

## Curriculum Vitae

Name: George Zoupanos  
Date of birth: April 25, 1950  
Place of birth: Corfu, Greece  
Nationality: Greek

### Education

1968-73: Undergraduate studies in Physics (B. Sc.), Univ. Athens  
1972-73: Graduate courses in Physics, NRC “Demokritos”  
1973-74: Graduate courses in Theoretical physics (B.A.), Univ. of Cambridge  
1974-75: Graduate courses in Mathematical Physics (D.I.C), Imperial College, London  
1975-78: Research in Elementary Particle Physics (Ph.D.), Univ. of Glasgow  
Special Research Summer Schools: NRC “Demokritos” (1971, 72), British (1975, 77), Erice (1976), Scottish (1980), Trieste (1981), Cargese (1981), Les Houches, (1981), Munich (1983).

### Professional Experience

Present Position: Professor Emeritus in the Physics Dept. of the National Technical University, Athens (NTUA).

### Previous Positions

1979-1980: Research Fellow, Dortmund University  
1980-1981: Research Fellow, Ludwig Maximilian University of Munich (3months)  
1981-1983: Lecturer in the Physics Dept of NTU Athens  
1983-1985: Research Fellow at the Theory Division of CERN, Geneva  
1985-1992: Assistant Professor in the Physics Dept of NTU Athens;  
Research Associate at Max Planck Institute in Munich (in periods of some months during the years 1985,87,89,91, mostly as A.v.Humboldt Fellow);  
Research Associate at the Theory Division of CERN (in periods of some months during the years 1989, 90, 91, 93).  
1992-2000: Associate Professor in the Physics Dept. of NTU Athens.  
1997-1998: Visiting Professor at Humboldt University, Berlin.  
1999: Visiting Professor at Kanazawa University, Kanazawa.  
2001: Professor in the Physics Dept. of NTU Athens until end of August 2017  
Visiting Professor at Humboldt University, Berlin, supported by the Reinvitation Programme of A.v. Humboldt Foundation.  
2002-2003: Research Associate at Max Planck Institute, Munich, and CERN, Geneva;  
Visiting Professor at Humboldt Univ., Berlin.  
2005-2008: Research Associate at Max Planck Institute, Munich;  
Visiting Professor at Ludwig Maximilians Universitaet, Munich;  
Visiting Professor at Heidelberg University, Heidelberg.  
2009-2019: Research Associate at MPI, Munich; AEI-MPI, Potsdam; LAPTh, Annecy and CERN, Geneva.  
Visiting Professor at ITP, Heidelberg University.  
Visiting Professor at Sommerfeld Institute, LMU, Munich.  
Visiting Professor at Instituto de Fisica Teorica UAM/CSIC, Madrid.

2020-2026: Research Associate, MPI Munich and CERN Geneva  
Visiting Professor at ITP Heidelberg and Sommerfeld Institute LMU Munich  
Visiting Professor at Instituto de Física Teórica UAM/CSI Madrid;  
Research Associate at DESY Hamburg; Visiting Professor at Hamburg University

### **Summary of scientific activities**

Research interests include: unification theories; conformal and fuzzy gravity; noncommutative theories – fuzzy - matrix models; dimensional reduction; supersymmetric unified theories; supergravity theories; higher-dimensional unified theories; quantum gravity; particle phenomenology; reduction of couplings; finite unified theories; mathematical physics.

The complete research output includes ~230 publications (143 in international journals), 5000+ citations (Inspire) and 5900+ citations, h index 43 and i10 index 121 (Google Scholar).

Has given 160+ invited talks at international conferences and workshops, has done scientific visits to 60+ universities and institutes worldwide and has presented seminars at least once.

Participant in ~50 national and European research programs, in many as coordinator or PI.

### **Invitations – Visits (few days up to few months)**

- Max Planck Institute, Munich
- LMU, University of Munich
- TUM, Technical University of Munich
- Dortmund University
- DESY, Deutsches Elektronen Synchrotron, Hamburg
- DESY, Deutsches Elektronen Synchrotron, Zeuthen
- Hannover University
- Heidelberg University
- Humboldt University, Berlin
- Albert Einstein Institute, Potsdam
- Glasgow University
- Southampton University
- Ecole Normale Supérieure, Paris
- Ecole Polytechnique, Paris
- Orsay University, Paris
- Saclay, Paris
- LAPP, Laboratoire d'Annecy-le-Vieux de Physique des Particules, Annecy
- Rome I University
- ICTP, International Center for Theoretical Physics, Trieste
- SISSA Scuola Internazionale Superiore di Studi Avanzati, Trieste
- CERN, Geneva
- Bern University
- Lisbon University
- Technical University of Lisbon
- Algarve University
- Valencia University
- Niels Bohr Institute, Copenhagen
- Warsaw University
- Cracow University
- DUBNA, Joint Inst. Nuclear Research, Moscow region
- ITEP, Institute of Theoretical & Experimental Physics, Moscow
- Institute of Physics, Belgrade, Yugoslavia
- Hawaii University
- University of California

- UNAM - National Autonomous University of Mexico
- University of Tokyo
- Technical University of Tokyo
- KEK, National Lab for High Energy Physics, Tsukuba
- Kyoto University, Japan
- Kanazawa University
- Shinshu University
- Sendai University
- Seoul University
- University of Athens
- NCSR Dimokritos, Athens
- University of Thessaloniki
- University of Ioannina
- University of Crete
- Freiburg University
- Leipzig University
- Universidad Autonoma de Barcelona, Spain
- Oviedo University
- Tomsk State Pedagogical University
- KAIST, Daejeon
- KIAS, Seoul
- Kavli IPMU, Tokyo
- Naples University
- Vienna University
- Schroedinger Institute, Vienna
- CINVESTAV, IPN, Mexico
- IPPP, Durham University

