

## Machine Learning and Physics Seminar Series

Thursday, 14 November 2019 at 2.30pm  
Dennis Sciama Lecture Theatre, Denys Wilkinson building

### A Nobel Prize to Neural Net?

**Professor Sergei Gukov**  
Caltech

The main goal of this talk is to invite the audience to a debate whether non-traditional research methods, such as machine learning, can solve fundamental problems in physics and mathematics. I will illustrate the general points with concrete examples from the field of mathematics called knot theory.

Born 1977. B.S. in Physics and Mathematics at Moscow Institute of Physics and Technology 1997. M.S. in Physics Princeton University 1999. Ph.D. in Physics Princeton University 2001. Long-term Prize Fellow of Clay Mathematics Institute 2001-2006. Professor of Theoretical Physics and Mathematics at California Institute of Technology since 2004 and University of California Santa Barbara since 2006. 1st prize Soviet Union Physics Olympiad 1992. 1st prize Moscow Mathematics Olympiad 1992. ISSEP Award, Soros Fellow in Physics 1995-1995. Fellowship of the President of the Russian Federation 1995-1996. Fellowship of the Government of the Russian Federation 1996-1997. John Hertz Merit Fellowship 1997-1998. I. Ya. Pomeranchuk Award for Young Scientists 2000.