

Theodoros Papakonstantinou Curriculum Vitae

Personal information

Date of birth	21 February, 1980
Nationality	Greek
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Google Scholar	https://scholar.google.com/citations?user=HP03aRAAAAAAJ&hl=en
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Education

6/2016	PhD in Computational Physics and Statistical Mechanics Physics Department of the National and Kapodistrian University of Athens, Greece Grade: 10/10, Excellent Thesis: 'Methods of Computer Science and Statistical Mechanics in the Study of Disorder Systems' Supervisor: Prof. Anastasios Malakis
7/2009	MSc in Physics and Technological Applications School of Applied Mathematics and Physical Sciences National Technical University of Athens, Greece Grade: 8/10, very good Thesis: 'Monte Carlo Studies of Magnetic Nanoparticles' Supervisor: Dr. Kalliopi Trochidou
8/2006	BSc in Physics Physics Department of the National and Kapodistrian University of Athens, Greece Grade: 6.7/10, very good Thesis: 'Ford-Fullkerson algorithm and the Ground State of the RFIM' Supervisor: Prof. Anastasios Malakis

Employment history

4/2021 - present	Post-doctoral researcher in Biostatistics Institute of Medical Biometry and Statistics, Faculty of Medicine and Medical Center, University of Freiburg, Freiburg, Germany. Employed on the project MIRACUM (4/2021-12/2022), in the Medical Data Science team , led by Dr. Daniella Zöller and on the project ' Enabling new types of questions in evidence synthesis ' (1/2023-present), funded by the German Research Foundation (DFG) in the Meta-Analysis team , led by Dr. Adriani Nikolakopoulou.
3/2017 - 3/2021	Post-doctoral researcher in Biostatistics Institute of Social and Preventive Medicine, University of Bern, Switzerland. Employed on the project 'CINeMA: A web application to evaluate the confidence in Network Meta-Analysis results' (6/2017-2/2018), funded by the Campbell Collaboration, on the project 'What works best? Methods for ranking competing treatments in network meta-analysis' (6/2018-3/2021), funded by the Swiss National Science Foundation, both led by Prof. Dr. Georgia Salanti, and from funds of the Institute of Social and Preventive Medicine for the rest of the months.

- 10/2016 – 2/2017 **Research associate in Biostatistics**
 Department of Hygiene and Epidemiology, School of Medicine, University of Ioannina, Greece.
 Employed on the project ‘Integrating Multiple Meta-Analysis (IMMA)’, funded by the European Research Council (ERC) Starting grant, led by Prof. Dr. Georgia Salanti.
- 3/2015 – 12/2015 **Web Developer – Administrator**
 School of Architecture, National Technical University of Athens
- 9/2009 – 3/2015 **Lead Software Engineer - Confounder 2fg.gr**
 2fg is a web and digital media creative agency based in Athens

Institutional responsibilities

- 10/2020 **Member** of appointment commission for the position of a programmer on the project ‘A continuously updated meta-ecological study of the effect of the COVID-19 pandemic on mental health, alcohol/substance abuse and violence in the general population’, funded by the Swiss National Science Foundation
- 8/2018 – 3/2021 **Member** of the Institute of Social and Preventive Medicine postdoc and intermediate staff group
- 7/2018 **Member** of appointment commission for the PhD position on the project ‘What works best? Methods for ranking competing treatments in network meta-analysis’, funded by the Swiss National Science Foundation

Approved research projects

- 10/2020 - 12/2022 **Swiss National Science Foundation, NRP 78 Covid-19 grant scheme**
 ‘A continuously updated meta-ecological study of the effects of the COVID-19 pandemic on mental health, alcohol/substance abuse and violence in the general population’ ([link](#))
 Principal investigators: Prof. Dr. Georgia Salanti, University of Bern & Prof. Dr. Stefan Leucht, University of Munich
Participation as project partner, amount: 349,101 CHF
- 6/2017 – 2/2018 **Campbell Collaboration, Campbell Methods Grants**
 ‘CINeMA: A web application to evaluate the confidence in Network Meta-Analysis results’
 Principal Investigator: Prof. Dr. Georgia Salanti, University of Bern
Participation as co-investigator, amount: 19,998 \$
- 9/2010 – 8/2012 **Grant for the support of Doctoral Studies**
 Special Account for Research Grants of the National and Kapodistrian University of Athens (project code: 70/4/10311)
Principal investigator, amount: 10,000 €