### **Most significant publications**

- [1] Massless and Supermassive Quarks in Some  $SU_3 \times U_1$  Models. D.G. Sutherland, G. Zoupanos, Phys. Lett. 78B:455, 1978.
- [2] The Cabibbo Angle and the mass of the t-Quark in an  $SU_{2L} \times U_1$  Model With Horizontal Symmetry. G. Zoupanos, Z. Phys. C 11:27, 1981.
- [3] Fermion Masses and Mixing Angles in an  $SU_{2L} \times U_1$  Model with Horizontal Interactions. E. Papantonopoulos, G. Zoupanos, Z. Phys. C 16:361, 1983
- [4] CP Violation from Horizontal Interactions. G. Zoupanos, Phys. Lett. 115B:221, 1982.
- [5] Fermion Mass Generation and Electroweak Symmetry Breaking from Color Forces. G. Zoupanos, Phys. Lett. 129B:315, 1983.
- [6] Fermion Mass Hierarchy and Global Horizontal Symmetries. G.B. Gelmini, J.M. Gerard, T. Yanagida, G. Zoupanos, Phys. Lett. 135B:103, 1984.
- [7] Horizontal Interactions as the Source of CP Violation. R. Decker, J.M. Gerard, G. Zoupanos, Phys. Lett. 137B:83, 1984.
- [8] Super Kobayashi-Maskawa CP Violation. J.M. Gerard, W. Grimus, A. Raychaudhuri, G. Zoupanos, Phys. Lett. 140B:349, 1984. TOPCITE=100+ (166).
- [9] Dimensional Reduction and Dynamical Symmetry Breaking. P. Forgacs, G. Zoupanos, Phys. Lett. 148B:99, 1984.
- [10] Dimensional Reduction of Gauge Theories Yielding Unified Models Spontaneously Broken to  $SU_3 \times U_1$ . F.A. Bais, K.J. Barnes, P. Forgacs, G. Zoupanos, Nucl. Phys. B263:557, 1986. TOPCITE=50+ (72).
- [11] Dimensional Reduction of Ten-Dimensional  $E_8$  Gauge Theory over a Compact Coset Space S/R. D. Lust, G. Zoupanos, Phys. Lett. 165B:309, 1985.

- [12] Phenomenology of High Color Fermions. D. Lust, K.H. Streng, E. Papantonopoulos, G. Zoupanos, Nucl. Phys. B268:49-78, 1986.
- [13] On Fermion Masses in a Dimensional Reduction Scheme. K.J. Barnes, P. Forgacs, M. Surridge, G. Zoupanos, Z. Phys. C 33:427, 1987.
- [14] Dimensional Reduction and the Higgs Potential. K. Farakos, G. Koutsoumbas, M. Surridge, G. Zoupanos, Nucl. Phys. B291:128, 1987.
- [15] Geometrical Hierarchy and Spontaneous Symmetry Breaking. K. Farakos, G. Koutsoumbas, M. Surridge, G. Zoupanos, Phys. Lett. 191B:135, 1987.
- [16] Four-Dimensional Heterotic Strings and Conformal Field Theory. D. Lust, S. Theisen, G. Zoupanos, Nucl. Phys. B296:800, 1988. TOPCITE=50+ (52)
- [17] Unification of Coupling Constants without a Covering Gut. S. Theisen, N D. Tracas, G. Zoupanos, Z. Phys. C 37:597,1988.
- [18] Wilson Flux Breaking and Coset Space Dimensional Reduction. G. Zoupanos, Phys. Lett. 201B:301,1988
- [19] The Standard Model from a Gauge Theory in Ten-Dimensions via CSDR. K. Farakos, D. Kapetanakis, G. Koutsoumbas, G. Zoupanos, Phys. Lett. 211B:322, 1988.
- [20] Discrete Symmetries and Coset Space Dimensional Reduction. D. Kapetanakis, G. Zoupanos Phys. Lett. B232:104, 1989.
- [21] Fermion Masses from Dimensional Reduction. D. Kapetanakis, G. Zoupanos, Phys. Lett. B249:73-82,1990
- [22] Coset Space Dimensional Reduction of Gauge Theories. D. Kapetanakis, G. Zoupanos, Phys. Rept. 219:1-76, 1992, TOPCITE=100+ (123).
- [23] Finite Unified Models. D. Kapetanakis, M. Mondragón, G. Zoupanos, Z. Phys. C 60:181-186, 1993. e-Print Archive: hep-ph/9210218, TOPCITE=100+ (113).
- [24] Structure and Spontaneous Symmetry Breaking of a Gauge Theory Based on SU5/1. N.A. Batakis, A.A. Kehagias, G. Zoupanos, Phys. Lett. B315:319-324, 1993.
- [25] Reduction of Couplings and Heavy Top Quark in the Minimal SUSY GUT. J. Kubo, M. Mondragón, G. Zoupanos, Nucl. Phys. B424:291-307, 1994. TOPCITE=50+ (88).
- [26] Finite Unified Theories and the Mass of the Top Quark. M. Mondragón, G. Zoupanos, Nucl. Phys. B (Proc. Suppl) 37C (1995)98. TOPCITE=50+ (66)
- [27] Testing Gauge Yukawa Unified Models with Mt. J. Kubo. M. Mondragón, M. Olechowski, G. Zoupanos, Nucl. Phys. B479:25-45, 1996, e-Print Archive: hep-ph/9512435. TOPCITE=50+ (52)
- [28] Perturbative Unification of Soft Supersymmetry Breaking Terms. J. Kubo, M. Mondragón, G. Zoupanos, Phys. Lett. B389:523-532, 1996, e-Print Archive: hep-ph/9609218. TOPCITE=50+ (71)
- [29] All Order Finiteness in N=1 Sym Theories: Criteria and Applications. C. Lucchesi, G. Zoupanos, Fortsch. Phys. 45:129-143, 1997, e-Print Archive: hep-ph/9604216. TOPCITE=50+ (63)
- [30] Constraints on Finite Soft Supersymmetry Breaking Terms. T. Kobayashi, J. Kubo, M. Mondragón, G. Zoupanos, Nucl. Phys. B511:45-68, 1998, arXiv: hep-ph/9707425. TOPCITE=50+(75)
- [31] Dualities in all Order Finite N=1 Gauge Theories. A. Karch, D. Luest, G. Zoupanos, Nucl. Phys. B529:96-136, 1998, e-print Archive: hep-th/9711157.
- [32] Superconformal N=1 Gauge Theories, Beta-Function Invariants and their Behaviour under Seiberg Duality. A. Karch, D. Luest, G. Zoupanos, Phys. Lett. B430:254-263, 1998, e-print Archive: hep-th/9804074.
- [33] Further all-loop results in softly broken supersymmetric gauge theories, T. Kobayashi, J. Kubo, G. Zoupanos, Phys. Lett. B427:291-299, 1998, arXiv: hep-ph/9802267 TOPCITE=50+ (94)
- [34] Infrared Behaviour of Softly Broken SQCD and its Dual. A. Karch, T. Kobayashi, J. Kubo, G. Zoupanos, Phys. Lett. B441:235-242, 1998, e-print Archive: hep-th/9808178.
- [35] Running of Soft Parameters in Extra Space-Time Dimensions. T. Kobayashi, J. Kubo, M. Mondragón, G. Zoupanos, Nucl. Phys. B550 (1999) 99-122, e-print Archive: hep-ph/9812221. TOPCITE=50+ (74).
- [36] Kaluza-Klein Thresholds and Regularization (In)Dependence. J. Kubo, H. Terao, G. Zoupanos, Nucl. Phys. B574:495-524, 2000, e-print Archive: hep-ph/9910277.
- [37] Strongly interacting fermions from a higher dimensional unified gauge theory. G. Triantaphyllou, G. Zoupanos, Phys. Lett. B489:420-426, 2000, e-print Archive: hep-ph/0006262.
- [38] Supersymmetry Breaking Dimensional Reduction over Coset Spaces. P. Manousselis, G. Zoupanos, Phys. Lett. B504:122-130, 2001, e-print Archive: hep-ph/0010141.
- [39] Soft Supersymmetry Breaking Due to Dimensional Reduction over Nonsymmetric Coset Spaces. P. Manousselis, G. Zoupanos, Phys. Lett. B518:171-180, 2001. e-print Archive: hep-ph/0106033.

