

CURRICULUM VITAE

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Kyriakos Tamvakis
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Citizenship: Greek

Date of birth: 23 October 1950

Place of birth: Athens, Greece

Marital status: Married. Father of two children.

Degrees

PhD in Physics, June 1978, Brown University, Providence R. I. USA

Ms in Physics, June 1976, Brown University, Providence R. I. USA

Diploma in Physics, March 1973, University of Athens, Athens, Greece

Academic Positions

Present position: Professor-Emeritus at the Physics Department of the
University of Ioannina

Professor of Theoretical Physics at the Physics Department of the Uni-
versity of Ioannina (Sept.82-Aug.18).

Corresponding Associate at the Theoretical Physics Department, CERN,
Geneva, Switzerland (March-May 2022)

Corresponding Associate at the Theoretical Physics Department, CERN,
Geneva, Switzerland (February-March 2020)

Visiting Professor at the Physics Department of the University of Cyprus
(Jan.-June 2017)

Corresponding Associate at the Theoretical Physics Department, CERN,
Geneva, Switzerland (April-September 2016)

Scientific Associate at the Theoretical Physics Department, CERN, Geneva,
Switzerland (July 2014-Febr. 2015)

Visiting Professor at the Physics Department of the University of Cyprus
(Jan.-June 2011)

Scientific Associate at the Theory Division, CERN, Geneva, Switzerland
(Sept. 2009-Feb. 2010)

Scientific Associate at the Theory Division, CERN, Geneva, Switzerland
(Sept. 2002-Feb.2003)

Scientific Associate at the Theory Division, CERN, Geneva, Switzerland (Sept.1995-Sept.1996).

Visiting Research Associate at the Max Planck Institute, Munich, Germany (Feb.-July 1986).

Corresponding Fellow, Theory Division, CERN, Geneva, Switzerland (for a nine-month period between June 83 and Sep. 87).

Fellow at the Theory Division, CERN, Geneva, Switzerland (Sept.80-Sept.82).

Research Associate at the Theoretical Physics chair of the National Technical University of Athens, Athens, Greece (June 79-June 80).

Research Associate at the Physics Department of Brown University, Providence, R. I. USA (March-July 1978).

Research Assistant at the Physics Department of Brown University, Providence, R. I. USA (June 75-March 78).

Teaching Assistant at the Physics Department of Brown University, Providence, R. I. USA (Sept.73-June 75).

Administrative Positions

Director of the Graduate Program in Physics of the Physics Department of the University of Ioannina (2001-2017).

Chairman of the Physics Department of the University of Ioannina (Sept. 1997-Sept. 2001).

Chairman of the Theoretical Physics Division of the Physics Department of the University of Ioannina (Sept.1990-Sept. 1995).

Member of the Research Committee of the University of Ioannina (1989-1996).

Chairman of the Hellenic Society for the Study of High Energy Physics (2000-2002)

Member of the Greek CERN Committee (2005-2009)

Member of the National Council of Science and Technology (2008-2009)

Research Programmes

1) **THALES**, funded by the Greek Ministry of Education (2012-2015), as Coordinator

2) **EXCELLENCE**, funded by the Greek Ministry of Research and Technology (2012-2015), as Coordinator.

3) **Universenet**, Marie Curie Research Network (Oct. 2006-Sept. 2010), as Coordinator of the Greek Node

4) **Quest for Unification**, Marie Curie Research Network (Sept. 2004-Sept. 2008), as Coordinator of the Ioannina Subnode.

5) **Across the Energy Frontier**, RTN , HPRN-CT-2000-00148 (Sept. 2000-Sept. 2004), as Coordinator of the Ioannina Subnode.

6) **Supersymmetry and the Early Universe**, RTN, HPRN-CT-2000-00152 (June 2000-Dec. 2004), as Coordinator of the Greek Node.

7) **Beyond the Standard Model**, TMR (1996-2000), as Coordinator of the Ioannina Subnode.

8) **Flavourdynamics**, HCM Network (1993-1996), as Coordinator of the Greek Node.

9) **PYTHAGORAS-II**, funded by the Greek Ministry of Research and Technology (2005-2006), as Coordinator.

10) **PENED-95**, funded by the Greek Ministry of Research and Technology (1996-1998), as Coordinator.