Memberships in boards, scientific societies and reviewing activities

- 6/2023 - present **Associate Editor** for ‘Reproducibility’ of the journal *Research Synthesis Methods* (responsible for checking that the software submitted by authors is reproducible)
- 5/2023 - present **Associate Editor** for Article types ‘Software Focus’ of the journal *Research Synthesis Methods* ([link](#))
- 8/2020 – 4/2021 **Member of the Working Group of the Mental Health COVID (MHCOVID) project**, a living online systematic review of scientific evidence about the changes in the prevalence of mental health issues due to the COVID-19 pandemic and containment measures.
- 5/2020 – present **Statistical reviewer** for ‘Systematic Reviews’, ‘Scientific Reports’, ‘Research Synthesis Methods’, ‘Journal of Statistical Mechanics: Theory and Experiment’

Software**Web applications**

CINeMA: Confidence in Network Meta-Analysis. ([link](#)) (*main contributor*)

ROB-MEN R shiny: Risk of Bias due to Missing Evidence in Network Meta-Analysis. ([link](#)) (*main contributor*)

nmarank R shiny: Complex hierarchy questions in network meta-analysis. ([link](#)) (*main contributor*)

CRAN packages

Papakonstantinou T, Schwarzer G, Nikolakopoulou A. **nmarank**: Complex hierarchy questions in network meta-analysis. ([link](#)) (*main contributor*)

Rücker G, Krahn U, König J, Efthimiou O, Davies A, **Papakonstantinou T**, Schwarzer G. **netmeta**: Network meta-analysis using frequentist methods. ([link](#))

Papakonstantinou T. **nmadb**: network meta-analysis database API. ([link](#)) (*main contributor*)

R packages not submitted to CRAN

Nikolakopoulou A, Papakonstantinou T. **sequentialnma**: R package to adjust for inflated type I error in continuously updated network meta-analysis. ([link](#))

Nikolakopoulou A., Papakonstantinou T. **alternativenma**: R package to run network meta-analysis using an alternative parametrisation. ([link](#))

Haskell packages

meta-analysis: frequentist meta-analysis based on spring system formulation ([docs](#)) ([source](#))

prng: Reproducibility preserving pseudo random number generators. ([docs](#)) ([source](#))

graph: A graph theory library based on adjacency list graph representation ([docs](#)) ([source](#))

nma-contribution: Network meta-analysis study contributions ([docs](#)) ([source](#))

tesths: simple test suite that allows unit testing pure and effectful functions ([docs](#)) ([source](#))

Additional training

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| 1/2020 | ‘Causal inference in observational epidemiology’ , Swiss Epidemiology Winter School, Institute of Social and Preventive Medicine, Wengen, Switzerland (Instructors: Prof. Miguel Hernan & Prof. Marcel Zwahlen) |
| 11/2018 | ‘Machine Learning’ , course offered by Prof. René Eijkemans from Universitair Medisch Centrum Utrecht, Netherlands at the Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland |
| 5/2017 | ‘Introduction to Bayesian Inference using Rstan’ , course offered by Jamie Owen from Jumping Rivers at the Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland |
| 6/2015 | ‘Applied Logistic Regression’ , Cochrane Sexually Transmitted Infections, Bogota, Colombia (Instructor: Prof. Stanley Lemeshow) |

