

CURRICULUM VITAE

Thomas Oikonomou

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Office Address

Department of Physics

University of Crete

71003 Heraklion, Hellas

tel : (+30)-2810-39 4200

e-mail : thoik@physics.uoc.gr

www: <http://nls.physics.uoc.gr>

Born in : Athens, Hellas

Date of birth : 18 November, 1977

Nationality : Hellenic

EDUCATION

Physik-Vordiplom (First Diploma in Physics) *Rheinisch-Westfälische Technische Hochschule Aachen, Aachen, Germany April 2001.*

Physik-Diplom (Diploma in Physics) *Friedrich-Schiller University, Jena, Germany December 2003.*

PhD in Bioinformatics and Statistical Mechanics: *School of Medicine, University of Athens, & National Center for Scientific Research "Demokritos", Hellas June 2008.*

LANGUAGES: Hellenic-German-English.

HONORS & AWARDS

- Rheinisch-Westfälische Technische Hochschule Aachen, Aachen, Germany, Institute for High Voltage Technology (IFHT), *Research Fellowship*, Apr 2001 – Sep 2002.
- Friedrich-Schiller University, Jena, Germany, *Teaching Fellowship*, Oct 2002 – Feb 2003.
- Friedrich-Schiller University, Jena, Germany, *Teaching Fellowship*, Apr – Jul 2003.
- Universite Libre De Bruxelles, Bruxelles, Belgium, Center for Nonlinear Phenomena and Complex Systems, *Doctoral Fellowship*, Mai 2005 – Aug 2005.
- Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brasil, Department of Theoretical Physics, *Visiting post-doctoral research*, Apr 2009 – Jun 2009.
- National Center for Scientific Research “Demokritos”, Athens, Hellas, *Best Ph.D. award of the year 2008*, Dec 2009.

TEACHING AND RESEARCH EXPERIENCE

- Apr 2001 – Sep 2002: Rheinisch-Westfälische Technische Hochschule Aachen, Aachen, Germany, *Research Assistant*
- Oct 2002 – Feb 2003: Friedrich-Schiller University, Jena, Germany, *Teaching Assistant* in Statistical Thermodynamics.
- Apr 2003 – Jul 2003: Friedrich-Schiller University, Jena, Germany, *Teaching Assistant* in Classical Electrodynamics.
- Feb 2005 – Jun 2012: National Center for Scientific Research ”Demokritos”, Athens, Hellas, *Collaborating Researcher*.
- Oct 2012 – ... : Department of Physics, Faculty of Science, Ege University, 35100 Izmir, Turkey, *Collaborating Researcher*.
- Jan 2013 – ... : Department of Physics, University of Crete, 71003 Heraklion, Hellas, *Postdoctoral Fellowship*.

- Sep 2013 – Feb 2014 : Department of Physics, University of Crete, 71003 Heraklion, Hellas, *Teaching Assistant* in Calculus I.

TALKS in UNIVERSITIES

1. **“Der Komet Hale-Bopp” (Comet Hale-Bopp)**, Rheinisch–Westfälische Technische Hochschule Aachen, Department of Physics, Aachen, Germany, Feb 2002.
2. **“Multiversum-Theorie” (Multiversum-Theory)**, Rheinisch–Westfälische Technische Hochschule Aachen, Department of Physics, Aachen, Germany, Jul 2002.
3. **“Gravitationswellen” (Gravitational Waves)**, Friedrich-Schiller University, Department of Astrophysics, Jena, Germany, Dec 2003.
4. **“Βιολειτουργίες Αλληλουχιών του DNA” (Biofunctionality of DNA Sequences)**, School of Medicine, Department of Medical Genetics, University of Athens, Athens, Hellas, Feb 2006.
5. **“Αθροιστική Ανάλυση Αλληλουχιών του DNA στο Ανθρώπινο Γονιδίωμα” (Cumulative Analysis of DNA Sequences in the Human Genome)**, School of Medicine, Department of Biological Chemistry, University of Athens, Athens, Hellas, March 2006.
6. **“Μη-γραμμική Ανάλυση 6 Ανθρωπίνων Χρωματοσωμάτων” (Non-Linear Analysis of 6 Human Chromosomes)**, 3rd Annual Scientific Conference, Medical School, University of Athens, Athens, Hellas, Mai 2006.
7. **“Μη-εκτατική Στατιστική και εφαρμογές σε βιολογικά δεδομένα” (Non-extensive Statistics and application on biological data)**, National Center for Scientific Research “Demokritos”, Institute of Physical Chemistry, Athens, Hellas, Okt 2008.
8. **“The Discrete Ensemble Approach and the relation between Boltzmann and Gibbs Statistics”**, National Center for Scientific Research “Demokritos”, Institute of Physical Chemistry, Athens, Hellas, Dec 2010.

9. **“Derivation of the Sackur-Tetrode entropy within classical thermodynamics”**, National Center for Scientific Research “Demokritos”, Institute of Physical Chemistry, Athens, Hellas, Nov 2011.
10. **“Additivity vs. Extensivity of Shannon entropy”**, University of Crete, Department of Physics, Herakleion, Hellas, June 2012.
11. **“Non-correspondence between the discrete Shannon measure and its Jaynes’ continuous generalization”**, National Center for Scientific Research “Demokritos”, Institute of Physical Chemistry, Athens, Hellas, Feb 2013.
12. **“Canonical equilibrium distribution derived from Helmholtz potential”**, Ege University, Department of Physics, Faculty of Science, Izmir, Turkey, Jun 2013.