- [40] Dimensional Reduction over Coset Spaces and Supersymmetry Breaking P. Manousselis, G. Zoupanos, JHEP 0203:002, 2002. arXiv:hep-ph/0111125.
- [41] Non- Kähler String Backgrounds and their Five Torsion Classes. G. L. Cardoso, G. Curio, G. Dall'Agata, D. Lust, P. Manousselis, G. Zoupanos, Nucl. Phys. B 652, 5 (2003), arXiv:hep-th/0211118. TOPCITE=250+ (296).
- [42] Dimensional Reduction over Fuzzy Coset Spaces. P. Aschieri, J. Madore, P. Manousselis, G. Zoupanos, JHEP 0404, 034, arXiv:hep-th/0310072. TOPCITE=50+ (60)
- [43] Dimensional Reduction of Ten-Dimensional Supersymmetric Gauge Theories on the N=1 D=4 Superfield Formalism. P. Manousselis, G. Zoupanos, JHEP 0411 (2004) 025 arXiv:hep-ph/0406207.
- [44] Finite Unification. E. Ma, M. Mondragón, G. Zoupanos, JHEP 0412 (2004) 026 arXiv:hep-ph/0407236.
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- [46] Gravity and the Structure of Noncommutative Algebras. M. Buric, T. Grammatikopoulos, J. Madore, G. Zoupanos, JHEP 0604, 054 (2006) arXiv:hep-th/0603044.
- [47] Dynamical Generation of Fuzzy Extra Dimensions, Dimensional Reduction and Symmetry Breaking. P. Aschieri, T. Grammatikopoulos, H. Steinacker, G. Zoupanos, JHEP0609,026(2006) TOPCITE=50+ (76)
- [48] Fermions on Spontaneously Generated Spherical Extra Dimensions. H. Steinacker, G. Zoupanos, JHEP 09 017 arXiv:0706.0398 [hep-th].
- [49] On the Consistency of Coset Space Dimensional Reduction. A. Chatzistavrakidis, P. Manousselis, N. Prezas, G. Zoupanos, Phys. Lett B656, 2007 arXiv:0708.3222 [hep-th].
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- [52] Reducing the Heterotic Supergravity on Nearly-Kähler Coset Spaces. A. Chatzistavrakidis, P. Manousselis, G. Zoupanos, Fortsch.Phys.57:527-534, 2009 e-Print: arXiv:0811.2182 [hep-th] .
- [53] Dimensional Reduction of the Heterotic String over Nearly- Kähler Manifolds. A. Chatzistavrakidis, G. Zoupanos, JHEP 0909:077, 2009 e-Print: arXiv:0905.2398 [hep-th].
- [54] Finite Unification: Theory and Predictions, S. Heinemeyer, M. Mondragón, G. Zoupanos, SIGMA,e-Print: arXiv:1001.0428 [hep-ph], CERN-PH-TH/2009-256.
- [55] Orbifolds, Fuzzy Spheres and Chiral Fermions. A. Chatzistavrakidis, H. Steinacker, G. Zoupanos, JHEP 1005:100, 2010, e-Print: arXiv: 1002.2606 [hep-th].
- [56] Reduction of N=1,  $E_8$  SYM over  $SU_3/U_1 \times U_1 \times Z_3$  and its four-dimensional effective action. N. Irges, G. Zoupanos, Phys.Lett. B698 (2011) 146, e-Print: arXiv:1102.2220 [hep-ph].
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- [58] Orbifold matrix models and fuzzy extra dimensions. A. Chatzistavrakidis, H. Steinacker, G. Zoupanos, e-Print: arXiv:1204.6498[hep-th], PoS CORFU2011 (2011) 047.
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- [62] Reduction of the Parameters in MSSM, S. Heinemeyer, M. Mondragon, N. Tracas, G. Zoupanos, JHEP 1808 (2018) 150 arXiv: 1712.02729 [hep-ph]
- [63] Reduction of parameters in Finite Unified Theories and the MSSM, S. Heinemeyer, M. Mondragon, N. Tracas, G. Zoupanos, Nucl.Phys. B927 (2018) 319-338
- [64] The LHC Higgs Boson Discovery: Updated Implications for Finite Unified Theories and the SUSY breaking scale, S. Heinemeyer, M. Mondragon, G. Patellis, N. Tracas, G. Zoupanos, Symmetry 10(2018) no.3, 62 arXiv:1802.04666 [hep-ph]