Teaching activities

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| 4/2023 – 7/2023 | Lectures in course ‘Statistical analysis of medical data with R’, University of Freiburg (with G. Schwarzer and A. Nikolakopoulou) |
| 10/2022 – 1/2023 | Lectures in course ‘Statistical analysis of medical data with R’, University of Freiburg (with G. Schwarzer, and A. Nikolakopoulou) |
| 4/2022 – 7/2022 | Lectures in course ‘Statistical analysis of medical data with R’, University of Freiburg (with G. Schwarzer, A. Nikolakopoulou and M. Petropoulou) |
| 10/2021 – 2/2022 | Lectures in course ‘Statistical analysis of medical data with R’, University of Freiburg (with G. Schwarzer, A. Nikolakopoulou and M. Petropoulou) |
| 1/2020 | Cochrane webinar ‘CINeMA – Confidence in Network meta-analysis’ (with G. Salanti, A. Nikolakopoulou and V. Chiochia) |
| 11/2018 | Assistant in Albert Hoffman’s course ‘Fundamental concepts in Epidemiology’ at the |

University of Bern

- 4/2018 Short course 'Network meta-analysis – A project-based course' in Kea, Greece organized by the Institute of Social and Preventive Medicine, University of Bern, Switzerland (with M. Egger, G. Salanti, O. Efthimiou, A. Nikolakopoulou and A. Chaimani)
- 3/2018 Seminar 'CINeMA – Confidence in Network meta-analysis', French Cochrane Center (with A. Nikolakopoulou)
- 11/2017 Workshop 'Understanding and appraising the results from network meta-analysis for guideline developers', World Health Organization, Geneva, Switzerland (with G. Salanti and A. Nikolakopoulou)
- 10/2017 Cochrane webinar 'CINeMA – Confidence in Network meta-analysis' (with G. Salanti and A. Nikolakopoulou)
- 9/2017 Workshop 'Meta-research', Wellcome Trust Clinical Research Facility (WTCRF) Edinburgh, UK (with A. Nikolakopoulou)
- 9/2017 Workshop 'Principles and challenges of conducting network meta-analysis', Health Services Research Unit, University of Aberdeen Scotland, UK (with A. Nikolakopoulou)

Contributions to conferences

- 1) **Papakonstantinou T**. Tutorial on nmarank R package. Evidence Synthesis and Meta-Analysis in R Conference, March **2023**, virtual (*oral, prerecorded*)
- 2) **Papakonstantinou T**. Rücker G, Schwarzer G, Zöller D, Nikolakopoulou A. A mechanical analogue of network meta-analysis. Deutsche Arbeitsgemeinschaft Statistic (DAGStat) Conference, March **2022**, Hamburg (*oral*)
- 3) Sofack G, Banerjee S, **Papakonstantinou T**, Avraam D, Burton P, Bishop TRP, Zöller D. Implementing disclosure controls in DataSHIELD demonstrated by the dsSurvival package. Deutsche Arbeitsgemeinschaft Statistic (DAGStat) Conference, March **2021**, Hamburg (*oral, presented by Ghislain Sofack*)
- 4) **Papakonstantinou T**, Zöller D. Heterogeneity tools in DataSHIELD. Deutsche Gesellschaft für Medizinische Informatik Biometrie und Epidemiologie (GMDS), September **2021** (*virtual conference, oral*)
- 5) Chiocchia V, Nikolakopoulou A, **Papakonstantinou T**, Cipriani A, Furukawa TA, Higgins JPH, Page MJ, Egger M, Salanti G. The ROB-MEN tool to evaluate risk of bias due to missing evidence in network meta-analysis. Conference of the Austro-Swiss Region (ROeS) of the International Biometric Society, September **2021**, Salzburg, Austria (*hybrid -online and on site- conference, presented by Virginia Chiocchia*).
- 6) Davies AL, **Papakonstantinou T**, Nikolakopoulou A, Rücker G, Galla T. Network meta-analysis and random walks. 42nd Annual Conference of the International Society for Clinical Biostatistics (ISCB), July **2021**, Lyon, France (*virtual conference, presented by Annabel Davies*)
- 7) Chiocchia V, Nikolakopoulou A, **Papakonstantinou T**, Cipriani A, Furukawa TA, Higgins JPH, Page MJ, Egger M, Salanti G. The Risk Of Bias due to Missing Evidence in Network meta-analysis (ROB-MEN) tool: web application and implementation in a network of antidepressant drugs. 42nd Annual Conference of the International Society for Clinical Biostatistics (ISCB), July **2021**, Lyon, France (*virtual conference, presented by Virginia Chiocchia*)
- 8) **Papakonstantinou T**, Salanti G, Mavridis D, Rücker G, Schwarzer G, Nikolakopoulou A. Uncertainty in treatment hierarchy in network meta-analysis: making ranking relevant. 67. Biometrisches Kolloquium, March **2021**, Münster (*virtual conference, oral, presented by Adriani Nikolakopoulou*)
- 9) **Papakonstantinou T**. How to estimate the contribution of each study in network meta-analysis. Evidence Synthesis Hakathon, January **2021** (*virtual conference, oral*)
- 10) Chiocchia V, Nikolakopoulou A, **Papakonstantinou T**, Egger M, Salanti G. 'Methods for ranking competing treatments in network meta-analysis'. 41st Annual Conference of the International Society for Clinical Biostatistics (ISCB), August **2020**, Krakow (*virtual conference, oral, presented by Virginia Chiocchia*).
- 11) Chiocchia V, Nikolakopoulou A, **Papakonstantinou T**, Egger M, Salanti G. 'Methods for ranking competing treatments in network meta-analysis'. Conference of the Austro-Swiss Region (ROeS) of the International Biometric Society, September **2019**, Lausanne (*oral, presented by Virginia Chiocchia*).