11) Research Programmes funded by the University of Ioannina Research Committee (1990, 1993, 1997, 1999), as Coordinator.

Educational and Outreach Programmes

Graduate Studies Programme in Physics of the University of Ioannina” (2001-2003), co-funded by the Greek Ministry of Education and EU, as Co-ordinator.

”Optimization of the Undergraduate Programme in Physics of the University of Ioannina” (1998-2000), co-funded by the Greek Ministry of Education and EU, as Coordinator.

Continuous Education Programme “Science and Culture”, (1998-2006), co-funded by the Greek Ministry of Education and EU, as Coordinator.

Organization of Conferences

1) SUSY 2022, Ioannina, as Chairman of the Organizing Committee.

2) PLANCK 2015, Ioannina, as Chairman of the Organizing Committee.

3) HEP-2012, Ioannina, as Chairman of the Organizing Committee.

4) Universenet, 2008, Mytilene, Greece, as member of the Organizing Committee.

5) HEP-2006, Ioannina, as Chairman of the Organizing Committee.

6) HEP-2000, Ioannina, as Chairman of the Organizing Committee.

7) Current Problems in Particle Physics and Cosmology, 1990, Ioannina, as member of the Organizing Committee.

Other activities

Invited speaker at U. of Crete, NRC Demokritos, Ecole Polytechnique, Scuola Normale Pisa, ICTP Trieste, U. of Oxford, Rutherford Lab., U. Warsaw, King’s College, etc.

Supervision of PhD students: J. Rizos (1992), P. Kanti (1997), A. Dedes (1997), C. Bogdanos (2008), O. Efthimiou (2008), M. Paraskevas (2013), A.Karam (2018), A.Lykkas (2022).

Textbooks: “Basic Quantum Mechanics” (Springer, 2019), “Introduction to Quantum Mechanics” (Leader Books, 2003), in Greek; “Problems and Solutions in Quantum Mechanics” (Cambridge University Press, 2005), “Classical Electrodynamics” (Leader Books, 2013), in Greek.

Articles in Books: “An Introduction to Cosmology” in “The Physics of the Early Universe” ed. E. Papantonopoulos, Lecture Notes in Physics 653, Springer 2004; “An Introduction to Particle Physics” in “Cosmological Crossroads” ed S. Cotsakis and E. Papantonopoulos, Springer 2002.

Hellenic Open University: Director of the Master’s Programme in Advanced Physics at the Hellenic Open University (2005-2008, 2010-2015 and 2017)

Published Articles and Citations

Total number of published articles 130. Total number of citations according to SPIRES 8884, h-index 45. The complete list of publications can be found in

<http://inspirehep.net/search?ln=en&p=f+a+tamvakis>

Ten Most Cited Publications

1. No-Scale Supersymmetric Standard Model. J. R. Ellis, A.B. Lahanas, D. V. Nanopoulos, K. T.. Phys.Lett. B134 (1984) 429. Cited by 654.
2. Grand Unification in Simple Supergravity. J. R. Ellis, D. V. Nanopoulos, K. T.. Phys.Lett. B121 (1983) 123. Cited by 639.
3. Weak Symmetry Breaking by Radiative Corrections in Broken Supergravity. John R. Ellis, J.S. Hagelin, D. V. Nanopoulos, K. T..Phys.Lett. B125 (1983) 275. Cited by 580.
4. Dilatonic black holes in higher curvature string gravity P. Kanti, N.E. Mavromatos, J. Rizos, K. Tamvakis, E. Winstanley, Phys.Rev. D54 (1996) 5049-5058. Cited by 618.
5. Naturally Massless Higgs Doublets in Supersymmetric SU(5). A. Masiero, D. V. Nanopoulos, K. T., T. Yanagida. Phys.Lett. B115 (1982) 390. Cited by 429.
6. Singularity - free cosmological solutions of the superstring effective action. I. Antoniadis, J. Rizos, K. T.. Nucl.Phys. B415 (1994) 497-514. Cited bt 417.
7. Localized gravitons, gauge bosons and chiral fermions in smooth spaces generated by a bounce, A. Kehagias, K. T.. Phys.Lett. B504 (2001) 38-46.

Cited by 289.

8. Gaugino Masses and Grand Unification. J. R. Ellis, K. Enqvist, D. V. Nanopoulos, K. T.. Phys.Lett. B155 (1985) 381. Cited by 208.

