# Nicholas Petropoulos


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| E-mail: | nicholas@teor.fis.uc.pt |
| Birth: | 31 March 1959, Agios Constantinos, Locrida, Greece |
| Marital Status: | Single |
| Citizenship: | Greek |
| Languages: | Greek (native), English (fluent), Portuguese (intermediate level) |


## Present status

### Sep 2001–today: Postdoctoral research associate.

Center for Theoretical Physics, Department of Physics, University of Coimbra, Portugal.
Working with Eef van Beveren, research is focused on the classification of light scalar mesons using quark models.

## Education

### Sep 1996 – Dec 2000 : PhD in theoretical high energy physics.

**Thesis Title :** Linear sigma model and chiral symmetry at finite temperature.
University of Manchester, UK.
Supervisor: Dr Mike Birse.
Research was focused on the study of the meson sector (pions-sigma) of the linear sigma model at finite temperature as an effective theory to investigate the QCD phase transition.

### Sep 1992 – Apr 1994 : MSc in theoretical high energy physics.

**Thesis Title :** Baryogenesis at the electroweak phase transition.
University of Manchester, UK.
Supervisor: Dr Mike Birse.
Research involved a possible explanation of baryon excess in the universe in the framework of the Standard Model of electoweak interactions.

### Mar 1992 – Jul 1992 : Postgraduate courses in theoretical physics.

"Democritos" National Center for Nuclear Resarch, Greece.
Preparatory courses for PhD students on subjects such as: Quantum Mechanics, Group Theory, Electrodynamics and Classical Mechanics.

### Mar 1990 – Sep 1990 : Vocational course in computing.

Institute of Research and Technology, Greece.
The course was funded by the EU and involved studies on the architecture of microprocessors, applications and introductory programming in C.

### Oct 1977 – Oct 1989 : Physics degree.

University of Ioannina, Greece.
I studied for my degree part time whilst teaching Physics. I also completed my National Service in the Greek Army during this period (see also other experience).

## Publications

1. Nicholas Petropoulos (Manchester U. & Coimbra U.),
*"Linear sigma model at finite temperature"*, [arXiv:hep-ph/0402136].

2. Nicholas Petropoulos (Manchester U. & Coimbra U.),
*"Baryogenesis at the electroweak phase transition"*, [arXiv:hep-ph/0304275]. Under consideration to be published in Int. J. Mod. Phys. A .

3. Eef van Beveren (Coimbra U.), George Rupp (CFIF, Lisbon & Lisbon, IST), Nicholas Petropoulos (Coimbra U.), Frieder Kleefeld (CFIF, Lisbon & Lisbon, IST),
*"The light scalar mesons within quark models"*, Proceedings of the "2nd International Workshop on Hadron Physics: Effective Theories of Low-Energy QCD", Coimbra, Portugal, 25-29 Sep 2002, AIP Conf. Proc. **660** (2003) 353, [arXiv:hep-ph/0211411] .

4. Nicholas Petropoulos (Manchester U.),
*"Thermal effective potential of the linear sigma model "*, Proceedings of the "5th International Workshop on Thermal Field Theories and Their Applications", Regensburg, Germany, 10–14 August 1998 [arXiv hep–ph/9809363] .

5. Nicholas Petropoulos (Manchester U.),
*"Linear Sigma model and chiral symmetry at finite temperature"*, J. Phys. G : Nucl. Part. Phys. 25, 2225-2242 [arXiv:hep–ph/9807331] .

## Talks and posters

1. Talk with title *"Linear sigma model at finite temperature"*, presented at: Center for Physics of Fundamental Interactions, Instituto Superior Técnico, Lisboa, Portugal, 23 October 2001.

2. Talk with title *"Linear sigma model at finite temperature: Beyond the Hartee approximation"*, presented at: "The 1999 nuclear and particle physics division conference of the Institute of Physics", Salford University, UK, 14 April 1999.

3. Poster with title *"Chiral symmetry at finite temperature"*, presented at: Manchester University, UK, September 1998.

4. Poster with title *"Thermal effective potential of the linear sigma model "*, presented at "5th International Workshop on Thermal Field Theories and Their Applications", Regensburg, Germany, 10-14 August 1998.