- 12) Chiocchia V, Nikolakopoulou A, **Papakonstantinou T**, Egger M, Salanti G. 'Methods for ranking competing treatments in network meta-analysis'. Graduate School of Health Science (GHS) annual Symposium, November **2019**, Bern (*poster, presented by Virginia Chiocchia*).
- 13) **Papakonstantinou T**, Nikolakopoulou A, Rücker G, Schwarzer G, Chaimani A, Egger M, Salanti G. Using flow decomposition to estimate the contribution of studies in network meta-analysis. Deutsche Arbeitsgemeinschaft Statistic (DAGStat) Conference, March **2019**, Munich (*oral*).
- 14) Rücker G, Nikolakopoulou A, **Papakonstantinou T**, Schwarzer G. The importance of a study for treatment estimates in network meta-analysis. Deutsche Arbeitsgemeinschaft Statistic (DAGStat) Conference, March **2019**, Munich (*oral, presented by Gerta Rücker*).
- 15) **Papakonstantinou T**, Nikolakopoulou A, Rücker G, Schwarzer G, Chaimani A, Egger M, Salanti G. Using flow to estimate the percentage contribution of studies in network meta-analysis. 25th Cochrane Colloquium, September **2018**, Edinburgh, UK (*poster*).
- 16) **Papakonstantinou T**, Nikolakopoulou A, Rücker G, Chaimani A, Schwarzer G, Egger M, Salanti G. Using flow to estimate the percentage contribution of studies in network meta-analysis. Joint International Society for Clinical Biostatistics (ISCB) and Australian Statistical Conference, August **2018**, Melbourne (*oral*).
- 17) Chaimani A, **Papakonstantinou T**, Nikolakopoulou A, Higgins J, Del Giovanna C, Egger M, Salanti G. CINeMA: a web application to evaluate the Confidence in Network Meta-Analysis results. Global Evidence Summit, September **2017**, Cape Town (*oral, presented by Anna Chaimani*).
- 18) **Papakonstantinou T**. Parallel Tempering and Spin Glasses. Postgraduate Annual Conference, Department of Solid State Physics National and Kapodistrian University of Athens, February **2014**, Athens (*oral*).
- 19) **Papakonstantinou T**. Anisotropic cubic Edwards Anderson Model – Ferromagnetic Paramagnetic Phase Transition criticality. Postgraduate Annual Conference, Department of Solid State Physics National and Kapodistrian University of Athens, November **2012**, Athens (*oral*).
- 20) **Papakonstantinou T**. Degeneracy of the RFIM Ground State and the bond disordered square Blume Capel Model. Postgraduate Annual Conference, Department of Solid State Physics National and Kapodistrian University of Athens, October **2011**, Athens (*oral*).
- 21) **Papakonstantinou T**. Random Field Ising Model Ground State phase transition. XXVI Panhellenic Conference on Solid State and Material Science, September **2010**, Ioannina (*poster*).