- [65] Noncommutative Gauge Theory and Gravity in Three Dimensions, A. Chatzistavrakidis, L. Jonke, D. Jurman, G. Manolakos, P. Manousselis, G. Zoupanos, Fortsch.Phys. 66 (2018) no.8-9, 1800047 arXiv:1802.07550 [hep-th]
- [66] Four-dimensional Gravity on a Covariant Noncommutative Space, G. Manolakos, P. Manousselis, G. Zoupanos, JHEP 08 (2020) 001, e-Print: 1902.10922 [hep-th]
- [67] Reduction of Couplings and its application in Particle Physics Sven Heinemeyer, Myriam Mondragón, Nick Tracas, George Zoupanos, Phys.Rept. 814 (2019) 1-43, e-Print: 1904.00410 [hep-ph]
- [68] Gauge Theories: From Kaluza–Klein to noncommutative gravity theories, George Manolakos, Pantelis Manousselis, George Zoupanos, Symmetry 11 (2019) 7, 856
- [69] Updates and New Results in Models with Reduced Couplings Sven Heinemeyer, Myriam Mondragón, Gregory Patellis, George Zoupanos Fortsch.Phys. 68 (2020) 6, 2000028, e-Print: 2002.10983 [hep-ph]
- [70] N=1 trinification from dimensional reduction of N=1, 10D,  $E_8$  over  $SU(3)/U(1) \times U(1) \times Z_3$  and its phenomenological consequences, George Manolakos, Gregory Patellis, George Zoupanos, Phys.Lett.B 813 (2021) 136031, e-Print: 2009.07059 [hep-ph]
- [71] Probing Unified Theories with Reduced Couplings at Future Hadron Colliders, S. Heinemeyer, J. Kalinowski, W. Kotlarski, M. Mondragón, G. Patellis, G. Zoupanos, Eur.Phys.J.C 81 (2021) 2, 185, e-Print: 2011.07900 [hep-ph]
- [72] Four-Dimensional Gravity on a Covariant Noncommutative Space (II) G. Manolakos, P. Manousselis, G. Zoupanos, Fortsch.Phys. 69 (2021) 8-9, 2100085, e-Print: 2104.13746 [hep-th]
- [73] From Veltman’s Conditions to Finite Unification, Myriam Mondragón, Gregory Patellis, George Zoupanos, Acta Phys.Polon.B 52 (2021) 6-7, 669, e-Print: 2105.00235 [hep-th]
- [74] A Matrix Model of Four-Dimensional Noncommutative Gravity, George Manolakos, Pantelis Manousselis, Danai Roumelioti, Stelios Stefan, George Zoupanos, Universe 8 (2022) 4, 215
- [75] Classification of the Vacua of the Dimensionally Reduced Low-Energy Limit of the Heterotic String Over Nearly-Kähler Manifolds, G. Manolakos, G. Patellis, G. Zoupanos Fortsch.Phys. 71 (2023) 4-5, 2200208, e-Print: 2211.13836 [hep-th]
- [76] Intertwining noncommutativity with gravity and particle physics, George Manolakos, Pantelis Manousselis, Danai Roumelioti, Stelios Stefan, George Zoupanos, Eur.Phys.J.ST 232 (2023) 23-24, 3607-3624, e-Print: 2305.11785 [hep-th]
- [77] On the ghost problem of conformal gravity, Anamaria Hell, Dieter Lust, George Zoupanos, JHEP 08 (2023) 168, e-Print: 2306.13714 [hep-th]
- [78] Split NMSSM from dimensional reduction of a 10D,  $N = 1$ ,  $E_8$  over  $SU(3)/U(1) \times U(1) \times Z_3$ , Gregory Patellis, Werner Porod, George Zoupanos, JHEP 01 (2024) 021, e-Print: 2307.10014 [hep-ph]
- [79] Unification of Gravity and Internal Interactions, Spyros Konitopoulos, Danai Roumelioti, George Zoupanos, Fortsch.Phys. 72 (2024) 1, 2300226, e-Print: 2309.15892 [hep-th]
- [80] Reduction of couplings in the Type-II 2HDM, M.A. May Pech, M. Mondragón, G. Patellis, G. Zoupanos Eur.Phys.J.C 83 (2023) 12, 1129, e-Print: 2310.14014 [hep-ph]
- [81] On the degrees of freedom of  $R^4$  gravity in flat spacetime, Anamaria Hell, Dieter Lust, George Zoupanos, JHEP 02 (2024) 039, e-Print: 2311.08216 [hep-th]
- [82] Unification of conformal gravity and internal interactions, Danai Roumelioti, Stelios Stefan, George Zoupanos, Eur.Phys.J.C 84 (2024) 6, 577, e-Print: 2403.17511 [hep-th]
- [83] Flavor in  $SU(5)$  Finite Grand Unified Models, Luis Odín Estrada Ramos, Myriam Mondragón, Gregory Patellis, George Zoupanos Fortsch.Phys. 72 (2024) 12, 2400177, e-Print: 2406.17702 [hep-ph]
- [84] Fuzzy Gravity: Four-Dimensional Gravity on a Covariant Noncommutative Space and Unification with Internal Interactions, Danai Roumelioti, Stelios Stefan, George Zoupanos, Fortsch.Phys. 72 (2024) 9-10, 2400126, e-Print: 2407.07044 [hep-th]
- [85] From the unification of conformal and fuzzy gravities with internal interactions to the  $SO(10)$  GUT and the particle physics standard model, Gregory Patellis, Nicholas Tracas, George Zoupanos, Eur.Phys.J.C 85 (2025) 3, 328, e-Print: 2412.02786 [hep-th]
- [86] Unification of Conformal and Fuzzy Gravities With Internal Interactions Resulting in  $SO(10)$  and a Possible Probe Through Stochastic Gravitational Wave Background, Gregory Patellis, Danai Roumelioti, Stelios Stefan, George Zoupanos, Fortsch.Phys. 73 (2025) 9-10, e70014, e-Print: 2504.06142 [hep-th]