9. Stabilized NMSSM without domain walls. C. Panagiotakopoulos, K.T.. Phys.Lett. B446 (1999) 224-227. Cited by 214.

10. Primordial Inflation in Simple Supergravity, Dimitri V. Nanopoulos, Keith A. Olive, M. Srednicki, K. Tamvakis, Phys.Lett. 123B (1983) 41-44. Cited by 181.

Articles submitted for publication

“**On the absence of ghosts in quadratic bigravity**”, I.Gialamas and K.Tamvakis (Nov. 24, 2023), e-Print:2311.14799 [gr-qc] (accepted for publication in JCAP)

Publications in the last five years

1. **“Inflation and reheating in quadratic metric-affine gravity with derivative couplings”**
I. D. Gialamas, T. Katsoulas and K. Tamvakis.
JCAP **06** (2024), 005
arXiv:2403.08530 [gr-qc].
2. **“Bimetric Starobinsky model”**
I. D. Gialamas and K. Tamvakis.
Phys.Rev.D 108 (2023) 10, 104023
arXiv: 307.05673 [gr-qc].
3. **“Bimetric-affine quadratic gravity”**
I.Gialamas and K.Tamvakis.
Phys.Rev.D **107** (2023) 10, 104012
arXiv:2303.11353 [gr-qc].
4. **“Inflation in Metric-Affine Quadratic Gravity”**
I.Gialamas and K.Tamvakis.
JCAP **03** (2023) 042
arXiv:2212.09896 [gr-qc]
5. **“Late time acceleration in Palatini gravity”**
I. Antoniadis, A. Guillen and K. Tamvakis.

JHEP **11** (2022) 144
arXiv:2207.13732 [gr-qc]

6. **“Ultraviolet behaviour of Higgs inflation models”**
I. Antoniadis, A. Guillen and K. Tamvakis.
JHEP **08** (2021), 018
arXiv:2106.09390 [hep-th],
JHEP **05** (2022) 074 (addendum)
arXiv:2203.10040 [hep-ph]
7. **“Extended interactions in the Palatini- R^2 inflation”**
A. Lykkas and K. Tamvakis.
JCAP **08** (2021) 043
arXiv:2103.10136 [gr-qc], .
8. **“Constant-roll in the Palatini- R^2 models”**
I. Antoniadis, A. Lykkas and K. Tamvakis JCAP **04** (2020) no.04, 033
arXiv:2002.12681 [gr-qc].
9. **“Rescuing Quartic and Natural Inflation in the Palatini Formalism”**
I. Antoniadis, A. Karam, A. Lykkas, T. Pappas and K. Tamvakis.
arXiv:1812.00847 [gr-qc]
JCAP **1903**, no. 03, 005 (2019)
10. **“Nonminimal Coleman–Weinberg Inflation with an R^2 term”**
A. Karam, T. Pappas and K. Tamvakis.
arXiv:1810.12884 [gr-qc]
JCAP **1902**, 006 (2019)
11. **“Palatini inflation in models with an R^2 term”**
I. Antoniadis, A. Karam, A. Lykkas and K. Tamvakis.
arXiv:1810.10418 [gr-qc]
JCAP **1811**, no.11, 028 (2018)
12. **“Frame-invariant approach to higher-dimensional scalar-tensor gravity”**
A. Karam, A. Lykkas and K. Tamvakis.
arXiv:1803.04960 [gr-qc]

DOI:10.1103/PhysRevD.97.124036
Phys. Rev. D **97**, no. 12, 124036 (2018)

A full list of published articles and preprints can be found in
[http://inspirehep.net/search?ln=en &p=f+a+tamvakis](http://inspirehep.net/search?ln=en&p=f+a+tamvakis)

BRIEF RESEARCH STATEMENT

My present research interests cover the area of Inflationary Cosmology and the Theory of Gravitation as well as the interconnected area of Particle Physics Beyond the Standard Model. In the former area we have studied and analyzed the inflationary behaviour of quadratic (Starobinsky-type) extensions of the theory of gravity in the metric-affine (Palatini) framework as well as Bimetric theory of gravity, describing a massive spin-2 partner to the graviton. In the latter area we are investigating possible implications of the former for the issues of dark matter and dark energy.