2017.
 - 2. Savani I., Berdaux D., e.t.c., "Ensemble distribution for immiscible two phase flow in twodimensional networks", Prysical review, E95, 2017.
 - 3. M. Valavanides, "Oil fragmentation, interfacial surface transport and flow structure maps for two-phase flow in model pore networks: predictions based on DeProF model situations", Oil and Gas science and Technology, 2018
 - 4. M. Valavanides, "Review of two steady-state two phase flow in porous media: independent variables, universal energy efficiency map, critical flow conditions, effective characterization of flow and pore network", Transport in Porous Media, 2018.

• Evaluation of comfort conditions in urban open spaces: applications in the island of Crete.

- 1. R.F Rupp, N.G. Vásquez, R Lamberts, "A review of human thermal comfort in the built environment", Energy and Buildings, 2015.
- 2. F Salata, I Golasi, A de Lieto Vollaro, "How high albedo and traditional buildings' materials and vegetation affect the quality of urban microclimate. A case study", Energy and Buildings, 2015.
- 3. S Coccolo, J Kämpf, JL Scartezzini, D Pearlmutter, "Outdoor human comfort and thermal stress: A comprehensive review on models and standards", Urban Climate, 2016.
- N Kántor, A Kovács, Á Takács, "Seasonal differences in the subjective assessment of outdoor thermal conditions and the impact of analysis techniques on the obtained results", International journal of biometeorology, 2016.
- 5. A Abbasi, C Alalouch, G Bramley, "Open space quality in deprived urban areas: user perspective and use pattern", Procedia-Social and Behavioral Sciences, 2016.
- 6. M Tsitoura, M Michailidou, T Tsoutsos, "Achieving sustainability through the management of microclimate parameters in Mediterranean urban environments during summer", Sustainable Cities and Society, 2016.
- 7. S Lenzholzer, W Klemm, C Vasilikou, "Qualitative methods to explore thermo-spatial perception in outdoor urban spaces", Urban Climate, 2016.
- 8. M Tsitoura, M Michailidou, T Tsoutsos, "A bioclimatic outdoor design tool in urban open space design", Energy and Buildings, 2017.
- 9. M Tsitoura, M Michailidou, T Tsoutsos, "Achieving sustainability through the management of microclimate parameters in Mediterranean urban environments during summer", Sustainable Cities and Society, 2016.
- 10. P Ampatzidis, "From building unit to building block-Measures to improve energy efficiency in a typical urban residential built environment", International Hellenic University repository, 2017.
- 11. S Lenzholzer, W Klemm, C Vasilikou, "Qualitative methods to explore thermo-spatial perception in outdoor urban spaces", Urban Climate, 2016

- 12. O Potchter, P Cohen, TP Lin, A. Matzarakis, "Outdoor human thermal perception in various climates: A comprehensive review of approaches, methods and quantification", Science of The Total Environment, 2018.
- M Makropoulou, A Gospodini, "Urban Form and Microclimatic Conditions in Urban Open Spaces at the Densely Built Centre of a Greek City", Journal of Sustainable Development, 2016.
- 14. I Golasi, F Salata, E de Lieto Vollaro, M Coppi, "Complying with the demand of standardization in outdoor thermal comfort: A first approach to the Global Outdoor Comfort Index (GOCI)", Building and Environment, 2017.
- 15. S Mumcu, S Yilmaz, "Seating Furniture in Open Spaces and Their Contribution to the Social Life", Environmental Sustainability and, 2016.

