

# Momchil Nikolaev Naydenov

**Date of birth:** 12 April 1993

**Nationality:** Bulgarian

## Education

PhD in High Energy Physics, 10/01/2017-10/01/2020, Sofia University

MSc in Mathematical and Theoretical Physics, 2014-2016, Sofia University

MA in Natural Sciences (Physical), 2019, University of Cambridge

BA in Natural Sciences (Physical), 2011-2014, University of Cambridge

## Honours and awards

- Participation in International Youth Physicists Tournament 2011, Iran
- Participation in International Youth Physicists Tournament 2010, Austria
- Participation in professor Minko Balkanski National Physics Competition, 2010, 2011, Bulgaria
- 6<sup>th</sup> place in the National Physics Competition, 2009, best student in Quantum Mechanics for the year

## Professional Experience and Skills

- Fluent in English, Russian and French
- Extensive experience with MATLAB and Wolfram Mathematica
- Programming in LaTeX, C++, Java
- In January 2019 I did a short internship in the Density Functional Theory group in KAUST under the supervision of prof. Udo Schwingenschoegl during which I learnt the basics of 2D material modeling using VASP software
- Participated in school for atomic and nuclear physics organized by JINR, Dubna, in Borovets, Bulgaria, 14-17.05.2018
- Tutoring high school students during a summer school at KAUST – July and August, 2017 and 2018. The projects I was tutoring were about internal combustion engines, soot production conditions in a flame, and design of electronic gas sensors.
- A two weeks summer school at ICTP – Trieste in Particle Physics – 18-28 June, 2015. The lectures were concentrated on physics beyond the standard model, neutrino oscillations, composite Higgs models, cosmology beyond the standard model, axions, dark matter theory, future investigations of QCD and other modern topics in particle physics
- In the period 2014-2018 I have been teaching high school physics and mathematics at Uwekind International School – Sofia
- 12 weeks summer internship, 2014 in the Astrophysics Group in the Cavendish Laboratory, under the supervision of Dr. Eloy de Lera Acedo. My work was on designing graphene antennas (the so called graphennas) for the ALMA telescope in Chile. My project aimed to model telescopes based on graphene receivers and improve the quality of their images. My work was concentrated on the theoretical modeling of the graphenna, prediction of plasmon waves and electromagnetic properties.
- 12 weeks summer internship, 2013 in the Department of Materials Science and Metallurgy, Cambridge, under the supervision of Dr. Stoyan Smoukov. Developing a novel method for mechanical testing of micro fibres by tying them in overhand knots. The mathematical description I came up with was experimentally confirmed and accurate results for the mechanical properties of glass fibres were obtained experimentally.
- Summer internship in Sofia University, 2012 - participated in the condensed matter group project on graphene synthesis, development of graphene based FETs.