Publications in peer-reviewed scientific journals

- 1) Nikolakopoulou A, Chaimani A, Furukawa TA, **Papakonstantinou T**, Rücker G, Schwarzer G. When does the placebo effect have an impact on network meta-analysis results? *BMJ Evidence-Based Medicine*. **2023** June ([link to publication](#))
- 2) Balduzzi S, Rücker G, Nikolakopoulou A, **Papakonstantinou T**, Salanti G, Efthimiou O, Schwarzer G. netmeta: An R package for network meta-analysis using frequentist methods. *Journal of Statistical Software*. **2023** March ([link to publication](#))
- 3) Banerjee S, Sofack G, **Papakonstantinou T**, Avraam D, Burton P, Zöller D, Bishop TRP. dsSurvival: Privacy preserving survival models for federated individual patient meta-analysis in DataSHIELD. *BMC Research Notes*. **2022** June. ([link to publication](#))
- 4) Davies A, **Papakonstantinou T**, Nikolakopoulou A, Rücker G. Network meta-analysis and random walks. *Statistics in Medicine*. **2022** May. ([link to publication](#))
- 5) **Papakonstantinou T**, Salanti G, Mavridis D, Rücker G, Schwarzer G, Nikolakopoulou A. Answering complex hierarchy questions in network meta-analysis. *BMC Medical Research Methodology*. **2022** Feb. ([link to publication](#))
- 6) Chiocchia V, Nikolakopoulou A, Higgins J, Page M, **Papakonstantinou T**, Cipriani A, Furukawa T, Siontis G, Egger M, Salanti G. ROB-MEN: A tool to assess risk of bias due to missing evidence in network meta-analysis. **2021** Nov. *BMC Medicine* ([link to publication](#))
- 7) Veroniki AA, Tsokani S, Zevgiti S, Pagkalidou E, Kontouli KM, Ambarcioglu P, Pandis N, Lunny C, Nikolakopoulou A, **Papakonstantinou T**, Chaimani A, Straus SE, Hutton B, Tricco AC, Mavridis D, Salanti G. Do reporting guidelines have an impact? Empirical assessment of changes in reporting before and after the PRISMA extension statement for network meta-analysis. *Systematic Reviews*. **2021** Sep ([link to publication](#))
- 8) Salanti G, Cipriani A, Furukawa TA, Peter N, Tonia T, **Papakonstantinou T**, Holloway A, Leucht S. An

