

# Sylvain Carpentier

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## Research Interests

Mathematical physics, integrable systems, noncommutative algebra.

## Employment

|   |                 |
|---|-----------------|
| -Senior Researcher at <b>QSMS</b> , Seoul National University         | current         |
| -Simons postdoctoral research scientist at <b>Columbia University</b> | 07/2017-06/2021 |

## Education

|  |           |
|--|-----------|
| -Graduate student at the <b>Massachusetts Institute of Technology</b> , Cambridge MA, supervised by Victor Kac | 2013-2017 |
| -Master of mathematics at <b>Universite Paris Orsay</b>  | 2011-2012 |
| -Student of the <b>Ecole Normale Supérieure de Paris</b>   | 2009-2013 |

## Diplomas and Awards

|   |         |
|---|---------|
| - PhD in Mathematics, Massachusetts Institute of Technology   | 06/2017 |
| - Johnson Prize for best graduate mathematical paper of the year at MIT                             | 05/2017 |
| <i>A sufficient condition for a Rational Differential Operator to generate an Integrable System</i> |         |

## Selected Talks

|  |                |
|--|----------------|
| -Seoul National University, QSMS seminar                       | 06/2023        |
| - Kolchin seminar, City University of New York                 | 09/2022        |
| -Seoul National University, QSMS seminar                       | 04/2022        |
| - MIT Infinite dimensional algebra seminar,                    | 03/2022        |
| -Bologna university,   | 06/2021        |
| -Université d'Angers,  | 03, 05/2021    |
| -Seoul National University,                                    | 12/2020        |
| -Geometric and automorphic aspects of $W$ algebras, Lille 3    | 05/2019        |
| -University of Glasgow, integrable system seminar              | 04/2019        |
| -University of Kent, Canterbury,                               | 04/2019        |
| - DART IX, University of Leeds                                 | 08/2018        |
| - Seminar of Mathematical physics, University of Columbia      | 04 and 11/2018 |
| - Kolchin seminar, City University of New York Graduate Center | 09/2017        |
| - University of Kent, Canterbury                               | 07/2017        |
| - MIT Infinite dimensional algebra seminar, PhD defense        | 04/2017        |
| - SISSA, Trieste   | 07/2016        |

## Conferences and research visits

|  |         |
|--|---------|
| - <i>Poisson and quantum structures in Integrable systems</i> at University of Leeds | 05/2023 |
| - <i>QSMS summer workshop</i> at Yangpyeong  | 07/2023 |
| - <i>DART IX</i> at University of Leeds  | 08/2018 |
| - <i>Representation Theory, Mathematical Physics and Integrable Systems</i> at CIRM, | 06/2018 |

Luminy, France

- University of kent, UK, visiting J.P. Wang and A. Mikhailov 07/2017
- *Geometry and Representation Theory*, Schrodinger Institute, Vienna 01/2017
- SISSA, Trieste, visiting V. Kac and B. Dubrovin 07/2016
- *Perspectives in Lie Theory*, Centro de Giorgi, Pisa 01/2015
- Universita di la Sapienza, Rome, visiting Alberto De Sole 05-07/2014
- IHES, Bures sur Yvette, France 2012/2013
- Algebraic Structures in Integrable Systems* at Moscow State University, 12/2012

### Teaching

- Calculus II at Columbia University, Fall 2018
- Teaching assistant for linear algebra at MIT, 2016/2017
- Undergraduate Research mentor at MIT, Summer 2015
- Teaching assistant for mathematiques I at Paris 7 Fall 2013

### Languages

French (native), English (fluent), Spanish (proficient), Korean (my objective is to get TOPIK 4 or better this summer)

### Other interests

Concert pianist. 1st prize in the outstanding amateur piano competition in Paris (2013). Played with the Boston pops orchestra in 2017.