DR. SAMIA ASHRAF

CONTACT INFORMATION **Email id:** samia.ashraf@gcwus.edu.pk

Address: Department of Mathematics, GC Women University Sialkot

RESEARCH INTERESTS

- Algebraic Topology
- Configuration Spaces
- Low Dimensional Topology
- Representation Stability
- Digital Topology
- Combinatorial Commutative Algebra

QUALIFICATION **PHD MATHEMATICS- ABDUS SALAM SCHOOL OF MATHEATICAL SCIENCES, GCU, LAHORE**

Thesis title: Cohomology of Configuration Spaces of Complex Projective Spaces

Thesis Advisor: Professor Barbu Berceanu

RESEARCH FELLOWSHIPS **Postdoctoral Fellow, ASSMS, GCU Lahore, January 2020-January2021.**

Short term Research fellow, ICTP, Italy, September-December 2016.

SCHOLARSHIPS AWARDED

- "HEC 5000 Indigenous fellowship" for the duration of PhD
- "National Talent Scholarship" for the duration of M. Sc.
- "National Talent Scholarship" for the duration of B. Sc.

RESEARCH PAPERS

1) **Samia Ashraf**, M. Akram, A. A. Ali, *Subdivision-based homotopy equivalence of digital circles,* Applied General Topology, 26(2015), issue 1, 431-445
2) **Samia Ashraf**, H. Azam, B. Berceanu*, Representation stability of power sets and square free polynomials*, Canadian Journal of Mathematics, DOI: 10.4153/CJM-2014-029-2, 67(2015), issue 2.

3) **Samia Ashraf**, H. Azam, B. Berceanu, *Representation theory for the Kriz model*, Algebraic and Geometric Topology, 14 (2014) 57–90.

4) **Samia Ashraf**, B. Berceanu, *Cohomology of 3-points configuration spaces of complex projective spaces*, Advances in Geometry, 14(2014), issue 4, 691–718.

5) **Samia Ashraf**, A. A. Ali, *On Subdivision-based homotopy equivalence of digital simple closed curves,* submitted.

6) **Samia Ashraf**, A. A. Ali, Winding number of loops and digital category *of digital simple closed curves,* submitted.

7) **Samia Ashraf**, B. Berceanu, *Equivariant Lefschetz structure of the Kriz model*, in preparation.

TALKS

1) "Equivariant structure on the rational models and applications to the cohomology of configuration spaces", An Encounter of algebra and geometry, A conference in honor of Professor Barbu Berceanu, November 20-22, 2011, ASSMS, Lahore, Pakistan.

2) "Cohomology of 3-points configuration spaces of complex projective spaces", 6th World Conference on 21st Century Mathematics, March 6-9, 2013, ASSMS, Lahore, Pakistan.

3) "Cohomology of 3-points configuration spaces of CP^m", 1st UMT International Conference on Pure and Applied Sciences, March 7-8, 2015.

4) "Cohomology of configuration spaces of complex projective spaces", November 2016, ICTP, Trieste, Italy.

5) "A discussion about cohomology of configuration spaces", September 17, 2019, ASSMS, Lahore, Pakistan.

6) "Fundamental group of digital circles". April 15. 2025, UMT, Lahore, Pakistan.

7) "On certain homotopy equivalence of digital circles", Apri 16, 2025, University of Education, Lahore, Pakistan.

AWARDS

1) "Best Young speaker award" for the presentation in 6th World Conference on 21st Century Mathematics, March 6-9, 2013, ASSMS, Lahore, Pakistan.

2) Short term visiting fellowship for research at ICTP, Italy, September-December 2016.

ATTENDED SCHOOLS AND CONFERENCES (OVERSEAS)

1) Summer School and Conference on Hodge theory and related topics, International center for theoretical physics (**ICTP**), 14 June- 02 July 2010, Trieste, Italy.

2) CIMPA School on Geometric Representation theory, August 1-12, 2011, ITB Bandung, Indonesia.

3) CIMPA School on Geometry and Topology of Singular Varieties: Theory and Applications, December 02-14, 2013, Hanoi, Vietnam.

4) CIMPA School on Hyperplane Arrangements; Recent advances and open problems, March 11-22, 2019, Hanoi, Vietnam.

REFERENCES

PROFESSOR BARBU BERCEANU

Institute of mathematics, Simion Stoilow, Bucharest Romania

Barbu.berceanu@imar.ro

PROFESSOR JOHANN DAVIDOV

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences 1113 Sofia, Bulgaria

jtd@math.bas.bg