- efficient way to assess the effect of COVID-19 on mental health in the general population. *Lancet Psychiatry*. **2021** May. (correspondence, [link to publication](#))
- 9) Leucht S, Cipriani A, Furukawa TA, Peter N, Tonia T, **Papakonstantinou T**, Holloway A, Salanti G. A living meta-ecological study of the consequences of the COVID-19 pandemic on mental health. *European Archives of Psychiatry and Clinical Neuroscience*. **2021** Mar (editorial, [link to publication](#)).
 - 10) **Papakonstantinou T**, Nikolakopoulou A, Egger M, Salanti G. Meta-analysis as a system of springs. *Research Synthesis Methods*. **2021** Jan. ([link to publication](#))
 - 11) Nikolakopoulou A, Mavridis D, Chiochia V, **Papakonstantinou T**, Furukawa TA, Salanti G. Network meta-analysis results against a fictional treatment of average performance: Treatment effects and ranking metric. *Research Synthesis Methods*. **2020** Oct. ([link to publication](#))
 - 12) Rucker G, Nikolakopoulou A, **Papakonstantinou T**, Salanti G, Riley RD, Schwarzer G. The statistical importance of a study for a network meta-analysis estimate. *BMC Medical Research Methodology*. **2020** Jul. ([link to publication](#))
 - 13) Chiochia V, Nikolakopoulou A, **Papakonstantinou T**, Egger M, Salanti G. Agreement between ranking metrics in network meta-analysis. *BMJ Open*. **2020** Aug. ([link to publication](#))
 - 14) **Papakonstantinou T**, Nikolakopoulou A, Egger M, Salanti G. In network meta-analysis most information comes from indirect evidence: empirical study. *Journal of Clinical Epidemiology*. **2020** Aug. ([link to publication](#))
 - 15) Nikolakopoulou A, Higgins J, **Papakonstantinou T**, Chaimani A, Del Giovane C, Egger M, Salanti G. CINeMA: An approach for assessing Confidence in the results of a Network Meta-Analysis. *PLoS Medicine*. **2020** Apr.
 - 16) **Papakonstantinou T**, Nikolakopoulou A, Higgins JPH, Egger M, Salanti G. CINeMA: Software for semiautomated assessment of the confidence in the results of network meta-analysis. *Campbell Systematic Reviews*. **2020** Mar. ([link to publication](#))
 - 17) **Papakonstantinou T***, Nikolakopoulou A*, Rucker G, Chaimani A, Schwarzer G, Egger M, Salanti G. Estimating the contribution of studies in network meta-analysis: paths, flows and streams. *F1000 Research*. **2018** Aug. *equal contributors ([link to publication](#))
 - 18) **Papakonstantinou T**, Fytas N, Malakis A, Lelidis I. Critical aspects of three-dimensional anisotropic spin-glass models. *The European Physical Journal B* **88** **2015** Apr. ([link to publication](#))
 - 19) **Papakonstantinou T**, Malakis A. Parallel tempering and 3D spin glass models. *Journal of Physics: Conference Series* **487** 012010 **2014** ([link to publication](#))
 - 20) Malakis A, **Papakonstantinou T**. Comparative study of selected parallel tempering methods *Phys. Rev. E* **88** 013312 **2013** Jul. ([link to publication](#))
 - 21) **Papakonstantinou T**, Malakis A. Critical behavior of the three-dimensional Ising model with anisotropic bond randomness at the ferromagnetic-paramagnetic transition line. *Phys. Rev. E* **87** 012132 **2013** Jan. ([link to publication](#))
 - 22) Malakis A, Berker AN, Fytas NG, **Papakonstantinou T**. Universality aspects of the d=3 random-bond Blume-Capel model *Phys. Rev. E* **85** 061106 **2012** Jun. ([link to publication](#))
 - 23) Malakis A, Gulpinar G, Karaaslan Y, **Papakonstantinou T**, Aslan G. Universality of the Ising and the S=1 model on Archimedean lattices: A Monte Carlo determination *Phys. Rev. E* **85** 031146 **2012** Mar. ([link to publication](#))
 - 24) Malakis A, Berker AN, Hadjiagapiou IA, Fytas NG, **Papakonstantinou T**. Multicritical points and crossover mediating the strong violation of universality: Wang-Landau determinations in the random-bond d=2 Blume-Capel model *Phys. Rev. E* **81** 041113 **2010** Apr. ([link to publication](#))
 - 25) Malakis A, Berker AN, Hadjiagapiou IA, Fytas NG, **Papakonstantinou T**. Uncovering the secrets of the 2D random-bond Blume-Capel model. *Physica A: Statistical Mechanics and its Applications* **389** 2930 - 2933 **2010** Aug. ([link to publication](#))