- [87] Unification of Conformal and Fuzzy Gravities with Internal Interactions—Study of Their Behaviour at Low Energies and Possible Signals in the Detection of Gravitational Waves, Gregory Patellis, Danai Roumelioti, Stelios Stefas, George Zoupanos, *Symmetry* 17 (2025) 12, 2055, e-Print: 2511.13803 [gr-qc]
- [88] On the unification of conformal and fuzzy gravities with  $SO(10)$  GUT, Stelios Stefas, George Zoupanos, *Eur.Phys.J.Plus* 140 (2025) 12, 1183, e-Print: 2511.19645 [hep-th]

### Book

Reduction of couplings and its application in particle physics Finite theories Higgs and top mass predictions, Ed. Klaus Sibold, Authors: S. Heinemeyer, J.Kubo, M. Mondragon, O. Piguet, K. Sibold, W. Zimmermann, G. Zoupanos. PoS(Higgs & top)001  
<https://pos.sissa.it/cgi-bin/reader/conf.cgi?confid=222>.  
A short version is published in arXiv:1411.7155 [hep-ph]

### Honorary research invitations

- 2001: Visiting Professor at Humboldt U., Berlin, supported by the Reinvitation Programme of A.v. Humboldt Foundation.
- 2002-2003: Research Associate at Max Planck Institute, Munich, and CERN, Geneva.  
Visiting Professor at Humboldt U., Berlin.
- 2005-2008: Research Associate at Max Planck Institute, Munich.  
Visiting Professor at Ludwig Maximilians U., Munich.  
Visiting Professor at Heidelberg U., Heidelberg.
- 2009-2019: Research Associate at MPI, Munich; AEI-MPI, Potsdam; LAPTh, Annecy and CERN, Geneva.  
Visiting Professor at ITP, Heidelberg University.  
Visiting Professor at Sommerfeld Institute, LMU, Munich.  
Visiting Professor at Instituto de Fisica Teorica UAM/CSIC, Madrid.
- 2020-2026: Research Associate, MPI Munich and CERN GenevaV  
Visiting Professor at ITP Heidelberg and Sommerfeld Institute LMU Munich  
Visiting Professor at Instituto de Fisica Teórica UAM/CSI Madrid  
Research Associate at DESY Hamburg; Visiting Professor at Hamburg University

### Honorary Grants

- Programme SCIENCE of the Commission of European Communities supporting European Research Networks (1991 - 1994) (SC1\* CT910729); G.Z. was the PI of the whole programme.
- Programme TMR of the Commission of the European Union to support laboratories in “less favoured regions” of the European Union with senior and established researchers (Personal Programme FMBI – CT961212); G.Z. was the senior established researcher visiting the Physics Department of the Humboldt Uni, Berlin.
- Programme “Cooperation with Third Countries and International Organizations” supporting the development of scientific relations with Japan using senior and established European researchers (Personal Programme ERBIC17CT983091); G.Z. was the senior and established researcher visiting Japan.
- Humboldt Foundation Reinvitation programme several times
- DFG Exzellenzcluster 2181:STRUCTURES of Heidelberg University
- CLUSTER of Excellence “Quantum Universe” of University of Hamburg and DESY



## **Grants for Scientific Meetings in Corfu during the last 20 years**

(G.Z. was the scientific and financial coordinator of the grants).

