LIST OF PUBLICATIONS

SACHIN GAUTAM

Dissertations.

(1) **Ph.D.: Three contributions in representation theory: (1) Cluster algebras and Grassmannians of type G_2 (2) Yangians and quantum loop algebras (3) Monodromy of the trigonometric Casimir connection of sl2** (under the supervision of Andrei Zelevinsky and Valerio Toledano Laredo) Northeastern University, Boston, US (2011). http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqdiss&rft_dat=xri:pqdiss:3460116

(2) **M.Sc.: Kazhdan–Lusztig conjectures.** (under the supervision of K.N. Raghavan) Institute of Mathematical Sciences, Chennai, India (2005).

Research publications.

(1) **On the uniqueness of Yangians** (with C. Wendlandt and S. Xu) To appear in Algebras and Representation Theory (2026). arxiv:2506.21904 (23 pages).

(2) **An abelian formula for the quantum Weyl group action of the coroot lattice** (with V. Toledano Laredo), arxiv:2501.02365 (28 pages) To appear in IMRN (2026).

(3) **The R-matrix of the affine Yangian** (with A. Appel and C. Wendlandt), To appear in J. Eur. Math. Soc. (2026). https://arxiv.org/abs/2309.02377

(4) **The R-matrix formalism of quantized enveloping algebras** (with M. Rupert and C. Wendlandt), Annales de l'institut Fourier **76** (2026), no. 1, 169-227. https://arxiv.org/abs/2210.06770

(5) **On a conjecture of Khoroshkin and Tolstoy** (with A. Appel and C. Wendlandt), IMRN (2022), (17 pages). https://doi.org/10.1093/imrn/rnac334

(6) **Poles of finite–dimensional representations of Yangians** (with C. Wendlandt), Selecta M. **29**, 2023, no. 1, article 13 (68 pages). https://doi.org/10.1007/s00029-022-00813-y

(7) **Three facets of R-matrices** (with A. Smirnov, C. Wendlandt and M. Yamazaki) MFO workshop reports, 2021, (25 pages). https://doi.org/10.14760/OWR-2021-51

(8) **The meromorphic R-matrix of the Yangian** (with V. Toledano Laredo and C. Wendlandt), in Alekseev, A., Frenkel, E., Rosso, M., Webster, B., Yakimov, M. (eds) *Representation Theory, Mathematical Physics, and Integrable Systems*. Progress in Mathematics, vol 340, Birkhäuser, Cham, 2021 (69 pages). https://doi.org/10.1007/978-3-030-78148-4_7

(9) **An explicit isomorphism between quantum and classical sl(n)** (with A. Appel), Transformation groups **25**, 2020, no. 4, 945-980. https://doi.org/10.1007/s00031-019-09543-6

(10) **Meromorphic tensor equivalence for Yangians and quantum loop algebras** (with V. Toledano Laredo), Publ. Math. IHES. **125**, 2017, 267-337. http://dx.doi.org/10.1007/s10240-017-0089-9

(11) **Yangians, quantum loop algebras and abelian difference equations** (with V. Toledano Laredo), J. Amer. Math. Soc. **29**, 2016, no. 3, 775-824. http://dx.doi.org/10.1090/jams/851

(12) **Monodromy of the trigonometric Casimir connection of $\mathfrak{sl}_2$** (with V. Toledano Laredo), Noncommutative Birational Geometry, Representations and Combinatorics (A. Berenstein and V. Retakh eds.), Contemporary Mathematics **592**, AMS 2013, 137–176. https://doi.org/10.1090/conm/592/11864

(13) **Yangians and quantum loop algebras** (with V. Toledano Laredo), Selecta M. **19** 2013, no. 2, 271-336 http://dx.doi.org/10.1007/s00029-012-0114-2

(14) **Cluster Algebras and Grassmannians of type G_2**, Algebras and Representation Theory **13**, 2010, no. 3, 335-357. https://doi.org/10.1007/s10468-008-9126-1

(15) **On multicolor non-complete Ramsey graphs of star graphs** (with A. Srivastava and A. Tripathi), Discrete Applied Mathematics, **156**, 2008, no. 12, 2423-2428. https://doi.org/10.1016/j.dam.2007.10.020

Preprints.

(1) **Elliptic quantum groups and their representations** (with V. Toledano Laredo), arxiv:1707.06469 (56 pages). https://arxiv.org/abs/1707.06469

In preparation.

(1) **R-matrix for the Yangian of $\widehat{\mathfrak{gl}}_1$** (with C. Wendlandt and S. Xu).

(2) **Quantum affine algebras associated to quivers** (with A. Appel).