• Heart rate variability may identify patients who will develop severe bradycardia during spinal anesthesia

- 1. Francesco Riganello, "Heart Rate Variability and the Two-way Interaction Between Cns and the Central Autonomic Network", *Exp Clin Cardiol*, Vol 20, 5584-5595 / 2014.
- 2. Bidaki R, Mirhosseni H and Avare R, "Breakneck Bradycardia Pursuant to Spinal Anesthesia: A Report of Two Cases", *Anesthesia and Clinical research*, 2011.
- 3. A. T. Mazzeo, E. La Monaca, R. Di Leo, G.Vita, L. B. Santamaria, "Heart rate variability: a diagnostic and prognostic tool in anesthesia and intensive care", *Acta Anaesthesiol Scand* 2011; 55: 797–811.
- 4. Ivana I. Vranic, "Signaling prodromes of sudden cardiac death", Bosnian journal of basic medical sciences, 13(1):44-9, 2013.
- Lei Sun, Chao Huang, Yan Shen, Hang Chen, "Pulse Transit Time Variability Predicts Severe Hypotension after Spinal Anesthesia for Elective Cesarean Delivery", Advanced Material Research, 2013, 2208-2213.
- 6. Gernot Ernst, "Perioperative Care", Chapter, January 2014, In book: *Heart Rate Variability*, pp.207-216.
- 7. Alia S Dabbous, Mabelle C Baissari, Patricia W Nehme, Ahmad M Abu Leila "Perioperative reflex bradycardia and cardiac arrest", *Middle East journal of anaesthesiology* 22(4):353-60, 2014.
- 8. Alia S Dabbous, Mabelle C Baissari, Patricia W Nehme "Perioperative Reflex Bradycardia and Cardiac Arrest", *International Journal of Clinical Pharmacy*, MEJA 22(4) 353-362, 2014.
- 9. Su Hyun Lee, Dong Hoon Lee, Dong Hoon Ha, Young Jun Oh, "Dynamics of heart rate variability in patients with type 2 diabetes mellitus during spinal anaesthesia: Prospective observational study", *BMC Anesthesiology* 15(1), 2015.
- 10. Maowei GongMaowei GongYuanyuan ManYuanyuan ManQiang FuQiang Fu, "Incidence of bradycardia in pediatric patients receiving dexmedetomidine anesthesia: a meta-analysis", International Journal of Clinical Pharmacy, 2017, V39, 139-147.
- Large and moderate deviations for the empirical measures of an exchangeable sequence

- 1. Eichelsbacher P., Schmock U. "Exponential approximations in completely regular topological spaces and extensions of Sanov's theorem", *Stochastic Processes and their Applications*, V2 (1998), pp 233-251.
- Eichelsbacher P., Schmock U. "Large deviations for products of empirical measures of dependent sequences", *Markov Processes and related fields*, Vol. 7, No 3 (2001), pp 435-468.
- **3.** Chen J., "Large deviations for exchangeable observations with Applications", *International Journal of Mathematics and Mathematical Sciences*, V55 (2004), pp 2947-2958.
- **4.** Wu L., "Large deviation principle for exchangeable sequences: necessary and sufficient condition", Journal of Theoretical Probability, V 17, No 4 (2004), pp 967-978.
- **5.** Ma Y., Song Q., Wu L., "Large deviation principle with respect to the τ-topology for exchangeable sequences: necessary and sufficient condition", Statistics and Probability Letters, V77, No 3, (2007), pp 239-246.
- **6.** Efficient Monte Carlo For Neural Networks With Langevin Samplers, L. A. Breyer, M. Piccioni, Jan 2001 · Stochastic Processes and their Applications.
- 7. Large Deviation Principle for Exchangeable Sequences: Necessary and Sufficient Condition, L. Wu, Journal of Theoretical Probability 17(4):967-978 · October 2004.

• Large deviations for the empirical process of a symmetric measure: a lower bound

- Ma Y., Song Q., Wu L., "Large deviation principle with respect to the τ-topology for exchangeable sequences: necessary and sufficient condition", Statistics and Probability Letters, V77, No 3, (2007), pp 239-246.
- 2. Large Deviation Principle for Exchangeable Sequences: Necessary and Sufficient Condition, L. Wu, Statistics and Probability Letters 77(3):239-246 · February 2007.

• Trajectories of exchangeable sequences: Large and moderate deviations results

Chen J., "Large deviations for exchangeable observations with Applications", *International Journal of Mathematics and Mathematical Sciences*, V55 (2004), pp 2947-2958.