- Programme IHRP, “High-Level Scientific Conferences” of the Commission of the European Union supporting Summer Schools - Conferences (HPCF-2001-00052). It was used to support the activities of the “Corfu Summer Institute on Elementary Particle Physics” (2001) (50 Keuros)
- Latsis Foundation It was used to support the activities of the “Corfu Summer Institute on Elementary Particle Physics” (2005) (10 Keuros)
- Research Networking Programme of the European Science Foundation Quantum Geometry and Quantum Gravity – European Science Foundation. It was used to support the “2nd School and Workshop on Quantum Gravity and Quantum Geometry” during CORFU2009 (~39 Keuros)
- Greek Ministry of Education. Supported the "School and Workshops on EPP" during CORFU2009 (10 Keuros)
- Research Networking Programme of the European Science Foundation Quantum Geometry and Quantum Gravity – European Science Foundation. Supported the “Workshop on Noncommutative Field Theory and Gravity” during CORFU2010 (10 Keuros)
- DFG: FOR723: Functional Renormalization Group for Correlated Fermion Systems, Heidelberg U. Supported the “ERG 2010: 5th International Conference on the Exact Renormalization Group” during CORFU2010 (35 Keuros)
- EU ITN: Unification in the LHC Era (PITN-GA-2009-237920). Supported the “1st Summer School of ITN: Unification in the LHC Era” during CORFU2011 (30 Keuros)
- Latsis Foundation, 2011-2013, supporting the “Corfu Summer Institute on Elementary Particle Physics and Gravity” (36 Keuros)
- Humboldt Foundation: Supported the Humboldt Kolleg: “Open Problems in Theoretical Physics: the Issue of Quantum Space-Time” (40 Keuros)
- COST Actions: MP1405 (45 Keuros), CA15117 (~25 Keuros), CA15108, CA16201
- Corfu Municipality support in all Corfu Meetings since 1982
- COST Actions CA 21109, CA21106, CA24146, CA24101 (~ 45 Keuros each)

## **Invited presentations as main speaker/lecturer**

- XII International Warsaw Symposium on EPP (Kazimierz, 1989)
- XXIV International School on Theoretical Physics (Zakopane, 1989)
- XIV International Warsaw Conference on EPP (Warsaw, 1991)
- XIII International Autumn School on EPP (Lisbon, 1991)
- Summer Institute on EPP (Orsay, 1992)
- 1st Iberian Conference on Gravity (Evora, 1992)
- XXIII International School on Theoretical Physics (Zacopane, 1993)
- 27th Int. Ahrenshoop Symposium on the Theory of Elementary Particles (Wendisch-Rietz, 1993)
- XV International Autumn School on EPP (Lisbon, 1993)
- International Workshop on EPP (Athens, 1994)
- 1995 Summer School in High Energy Physics and Cosmology (ICTP-Trieste, 1995)
- International Conference on EPP (Ioannina, 1996)
- XXVI International Cracow School on Theoretical Physics (Zacopane, 1996)
- 2nd Bruno Pontecorvo School on EPP (Capri, 1996)
- 30th International Ahrenshoop Symposium on the Theory of Elementary Particles (Buckow, 1996)
- International Conference on EPP (Heraklion, 1997)
- 31st International Symposium on the Theory of Elementary Particles (Buckow, 1997)
- XVI Autumn School and Workshop on Fermion masses, Mixing and CP-Violation (Lisbon, 1997)
- Int. Symposium in Physics Beyond the Standard Model: From Theory to experiment (Valencia, 1997)
- International Conference on Trends on Theoretical Physics (Ringberg, 1998)
- VII Mexican School on Particles and Fields (Oaxaca, 1998)



