Antonis D. Mistriotis (2026)

- Statistical Mechanics and Dynamical Systems Laboratory, Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens, Greece &
- Department of Natural Resources and Agricultural Engineering, Agricultural University of Athens, Greece

Tel.: ++30 210 5294022 & ++30 210 6503964
e-mail: amistr@aua.gr & mistriotisa@gmail.com

EDUCATION

Diploma in Physics : Physics Department of the National University of Athens (1980)
Master of Science : Physics Department of the University of Illinois at Urbana-Champaign (1985)
Ph.D. : Physics Department of the University of Illinois at Urbana-Champaign (1986). Thesis Title: *From Determinism to Stochasticity*.

HONORS

1975-1979 : Scholarship of Greek National Foundation for Scholarships.
1994-1996 : Individual Fellowship of the Human Capital and Mobility Program of the European Union.
1996-1997 : Return Grant of Training and Mobility of Researchers (TMR) Program of the European Union.

WORK HISTORY

2001-2024 : Senior Researcher in the Department of Agricultural Engineering of the Agricultural University of Athens, Greece.
1998-2001 : Researcher in the Department of Agricultural Engineering of the Agricultural University of Athens, Greece. Fellowship of the General Secretariat for Research & Technology of Greece: Program for "Career offer to Greek speaking researchers working abroad"
1997-1998 : Researcher in the Institute of Rural Buildings of the University of Bari, Italy.
1996-1997 : Researcher in the Department of Agricultural Engineering of the Agricultural University of Athens, Greece. Return Grant of the European TMR Programme (Marie Curie Fellowship).
1994-1996 : Researcher in the Institute of Agricultural Engineering (IMAG-DLO), Wageningen, Netherlands. Individual fellowship of the European Human Capital and Mobility Program.
1991-1994 : Researcher in the Institute of Electronic Structure and Lasers of the Foundation of Research and Technology, Heraklion, Crete, Greece.
1989-1991 : Visiting associate professor in the Physics Department of the University of Crete, Greece.
1988-1989 : Visiting assistant professor in the Physics Department of the University of Crete, Greece.
1988 : Researcher in the Physics Department of the University of Bayreuth, Germany.
1987-1988 : Visiting assistant professor in the Physics Department of the University of Crete, Greece.

1986-1987 : Researcher in the Institute of Electronic Structure and Lasers of the Research Center of Crete, Heraklion, Crete, Greece.

RESEARCH INTERESTS

Mistriotis has worked as a researcher in Greece, USA, the Netherlands, and Germany. He currently works as a researcher at the Agricultural University of Athens, Greece. His work includes a wide range of topics in interdisciplinary science and engineering, such as Nonlinear Dynamics, Biophysics, Computational Statistical Physics, Computational Solid-State Physics, Computational Fluid Dynamics, Polymers, Biobased Polymers, and Biodegradation. He has published many scientific papers in peer-reviewed journals and proceedings of international conferences.

FUNDED RESEARCH PROJECTS

Mistriotis has been involved in many European (FP5, FP6, FP7, H2020) and national research projects as a researcher and administrator. He has been active in all funded research projects of the Structures & Materials Research Group of the Agricultural University of Athens (http://www.smrg.aua.gr) since 1995. He also received European funding for his individual research activities under the HCM and the TMR EU Programs (currently known as Marie-Curie Fellowships Program) and under a similar program of the Greek Ministry of Research supporting researchers returning to Greece (1991-2001).

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PUBLICATIONS

Publications in peer-reviewed International Journals

Nonlinear dynamics

1) Mistriotis A., Jackson E.A., (1987): Transition to Stochasticity for a Periodically Perturbed Area-preserving System. Physica Scripta 35, 97-104.
2) Mistriotis A., Pnevmatikos S., Flytzanis N., (1988): Recurrence Phenomena in Soliton Propagation in a Lattice with Impurities. J. Phys. A 21, 1253-1270.
3) Mistriotis A., (1989) : A Study on the Short Time Dynamical Behavior of Hamiltonian Systems and its Relationship to Non-equilibrium Statistical Properties. Physica Scripta 39, 33-39
4) Jackson E.A., Mistriotis A., (1989): Thermal Conductivity of One-dimensional and Two-dimensional Lattices. J. Phys. Cond. Matter 1, 1223-1238

Computational Solid-State Physics – Material Science

5) Mistriotis A., Büttner H., Pesch W., (1988): Ground State Properties of Strongly Correlated Electrons on Finite Clusters. J Phys. C 21, L1021-1026.
6) Mistriotis A., Flytzanis N., Farantos S., (1989): A Potential Model for Silicon Clusters. Phys. Rev. B 39, 1212-1218.

