Giridhar **Kulkarni**

https://codegiri.github.io/webpage

Inspire: G.Kulkarni.3 | ResearchGate: Giridhar_Kulkarni3 | LinkedIn: giridhar-k-55456570

Date of birth | 27th September 1993
Place of birth | Ahmednagar, India
Nationality | Indian
Civil status | Unmarried, without children

Current residence | Dijon 21000, France
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EMPLOYMENT

University of Burgundy, Dijon, France 21078
Research and Teachning Assistant (RA/TA)
September 2019 – August 2020, full-time
Teaching contract (Janurary 2019 – Juin 2019)

EDUCATION AND RESEARCH

University of Burgundy, Dijon, France 21078
PhD in Mathematics
(Oct 2016 – Nov 2020)
Research Group: Mathematical Physics
Title: Asymptotic analysis of the form-factors of quantum integrable spin chains
Thesis advisor: Nikolai Kitanine
Thesis defended on 20th November 2020

University of Cergy-Pontoise, France 95011
Masters in Theoretical Physics
(2015–2016)
Specialisation: systèmes inégrables
Project: Algebraic Bethe ansatz
Supervisor: Nikolai Kitanine

Indian Institute of Technology (Guwahati), India 781039
Bachelor of Technology
(2011–2015)
Specialisations: Physics, Mathematics
Project: Axionic models for cosmological inflation
Supervisor: Arunansu Sil

High-school
Jawahar Navodaya Vidyalaya, India (2005–2009)

COMPUTER SKILLS

Programming
C, C++, Python

Computational tools
Mathematica, MATLAB

Web development
HTML5, CSS, Javascript.

Typesetting
LaTeX 2ε, XeTeX, pgf/tikz.

OS & Utilities
arch/debian, Bash, Git, regex

Photography
GIMP / Adobe Photoshop

LANGUAGES

English proficient
French advanced
Hindi second language
Marathi native speaker

HOBBIES

Astronomy, Board games, Cooking, Cycling, Tennis

PUBLICATIONS

Journals
1. N. Kitanine and G. Kulkarni. "Thermodynamic Limit of the Two-Spinon Form Factors for the Zero Field XXX Chain". *SciPost Physics* 6.6 (2019), p. 076. DOI: 10.21468/scipostphys.6.6.076

Thesis
G. V. Kulkarni. "Asymptotic analysis of the form-factors of quantum spin chains". PhD thesis. U. Bourgogne, Dijon, 2020. 228 pp. arXiv: 2012.02367

Key area of interest: Quantum integrable systems, Algebraic Bethe ansatz, Form-factor approach

TEACHING

Spring 2020

- ➢ MaIE2A: Maths tutorials for first-year students in electronics & informatics
  sequence and series, convergence, system of linear equations, matrices, vector spaces, …
- ➢ MaIE4A: Maths tutorials for second-year students in electronics & informatics
  linear algebra: vector spaces, bases, linear maps, rank theorem, diagonalisation; graph theory, electronic circuits, …
- ➢ Mathematics for biology
  geometry, derivatives, intergration, modelisation and optimisation

Autumn 2019

- ➢ Tutotirals for 'mathematical methods of quantum mechanics' (masters program)
  reduced density matrix, Van Neuman entropy, entanglement, harmonic oscillator, one-dimensional portential well, interacting spin systems, oscillator chain, …
- ➢ Math3A: Tutorials on analysis for second-year students in mathematics
  sequences: monotonocity, convergence, Cauchy sequence, subsequences; series: absolute convergence, Riemann series, Abel transform, alternating series, power series
- ➢ MaPC1A: Maths tutorials for first-year students in physics and chemistry
  fonctions, limits, continuity, derivation, integration, Taylor series …
- ➢ MaIE1A: Maths tutorials for first-year students in informatics and electronics
  complex numbers, fonctions, continuity, derivation, integration
- ➢ Mathematics for second-year economy students
  system of linear equations, matrices, rank theorem, optimisation problems, …

Spring 2019

- ➢ MaIE4A: Maths tutorials for second-year students in electronics & informatics
  linear algebra: vector spaces, bases, linear maps, rank theorem, diagonalisation; combinatorics, graph theory …
- ➢ Mathematics for biology
  geometry, derivatives, intergration, modelisation and optimisation

CONFERENCES

- ❑ **Bourgogne-Franch Comté Research Federation Annual Meeting**, Besançon, France (Oct 2019)
  Title of presentation: Exact computations of form-factors for quantum spin chains
- ❑ **Young researchers meeting on integrable systems**, Cergy-Potoise, France (June 2019)
- ❑ **Les Houches summar school on integrability in atomic and condensed matter physics** , École de physique des Houches, Les Houches, France (August 2018)
- ❑ **Correlation functions in quantum integrable systems and beyond**, ENS de Lyon, France (Octobre 2017)
- ❑ **GGI Winter school on Statistical Field Theories (SFT)**, Florence, Italy (February 2017)
- ❑ **ICTS Winter School on Knot theory and topology**, Mohali, India (Decembre 2014)

SEMINARS

- ❑ **Doctoral students seminar**, IMB Dijon, France (January 2020)
  Title of the talk: Exact lattice models in two-dimensional statistical physics
- ❑ **Annual Carnot-Pasteur doctoral school day**, Dijon, France (June 2019)
  Title of the talk: Algebraic Bethe ansatz and form-factors
- ❑ **Doctoral students seminar**, IMB Dijon, France (March 2019)
  Title of the talk: Algebraic Bethe ansatz
- ❑ **Annual Carnot-Pasteur doctoral school day**, Dijon, France (June 2018)
  Title of the talk: Classical and quantum integrability
- ❑ **Young researchers meeting of the UBFC**, Besançon, France (April 2018)
  Title of the talk: Classical and quantum integrability