Applications of AdS/CFT to strongly correlated matter: from numerics to experiments

Chagnet, N.

Curriculum Vitae

I was born on August 17th, 1996 in Beaumont-Sur-Oise, a small town in the region of Paris, France, although my family quickly moved to Porticcio in Corsica, where I spent my childhood years. I then went to high school at *Lycées Vauvenargues* in Aix-en-Provence, France. After high school, I entered the French system of *Classes Préparatoires aux Grandes Écoles* at *Lycée du Parc* in Lyon, a two-year intensive program in Mathematics, Physics, Computer Science and Engineering culminating in national competitive exams. I was successfully admitted as *Élève Normalien* at *École Normale Supérieure de Lyon* where I obtained my Bachelor's and Master's degrees.

During those years, I did an internship on Tokamak fusion reactors at the Swiss Plasma Center of *École Polytechnique Fédérale de Lausanne*, Switzerland. This path led me to the more theoretical side of physics and to Leiden University, where I first arrived as an Erasmus exchange student doing a Master's project with the late Prof.dr. Jan Zaanen and under the guidance of Dr. Aurelio Romero-Bermúdez. After a brief return to Lyon, I executed a series of research projects back in the Leiden group with Prof.dr. Koenraad Schalm and Prof. Mihailo Čubrović (from the University of Belgrade) but also at the University of Amsterdam with Prof.dr. Jan de Boer, Prof. Shira Chapman (now senior lecturer at the Ben-Gurion University, Israel) and Prof. Claire Zukowski (now assistant professor at the University of Minnesota Duluth).

I finally started my PhD in September 2020 in the Quantum Matter group of Leiden University with Prof. Dr. Koenraad Schalm. During my PhD, I had duties of teacher assistant in the course Complex Networks with Prof.dr. Diego Garlaschelli (for a total duration of four semesters) and attended the 2022 DRSTP Summer School in Condensed Matter physics held in Callantsoog. Alongside my research, I also presented my work at various international conferences such as "Hydrodynamics at all scales" organized at the Nordita institute in Stockholm, Sweden, "Workshop on String Theory, Holography, and Black Holes" organized at ICTP in Trieste, Italy and "Physics@Veldhoven" organized at Veldhoven, The Netherlands.

I will remain at Leiden University as a Postdoctoral researcher until August 31st, 2025.

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List of publications

[1] N. Chagnet, S. Chapman, J. de Boer, and C. Zukowski. “Complexity for Conformal Field Theories in General Dimensions”. *Phys. Rev. Lett.* 128 (2022). DOI: 10.1103/PhysRevLett.128.051601.

[2] N. Chagnet, V. Đukić, M. Čubrović, and K. Schalm. “Emerging Fermi Liquids from Regulated Quantum Electron Stars”. *JHEP* 08 (2022). DOI: 10.1007/JHEP08(2022)222.

[3] N. Chagnet, F. Balm, and K. Schalm. “Quantization and Variational Problem of the Gubser-Rocha Einstein-Maxwell-Dilaton Model, Conformal and Non-Conformal Deformations, and Its Proper Thermodynamics”. *JHEP* 03 (2023). DOI: 10.1007/JHEP03(2023)081.

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[5] N. Chagnet and K. Schalm. “Hydrodynamics of a relativistic charged fluid in the presence of a periodically modulated chemical potential”. *SciPost Phys.* 16 (2024). DOI: 10.21468/SciPostPhys.16.1.028.