- International Epiphany Conference on EPP (Cracow, 1999)
- International Conference on EPP (Thessaloniki, 1999)
- Planck 99: 2nd European Meeting “From Planck to Electroweak Scale”(Bad Honnef, 1999)
- 3rd Bruno Pontecorvo School of Physics (Capri, 1999)
- International Symposium on Supersymmetry, Supergravity and Superstrings (Seoul, 1999)
- XXVIII ITEP Winter School of Phys. (Moscow, 2000)
- Adv Study Inst. on “Recent Developments in Part. Phys. and Cosmology” (Cascais, 2000)
- Int Workshop on Noncommutative Structures in Maths and Phys. (Kiev, 2000)
- 37<sup>th</sup> Karpacz Winter School of Theor. Phys. (Karpacz, 2001)
- Summer School in Modern Math. Phys. (Sokobanja, 2001)
- 2<sup>nd</sup> ISPM Workshop on Particles and Cosmology, (Tbilisi, 2002)
- Julius Wess Days 2003, Noncommutativity: From Maths to Phe/gy (Bayrischzell, 2003)
- Yerevan Stepanakert 2003 Workshop (Yerevan, 2003)
- Recent De/ments in String/M-theory and FT (36th Ahrenshoop Symp.) (Schmockwitz-Berlin, 2003)
- 9<sup>th</sup> Adriatic Meeting, Part. Phys. and the Universe (Dubrovnik, 2003)
- Matter to the Deepest: Recent De/ments In Phys. of Fund Int (Uston, 2003)
- 2<sup>nd</sup> Aegean Summer School on the Early Universe (Syros, 2003)
- 3<sup>rd</sup> Summer School in Modern Math. Phys., 20-31 August 2004, Zlatibor, Serbia
- BW2005 Workshop, II Southeastern European Workshop: Challenges Beyond the Standard Model , 19-23 May 2005, Vrnjacka Banja, Serbia
- PASCOS 2005, 30 May - 4 June 2005, Gyeongju, Korea
- Supersymmetries and Quantum Symmetries, 2005, 2007, 2009, 2011, 2013, 2015, Dubna, Russia
- Quantum Theory and Symmetries and Lie Theory and Its App. in Phys., 2005, 2013, 2015, 2017, Varna, Bulgaria
- 4<sup>th</sup> Summer School in Modern Math. Phys., 3-14 September 2006, Belgrade, Serbia
- 21<sup>st</sup> Nishinomiya-Yukawa Memorial Symposium on Theor. Phys., 11-15 November 2006, Nishinomiya and Kyoto, Japan
- CTP Symposium on Supersymmetry at LHC, 11-14 March 2007, Cairo, Egypt
- Noncommutative Spacetime Geometries, 26-31 March 2007, Alessandria, Italy
- 5<sup>th</sup> Int. Spring School and Workshop, 20-26 May 2006, Calimanesti, Romania
- From the Planck Scale to the Electroweak Scale, 9-13 June 2007, Warsaw, Poland
- Symmetry in Nonlinear Math. Phys., 24-30 June 2007, Kiev, Ukraine
- BW2007 Workshop, 2-9 Sept 2007, Djedrap, Kladovo, Serbia
- The 6<sup>th</sup> Spring School and Workshop, Calimanesti, Romania, May 06-11, 2008
- Bayrischzell Workshop 2008 on noncommutativity and phys., Bayrischzell, May 16-19, 2008
- XIII Int. Conf., selected problems of modern theor. Phys, Dubna, Russia, June 23-27, 2008
- 5th math. Phys. meeting, 6 - 17 July 2008, Belgrade, Serbia
- The Nat Romanian Conf (CNF2008), Bucuresti, Romania, September 10-13, 2008
- Workshop in Memoriam Julius Wess, 4-6 Dec 2008, Vienna, Austria
- 8<sup>th</sup> Int. Conf. “Symmetry in Nonlinear Math. Phys.”, June 21-27, 2009, Kiev, Ukraine
- Int. Workshop on Particles and Cosmology (Warsaw, 2010)
- 7<sup>th</sup> Spring School and Workshop (Craiova & Calimanesti 2010)
- Int. Conf. on “Quantum Field Theory and Gravity (QFTG’10)”(Tomsk 2010)
- Int. Conf. on “Advances in Quantum Field Theory” (Dubna 2011)
- Bayrischzell Workshop 2012 on Noncommutativity and Phys.: Spacetime Quantum Geometry
- Int. Conference on New Frontiers in Phys. (ICFP 1912), June 2012 Kolymbari, Crete, Greece
- PACT 2013 – “Fundamental Phys., CMB and LSS in the light of Planck satellite and DES”, 7 October- 1 November 2013, Madrid, Spain
- Int. Conf. on “Quantum Field Theory and Gravity” (QFTG’2014) (Tomsk 2014).
- Joint Winter Conf. in Part. Phys., Strings and Cosmology, January 25 - 31, 2015, High1 Korea
- Int. Workshop on "The Standard Theory and Beyond in the LHC Era – 2015, 24-31 October 2015, Albufeira, Portugal
- Workshop on Noncommutative Geometry App., COST, Brussels 26-29 January 2016
- Int. Joint Meeting on Quant. Fields and Nonlinear Phenomena, 09-13 March 2016, Sinaia, Romania
- 10<sup>th</sup> International Symposium on Quantum theory and symmetries and 12<sup>th</sup> International Workshop on

- Lie Theory and its Applications in Physics (QTS-10), 19-25 June 2017, Varna, Bulgaria
- The First International Conference on Symmetry, 16-18 October 2017, Barcelona, Spain
- Bayrischzell Workshop 2018 on Noncommutativity and Physics: Hopf algebras in Noncommutative Geometry, 20-23 April 2018, Bayrischzell, Germany
- Quantum Field Theory and Gravity, 20 July – 5 August 2018, Tomsk, Russia
- COST QSpace Bruxelles Meeting on Physical Applications of Fuzzy Spaces, 15-19 January 2019, Brussels, Belgium
- 10th MATHEMATICAL PHYSICS MEETING: School and Conference on Modern Mathematical Physics, September 2019, Belgrade, Serbia
- Lie Theory and Its Applications in Physics LT-13), June 2019 Varna, Bulgaria
- SEENET-MTP 2020 Workshop: Quantum Fields and Non-Linear Phenomena, 2020, Online Conference, Croatia
- 14th International Workshop on Lie Theory and Its Applications in Physics (LT-14), June 2021, Sofia, Bulgaria
- Supersymmetries and Quantum Symmetries - SQS'22, Dubna, Russia
- XV International Workshop Lie Theory and Its Applications in Physics,(LT-15), Jun 2023, Varna, Bulgaria
- Quantum&Fuzzy 2024 Workshop in honour of the 65th birthday of Professor Maja Burić, April 2024, Belgrade
- Supersymmetries and Quantum Symmetries - SQS'24, Dubna, Russia
- NONLINEARITY, NONLOCALITY AND ULTRAMETRICITY, International Conference on the Occasion of Branko Dragovich 80th Birthday, May 2025, Belgrade, Serbia
- Lie Theory and Its Applications in Physics" (LT-16), June 2025, Varna, Bulgaria
- Supersymmetries and Quantum Symmetries - SQS'26, Dubna, Russia
- Physics in the Balkans: Perspectives and Challenges, July 2025, Bucharest, Romania
- 13th International Symposium on Quantum Theory and Symmetries (QTS-13) 28 July-1 August 2025, Yerevan, Armenia
- South African Gravity Society Conference 2025 (SAGS2025), Stonehenge River Lodge, November 2025, South Africa
- Mathematical Quantum Field Theory, Conference in memory of Ivan Todorov, May 2026, Sofia, Bulgaria
- Supersymmetries and Quantum Symmetries - SQS'26, July 2026, Dubna, Russia