5. Talk with title *"Chiral symmetry at finite temperature"*, presented at: " The 1998 Institute of Physics high energy particle physics group conference", Manchester University, UK, 16 April 1998.

6. Talk with title *"Thermal effective potential of the linear sigma model "*, presented at: "Friday seminar series" of the theory group at Manchester University, UK, 5 December 1997.

7. Poster with title *"Chiral symmetry at finite temperature"*, presented at: Manchester University, UK, September 1997.

## Summer schools and conferences attended

1. *"Time Asymmetric Quantum Theory: the Theory of Resonances"*, Center for Physics of Fundamental Interactions, Lisbon, Portugal, 23-26 July 2003.

2. *"II National Meeting of Hadronic Physics"*, University of Coimbra, Portugal, 27 June 2003.

3. *"COSLAB Workshop: Cosmological Phase Transitions and Topological Defects"*, University of Porto, Portugal, 22-24 May 2003.

4. *"I National Meeting of Hadronic Physics"*, IST Lisbon, Portugal, 16 January 2003,

5. *"II International Workshop on Hadron Physics, Effective Theories of Low Energy QCD"*, University of Coimbra, Portugal, 25-29 September 2002.

6. *"Recent Progress in Many–Body Theories, RPMBT–II"*, Umist, Manchester, UK, July 8-13 2001.

7. *"Annual IoP Plasma Group Conference"*, UMIST, Manchester, UK, 2–5 April 2001.

8. *"The annual UK particle theory winter meeting"*, Rutherford Appleton Laboratory, Oxford, UK, 15–17 Dec 1999.

9. *"The 1999 nuclear and particle physics division conference of the Institute of Physics"*, Salford University, UK, 12-14 Apr 1999.

10. *"The annual UK particle theory winter meeting"*, Rutherford Appleton Laboratory, Oxford, UK, 16–18 Dec 1998.

11. Summer school and conference: *"5th International Workshop on Thermal Field Theories and Their Applications"*, Regensburg, Germany, 5–14 August 1998.

12. *"Annual conference of the high energy particle physics group of the Institute of Physics (IoP Particle Physics 1998)"*, Manchester University, UK, 14–16 Apr 1998.

13. *"Strange particle Jubilee: the 50th anniversary of the discovery of the strange particles"*, Manchester University, UK, August 1997.

## Scholarships

1. "Engineering and Physical Sciences Research Council (EPSRC) scholarship". (Sep 1997 - Sep 1999).

## IT skills

**OS :** UNIX (advanced user), LINUX (advanced user), WINDOWS (not a frequent user), VAX/VMS (average user).
**Programming Languages :** FORTRAN (experienced, all my MSc and PhD calculations were done using FORTRAN 77, although I have also used FORTRAN 90), C and C++ (able to write programs).
**Software Packages :** MATHEMATICA (intermediate user), PAW (Physics Analysis Workstation, average user) and other graphics packages such as GNUPLOT and XMGR (average user). Other skills include basic knowledge of HTML and LATEX (very experienced user).

## Work and other experience

**Sep 1997 – Jul 2000 :** Mathematics tutor to first year Physics undergraduates, University of Manchester.
**Sep 1997 – Sep 2001 :** Residential tutor in Moberly Hall, University of Manchester. Administrative post which involves dealing with the welfare and pastoral care of residents (mainly overseas postgraduate students).
**May 1994 – Aug 1996 :** Full–time teacher of physics (A–Level) in the private sector in Greece.
**Sep 1981 – Aug 1992 :** Full–time teacher of physics in the private sector (various private schools) in Athens (Greece).
**Jul 1978 – Jul 1981 :** Whilst at university I started my career as a teacher of physics working part–time, and full–time during the university summer vacations.

## Scholarships

"Engineering and Physical Sciences Research Council (EPSRC) scholarship". (Sep 1997 - Sep 1999).

## Memberships

Graduate member of "The Institute of Physics", UK.

## Other information

Whilst serving in the Greek Army I had special administrative status which involved co–ordinating the training programs.

## References

Available on request.

Coimbra 12 February 2004