Nilay Kumar

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Research Interests

My interests are in mathematical physics, broadly. At the moment I am thinking about differential cohomology, factorization homology, and mapping spaces.

Education

Northwestern University, Evanston, IL USA

Ph.D. Mathematics; third year in progress   **2015 − (present)**
        Advisor: Ezra Getzler

Columbia University, New York City, NY USA

B.A. magna cum laude, in Mathematics (minor in Physics)   **2011 − 2015**

Publications

T.D. Cohen, N. Kumar, and K.K. Ndousse, *Baryons and baryonic matter in the large N_c and heavy quark limits*; Phys. Rev. C **84**, 015204 (2011).

P. Adhikari, T.D. Cohen, A. Jamgochian, and N. Kumar, *Baryons and low-density baryonic matter in (1+1)-dimensional large N_c QCD with heavy quarks*; Phys. Rev. C **86**, 035205 (2013).

Honors

2014, Josephine De Karman Fellowship
2013, Barry Goldwater Scholarship
2011-2015, I. I. Rabi Scholarship; Columbia University
Low density nuclear matter in the large N_c and heavy quark limits of QCD:
2011, Semifinalist, Intel Science Talent Search;
2010, Semifinalist, Siemens Competition in Math, Science, and Technology

Previous Experience

University of California, Berkeley, Berkeley, CA USA

Student researcher; Geometry/Topology RTG   **June − September 2013**

CERN, Meyrin, Genève 23, Switzerland *and*
Columbia University, New York City, NY USA

Researcher; ATLAS collaboration   **May 2012 − January 2013**

University of Maryland, College Park, MD USA

Researcher; Theoretical Quarks, Hadrons, and Nuclei   **June − August 2011**

University of Maryland, College Park, MD USA

Researcher; Theoretical Quarks, Hadrons, and Nuclei   **June − August 2010**

	Northwestern University, Evanston, IL USA

Northwestern University, Evanston, IL USA

Graduate Teaching Assistant   **Fall 2016 – (present)**

Graph theory, Introduction to Topology, MENU: Linear algebra, Calculus I

Columbia University, New York City, NY USA

Undergraduate Teaching Assistant   **Spring 2013 – Spring 2015**

Intro. to Modern Analysis I, ODEs, Calculus I, General Physics I

Service

Organizer   **Fall 2017 – (present)**

Informal mathematical physics seminar

Volunteer   **Fall 2016 – (present)**

Evanston math circle,
Graduate research opportunities for women (GROW)

Co-organizer   **Summer 2014**

Undergraduate category theory seminar