**G.Z. participated in many other conferences as an invited speaker.**

### **Organization of international conferences**

- 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> 8<sup>th</sup> Hellenic School Conf. on EPP (Corfu, 1982, 1985, 1989, 1992, 1995, 1998, 2001, 2005)
- 2nd Southeastern European Workshop on Challenges Beyond the Standard Model, “BW2005 Workshop”, 19-23 May 2005, Vrnjacka Banja, Serbia
- 4th Summer School in Modern Math. Phys., 3-14 September 2006, Belgrade, Serbia
- 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> Int. Spring School and Workshop on Quantum Field Theory and Hamiltonian Systems, 2006, 2008, 2010, Calimanesti, Romania
- Supersymmetries and Quantum Symmetries, 2007, 2011, 2013, 2015, Dubna, Russia
- 3rd Southeastern European Workshop on Challenges Beyond the Standard Model, BW2007 Workshop», 2-9 September 2007, Djedrap, Kladovo, Serbia
- 5<sup>th</sup> Math. Phys. meeting: Summer School and Conference on Modern Math. Phys., 6 - 17 July 2008, Belgrade, Serbia
- Corfu Summer Institute, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup> Hellenic School and Workshops on Element. Part. Phys. and Gravity, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, Corfu, Greece
- Int. Conf. on “Quantum Field Theory and Gravity (QFTG’10)” 2010, 2014, Tomsk, Russia
- 8th MATH. PHYS. MEETING: Summer School and Conference on Modern

Math. Phys., 24 - 31 August 2014, Belgrade, Serbia

- The Joint Meeting on Quantum Field Theory and Nonlinear Dynamics, 2014, Sinaia, Romania
- Workshop on Noncommutative Geometry Applications, COST, Brussels 26-29 January 2016
- Quantum Spacetime '16, Zaczopane, Poland, 6-12 February 2016
- Quantum Spacetime '17, Porto, Portugal, 30 January – 3 February 2017
- Quantum Spacetime '18, Sofia, Bulgaria, 19-23 February 2018
- Quantum Spacetime '19, Bratislava, Slovakia, 10-16 February 2019
- Meeting on Physical Applications of Fuzzy Spaces, Brussels, Belgium, 15-19 January 2019

**G.Z. is very much involved since decades with the advanced research training of young researchers, mostly Europeans.**

### **Funded Research Projects**

- Programme TMR of the CEU (ERBFMRXCT960090) (1 Oct 1996-31 March 2001): "Beyond the Standard Model"; coordinator of the NTUA group.
- Programme RTN of the CEU (HPRN-CT-2000-00148; 2000-2003): "Across the Energy Frontier" 1 Oct 2000-30 Sept 2004; coordinator of the NTUA group.
- Reinvitation Programme of A.v. Humboldt Foundation, 2001; Personal grant.
- Programme NTUA 2001 "THALES", "Finite Unified Theories and the mass of Higgs particle"; PI.
- Greek-German bilateral grant IKY-DAAD "Quantum Fields and Strings" (IKYDA-2001/22), coordinator of the NTUA group.
- Programme "HRAKLEITOS" of Ministry of Education 68/672, "Dimensional Reduction of Supersymmetric Gauge Theories" 15/10/2003-31/12/2007; PI.
- Programme "PYTHAGORAS" of Ministry of Education, "Dimensional Reduction in Continuum and Non-Continuum Spaces" 1/3/2004-31/8/2006; PI.
- Programme RTN of the CEU: "Quest for Unification" 1 Oct 2004-30 Sept 2008; coordinator of the NTUA group.
- RTN European network "Constituents, Fundamental Forces and Symmetries of the Universe", contract MRTN-CT-2004-005104, period 2004-2008; senior member of the research team.
- Programme "Transfer of Knowledge (TOK)" of the European Union (MTKD-CT-2004-014319): ALGOTOOLS" 2005-2009; coordinator of the NTUA group.
- Programme "PYTHAGORAS II" of Ministry of Education "Matrix Models and Dimensional Reduction" 1/1/2005-31/12/2007; senior member of the research team.
- Programme RTN of the CEU (MRTN-CT-2006-035505), "Tools and Precision Calculations for Physics Discoveries at Colliders, HEPTOOLS", 2006-2010; coordinator of the NTUA group.
- Programme "PROTAGORAS" 65/1382 of NTUA, "Phenomenological and Cosmological Study of String Theory"; senior member of the research team.
- Programme "KARATHEODORIS" 65/1583 of NTUA, "Theoretical Physics in more than four dimensions: Dimensional Reduction and Compactification"; PI.
- Programme "PEVE2008" of NTUA, "Unified Theories in Many Dimensions: Dynamical Determination of Spacetime Dimensions and Dimensional Reduction"; senior member of the research team.
- Programme "PEVE2009" of NTUA, "Unified Theories in four and more dimensions: Theoretical Foundations and Experimental Predictions"; PI.
- Programme ITN of the CEU: "Unification in the era of LHC", 1 Oct 2009 -30 Sept; coordinator of the NTUA group.
- Programme "PEVE2010" of NTUA, "Unification of the Fundamental Interactions in Four and Extra Dimensions"; senior member of the research team.
- Programme "PEVE2011" of NTUA, "Studies on Quantum Unified Theories in Four and Extra Dimensions"; senior member of the research team.
- Programme "ARISTEIA" of NTUA; senior member of the research team.
- Programme "ARISTEIA" of NCSR Demokritos; senior member of the research team.

- Programme ITN of the CEU: “HiggsTools”; senior member of the research team.
- Programme “ARISTEIA II” of NTUA; senior member of the research team.
- Programme “ARISTEIA of NCSR Demokritos; senior member of the research team.
- COST Action MP1405 QSPACE of the European Cooperation in Science and Technology; leader of Working Group, member of the Management Committee and the Core Group.
- COST Action CA15108 FUNDAMENTAL CONNECTIONS of the European Cooperation in Science and Technology; member of the Management Committee.
- COST Action CA16201, PARTICLEFACE; senior member of the team.
- Reinvitation Programme of A.v. Humboldt Foundation, 2017-2018; Personal grant.
- COST Actions CA 21109, CA21106, CA24146; member of the Management Committee.
- COST Action CA24101, senior member of the team.