TALKS in CONFERENCES

1. **Th. Oikonomou:** *Nonextensive Analysis of Human DNA*, School and Conference on Complex Systems and Nonextensive Statistical Mechanics, Abdus Salam ICTP, Trieste, Italy, 31/07-08/08 2006.
2. **Th. Oikonomou:** *Nonextensivity in the Coding and Non-coding Size Distributions of Human DNA Sequences*, New Directions in Complex Systems, Istanbul, Turkey, 03/09-09/09 2006.
3. **Th. Oikonomou** *On the definition of deformed ln – exp-functions*, XXXII Encontro Nacional de Fisica da Materia Condensada, Águas de Lindóia, Brazil, 11/05-15/05 2009.
4. **Th. Oikonomou** *Is Shannon entropy always additive?*, International Conference on Στατιστική Φυσική, Larnaca-Cyprus, 11/07-15/07 2011.

POSTERS in CONFERENCES

1. **Th. Oikonomou:** *Derivation of the Tsallis, Rényi and Nonextensive Gaussian entropy from deformed multinomial coefficients*, SigmaPhi2008 International Conference on Στατιστική Φυσική, Orthodox Academy of Crete, Kolympari-Chania, Hellas, 14/07-18/08 2008.

REPORTS

1. **Th. Oikonomou:** *Die Parabel im Minkowski-Raum, (Parabol in Minkowski-Space)*, Rheinisch-Westfälische Technische Hochschule Aachen, Aachen, Germany, Aug 1999.
2. **Th. Oikonomou:** *Der Zentrale Stoss bei Binärsystemen mit rotierenden Komponenten in der 3.5post-Newtonischen Näherung, (Head On Collision with Spin at the 3.5post-Newtonian Approximation)*, Diplomarbeit (Diploma thesis), Friedrich-Schiller University, Jena, Germany, Dec 2003.
3. **A. Provata, Th. Oikonomou:** *DNA: Δομή και Εξέλιξη, (DNA: Structure and Evolution)*, Greek Physical Society, March 2005.

PUBLICATIONS

1. **Th. Oikonomou, A. Provata,** Non-extensive Trends in the Size Distribution of Coding and Non-coding DNA Sequences in the Human Genome, *Eur. Phys. J. B*, **50**, 259-264 (2006).
2. **A. Provata, Th. Oikonomou,** Power law exponents characterising human DNA, *Phys. Rev. E*, **75**, 056102-6 (2007).
3. **Th. Oikonomou,** Properties of the “nonextensive Gaussian” entropy, *Physica A*, **381** 155-163 (2007).
4. **Th. Oikonomou,** Tsallis, Rényi and nonextensive Gaussian entropy derived from the respective multinomial coefficients, *Physica A*, **386** 119-134 (2007).
5. **Th. Oikonomou, A. Provata, U. Tirnakli,** Nonextensive Statistical Approach to Non-coding Human DNA, *Physica A*, **387** 2653-2659 (2008).
6. **Th. Oikonomou, U. Tirnakli,** Generalized entropic structures and non-generality of Jaynes’ Formalism, *Chaos, Solitons & Fractals*, **42** 3027-3034 (2009).
7. **Th. Oikonomou, G.B. Bagci,** A note on the definition of deformed exponential and logarithm functions, *J. Math. Phys.*, **50** 103301 (2009).

8. **Th. Oikonomou, G.B. Bagci**, The maximization of Tsallis entropy with complete deformed functions and the problem of constraints, *Phys. Lett. A*, **374** 2225 (2010).
9. **Th. Oikonomou, G.B. Bagci**, A completeness criterion for Kaniadakis, Abe and two-parameter generalized statistical theories, *Rep. Math. Phys.*, **66** 137 (2010).
10. **Th. Oikonomou**, Comment on “Critique of multinomial coefficient method for evaluating Tsallis and Rényi entropies” by A.S. Parvan, *Physica A*, **390** 781 (2011).
11. **Th. Oikonomou, G.B. Bagci, U. Tirnakli**, Canonical equilibrium distribution derived from Helmholtz potential, *Physica A*, **391** 6386 (2012).
12. **Th. Oikonomou, G.B. Bagci**, Clausius versus Sackur-Tetrode entropies, *Studies in History and Philosophy of Modern Physics* **44** 63 (2013).
13. **G.B. Bagci, Th. Oikonomou**, Tsallis power laws and finite baths with negative heat capacity, *Phys. Rev. E* **88**, 042126 (2013).
14. **G.B. Bagci, Th. Oikonomou**, Reply to “Comment on ‘Tsallis power laws and finite baths with negative heat capacity’ ”, *Phys. Rev. E*, *accepted* (2014).

REFEREEING

1. Physics Letters A (11 times)
2. Physica B (1 time)
3. Modern Physics Letters B (4 times)
4. Journal of Mathematical Physics (1 times)
5. Central European Journal of Physics (2 times)
6. Physical Review E (1 time)
7. Physical Chemistry Research (2 time)
8. European Physical Journal B (2 time)
9. Entropy (1 time)