7) Mistriotis A., Büttner H., Pesch W., (1989): Holes in Finite Electron Systems with Strong Correlation. J. Phys. Cond. Matter 1, 891-900.
8) Flytzanis N., Mistriotis A., Farantos S., (1989): Nonlinear Structures in Silicon Clusters. Journal de Physique, Colloque C3, suppl. 3, 50, 89-93.
9) Flytzanis N., Mistriotis A., Vendras P., (1992): Structure and Dynamics in Silicon. J. of Mech. Behavior of Materials, 4, 41-50.
10) Mistriotis A., Froudakis G., Vendras P., Flytzanis N., (1993): A Model Potential for Silicon Clusters and Surfaces. Phys. Rev. B 47, 10648-10653.
11) Fehske H., Röder H., Mistriotis A., Büttner H., (1993): The phase diagram of the 2D Holstein-t-J model near half-filling. J. Phys. Cond. Matter 5, 3565-3572.
12) Mistriotis A., Zdetsis A., Froudakis G., Madhu M., (1993): Reproduction of Quantum Tight-binding effects in silicon clusters by a 4-body classical model. J. Phys. Cond. Matter 5, 6183-6188.
13) Zolotaryuk A., Mistriotis A., Economou E., (1993): Polarons on a one-dimensional nonlinear lattice. Physical Review B 48, 13518-13523.
14) Mistriotis A., Economou E., (1994): Polarons on a one-dimensional lattice with two structural phases. J. Phys. Cond. Matter 6, 421-430.
15) Dinda P.T., Vlastou - Tsinganos G., Flytzanis N., Mistriotis A., (1994): The melting behaviour of small silicon clusters. Physics Letters A 191, 339- 345.
16) Dinda P.T., Vlastou - Tsinganos G., Flytzanis N., Mistriotis A., (1995): Simulation of the melting behaviour of small silicon clusters. Phys. Rev. B - Condensed Matter 51, 13697-13704.
17) Fehske H., Röder H., Wellein G., Mistriotis A., (1995): Hole-polaron formation in the two-dimensional Holstein t-J model - A variational Lanczos study. Phys. Rev. B - Condensed Matter 51, 16582- 16593.

Computational Fluid Dynamics (CFD) in Agricultural Engineering applications – Farm *Structures Design*

18) Mistriotis A., Bot G.P.A., Picuno P., Scarascia-Mugnozza G. (1997): Analysis of the efficiency of greenhouse ventilation using computational fluid dynamics. Agricultural and Forest Meteorology 85, 217-228.
19) Mistriotis A., Arcidiacono C., Bot G.P.A., Picuno P., Scarascia-Mugnozza G. (1997): Computational analysis of ventilation in greenhouses at zero-and low-wind-speeds. Agricultural and Forest Meteorology 88, 121-135
20) Mistriotis A., De Jong T., Wagemans M.J.M., Bot G.P.A., (1997): Computational Fluid Dynamics (CFD) as a tool for the analysis of ventilation and indoor microclimate in agricultural buildings. NJAS Wageningen J. of Life Sciences 45, 81-96.
21) Von Elsner B., Briassoulis D., Waaijenberg D., Mistriotis A., Von Zabeltitz C., Gratraud J., Russo G., Suay-Cortes R., (2000): Review of Structural and Functional Characteristics of Greenhouses in European Union Countries, Part I: Design Requirements. J. Agric. Engng Res. 75, 1-16.
22) Von Elsner B., Briassoulis D., Waaijenberg D., Mistriotis A., Von Zabeltitz C., Gratraud J., Russo G., Suay-Cortes R., (2000): Review of Structural and Functional Characteristics of Greenhouses in European Union Countries, Part II: Typical Designs. J. Agric. Engng Res. 75, 111-126.
23) Scarascia-Mugnozza G., Mistriotis A., Picuno P., (2001): Greenhouse Natural Ventilation: Review of Numerical Methods and Analysis of Ventilation Efficiency. Riv. di Ingeneria Agraria 1, 11-19.
24) Mistriotis A., Briassoulis D., (2002): Numerical estimation of the internal and external aerodynamic coefficients of tunnel greenhouse structure with openings. Computers and Electronics in Agriculture 34, 191-205.

25) Castellano S., Scarascia Mugnozza G., Russo G., Briassoulis D., Mistriotis A., Hemming S., Waaijenberg D., (2008): Plastic nets in agriculture: a general review of types and applications. Applied Engineering in Agriculture 24, 799-808.
26) Briassoulis D., Mistriotis A., (2009): Integrated structural design methodology for agricultural protecting structures covered with nets. Biosystems Engineering 105, 205-220.
27) Giannoulis A., Mistriotis A., Briassoulis D., (2010): Experimental and numerical investigation of the airflow around a raised permeable panel. J. of Wind Eng. and Ind. Aerod. 98, 808-817.
28) Briassoulis D., Mistriotis A., Giannoulis A., (2010): Wind forces on porous elevated panels. J. of Wind Eng. and Ind. Aerod. 98, 919-928.
29) Mistriotis A., Castellano S., (2012): Airflow through net covered tunnel structures at high wind speeds. Biosystems Engineering 113, 308-317.
30) Giannoulis A., Stathopoulos T., Briassoulis D., Mistriotis A., (2012): Wind loading on vertical panels with different permeabilities. J. of Wind Eng. and Ind. Aerod. 107, 1-16.
31) Giannoulis A., Mistriotis A., Briassoulis D., (2015): Design and analysis of the response of elastically supported wind-break panels of two different permeabilities under wind load. Biosystems Engineering 129, 57-69.
32) Giannoulis A., Briassoulis D., Papardaki N.G., Mistriotis A., (2015): Full-scale experiment on the interaction of two neighbouring low-rise insect-proof nethouses with the wind. Biosystems Engineering 250, 133-142.

Plastic materials in agricultural applications

33) Briassoulis D., Mistriotis A., Eleftherakis D., (2007): Mechanical behaviour and properties of agricultural nets - Part I: Testing methods for agricultural nets. Polymer Testing 26, 822-832.
34) Briassoulis D., Mistriotis A., Eleftherakis D., (2007): Mechanical behaviour and properties of agricultural nets - Part II: Analysis of the performance of the main categories of agricultural nets. Polymer Testing 26, 970-984.
35) Giannoulis A., Briassoulis D., Papardaki N.G., Mistriotis A., (2021). Evaluation of insect-proof agricultural nets with enhanced functionality. Biosystems Engineering 208, 98-112.

Biodegradable polymers - Biodegradation

36) Briassoulis D., Mistriotis A., Giannoulis A., Giannopoulos D., (2013): Optimized PLA-based EMAP systems for horticultural produce designed to regulate the targeted in-package atmosphere. Industrial Crops and Products 48, 68-80.
37) Mistriotis A., Briassoulis D., Giannoulis A., D'Aquino S., (2016): Design of biodegradable bio-based equilibrium modified atmosphere packaging (EMAP) for fresh fruits and vegetables by using micro-perforated poly-lactic acid (PLA) films. Postharvest Biology and Technology 111, 380-389.
38) D'Aquino S., Mistriotis A., Briassoulis D., Di Lorenzo M.L., Malinconico M., (2016): Influence of modified atmosphere packaging on postharvest quality of cherry tomatoes held at 20 C. Postharvest Biology and Technology 115, 103-112.
39) Giannoulis A., Mistriotis A., Briassoulis D., (2017): 3D numerical simulations as optimization tool for the design of novel EMAP systems. Computers and Electronics in Agriculture 143, 119-129.
40) Briassoulis D., Mistriotis A., (2018): Key parameters in testing biodegradation of bio-based materials in soil. Chemosphere 207, 18-26.
41) Briassoulis D., Pikasi A., Briassoulis Chr., Mistriotis A., (2019): Disintegration behaviour of bio-based plastics in coastal zone marine environments: A field experiment under natural conditions. Science of the Total Environment 688, 208–223.

42) Briassoulis D., Mistriotis A., Mortier N., Tosin M. (2019): A horizontal test method for biodegradation in soil of bio-based and conventional plastics and lubricants. Journal of Cleaner Production 242, 118-392.
43) Mistriotis A., Papardaki N.G., Provata A., (2019): Biodegradation of Cellulose in Laboratory-Scale Bioreactors: Experimental and Numerical Studies. Journal of Polymers and the Environment https://doi.org/10.1007/s10924-019-01560-6.
44) Briassoulis D., Pikasi A., Papardaki N.G., Mistriotis A., (2020): Aerobic biodegradation of bio-based plastics in the seawater/sediment interface (sublittoral) marine environment of the coastal zone – Test method under controlled laboratory conditions. Science of the Total Environment 722, 137748.
45) Briassoulis D., Pikasi A., Papardaki N.G., Mistriotis A., (2024): Biodegradation of plastics in the pelagic environment of the coastal zone – Proposed test method under controlled laboratory conditions. Science of The Total Environment 912, 168889.
46) Briassoulis D., Pyromali C., Convertino F., Schettini E., Carroccio S.C., Cerruti P.F., Kernchen S., Dattilo S., Nikama J., Soinne H., Vox G., Selonen S., Löder M.G.J. , Laforsch C., Mistriotis A., (2026): Inhibition factors and soil contamination by macro/micro-particles related to biodegradation of mulching films in Mediterranean and Northern climates. Polymer Degradation and Stability, 12163. ISSN 0141-3910, https://doi.org/10.1016/j.polymdegradstab.2026.112163.

Theoretical Biology

47) Mistriotis A., (2021): A universal model describing the structure and functions of living systems. Communicative & Integrative Biology 14, 27-36.
48) Mistriotis A., (2023): Mathematical and physical considerations indicating that the cell genome is a read-write memory. Prog Biophys Mol Biol. 178, 50-56.

Publications in Conference Proceedings

There are approximately 40 additional publications in conference proceedings, non-refereed journals, and published project reports.