



First Name: Giovanni
Surname: Cerulli Irelli
Citizenship: Italian
Position: Associate Professor
Office Address: Department S.B.A.I.,
Sapienza-Università di Roma
Via Antonio Scarpa 10, 00161 Roma (ITALY)
Web Page: <http://www.sbai.uniroma1.it/~giovanni.cerulliirelli/home.html>
Office Phone Number: +39 06 49 76 66 97
E-Mail Address: giovanni.cerulliirelli@uniroma1.it,
Languages: Italian (Native), English (Fluent), French (Beginner)

GIOVANNI CERULLI IRELLI
CURRICULUM VITAE

EDUCATION

- 2005–2007 : Phd in mathematics at Università degli studi di Padova (ITALY).
External advisor Andrei Zelevinsky (Northeastern University, Boston (MA))
Internal advisor Alberto Tonolo
Title of the phd-thesis: *Structural theory of rank three cluster algebras of affine type.*
Date of defence: April 29, 2008.
Committee: Bernhard Keller (Paris VII), Silvana Bazzoni (Padova), Paolo Papi (Roma "La Sapienza").
- September 29, 2004: "Laurea in matematica con lode" (master degree in mathematics with full marks) at Università degli studi di Roma "La Sapienza", Rome (ITALY)
Title of the master thesis: *Su una congettura di Zamolodchikov*
Supervisors: Paolo Papi, Corrado De Concini.
- 1995–2000: Student at Liceo classico T. Tasso, via Sicilia, 00187, Rome.

RESEARCH

My research interests are in:

- Representation theory of finite dimensional algebras;
- Cluster algebras and related topics, in particular their categorifications;
- Quivers, quivers with potentials;
- Geometry of quiver Grassmannians.

Academic career:

- From 1 September 2019: Associate professor at the department S.B.A.I., Faculty of civil engineering, Sapienza-Università di Roma, Roma (ITALY).
- 1 September 2016–31 August 2019: tenure track at Sapienza-università di Roma.
- 1 February 2014–1 March 2016: post-doc n. 8/2013 at the Department of Mathematics of "Sapienza Università di Roma", Rome (ITALY). Title of the research statement: "Prospettive in teoria di Lie". Supervisor: Prof. Alberto De Sole.
- 1 March 2013–31 January 2014: Principal Investigator for the priority program SPP 1388 financed by DFG (German Research Foundation). To be held at Mathematical Institute of the University of Bonn, Bonn (GERMANY)
- 15 August 2011– 28 February 2013: post-doc at Mathematical Institute of the University of Bonn, Bonn (GERMANY). Supervisor: Prof. Jan Schröer.
- 3 January 2011–30 April 2011: guest researcher at Hausdorff Research Institute for Mathematics, Bonn (GERMANY).

7. March 2010–February 2011: post–doc at the Department of Mathematics of "Sapienza Università di Roma", Rome (ITALY). Supervisor: Prof. Corrado De Concini.
8. April 2008–February 2010: post–doc at the Department of Mathematics of "Università degli studi di Padova", Padova (ITALY). Supervisor: Prof. Alberto Facchini.

BIBLIOMETRIC DATA (by SCOPUS)

1. h-index: 10
2. Number of citations: 246.
3. Number of publications: 19.
4. Year of the first publication: 2011.

OTHER TITLES

1. Qualified for the "Abilitazione Scientifica Nazionale- 01/A2" (2018) to work as Full Professor in Algebra and Geometry at an italian university valid until 18.09.2024.
2. Qualified for the "Abilitazione Scientifica Nazionale- 01/A2" (2013) to work as Associated Professor in Algebra and Geometry at an italian university valid until 24.12.2019.
3. Qualified for the audition of the grant S.I.R. financed by MIUR, with evaluation 30/30. Year: 2015.
4. Qualified to get an "INdAM-COFUND Fellowship in Mathematics and/or Applications for experienced researchers cofounded by Marie Curie actions". Year: 2011.
5. PI of the grant "Rappresentazioni ortogonali e simpletiche di algebre con auto-dualità ed applicazioni alla teoria di Lie" financed as a "Progetto di ricerca piccolo" by Sapienza-University of Rome. 2020.

Ph.D. Students

1. Azzurra Ciliberti (Sapienza)
2. Marco Trevisiol (Sapienza).
3. Kai Wehrmacher (Cotutelle with Aachen University).
4. Yingjin Bi (I am his external advisor. Beijing Normal University).

Publications and preprints

1. "Specialization map for quiver Grassmannians"
G. Cerulli Irelli, F. Esposito, X. Fang, G. Fourier
Preprint 2022. arXiv: 2206.10281. <https://arxiv.org/abs/2206.10281>
2. "Motzkin combinatorics in linear degenerations of the flag variety"
G. Cerulli Irelli, F. Esposito, M. Marietti
Preprint 2021. arXiv: 2112.02539. <https://arxiv.org/abs/2112.02539>
3. "On degenerations and extensions of symplectic and orthogonal quiver representations"
M. Boos, G. Cerulli Irelli
Preprint 2021. arXiv: 2106.08666. <https://arxiv.org/abs/2106.08666>
4. "Symmetric degenerations are not in general induced by type A degenerations"
M. Boos, G. Cerulli Irelli
Rendiconti di Matematica e delle sue applicazioni (2022)
arXiv: 2107.10559. <https://arxiv.org/abs/2107.10559>

5. “Cell decompositions and algebraicity of cohomology for quiver Grassmannians”
G. Cerulli Irelli, F. Esposito, H. Franzen, M. Reineke
Adv. Math. (2021)
6. “Linear degenerations of flag varieties: partial flags, defining equations, and group actions”
G. Cerulli Irelli, X. Fang, E. Feigin, G. Fourier, M. Reineke
Math. Z. (2020) .
7. “Parabolic orbits of 2-nilpotent elements for classical groups.”
M. Boos, G. Cerulli Irelli, F. Esposito
J. Lie Theory **29** (2019) .
8. “Linear degenerations of flag varieties: partial flags, defining equations, and group actions”
G. Cerulli Irelli, X. Fang, E. Feigin, G. Fourier, M. Reineke
Math. Z. (2019) .
9. “Three lectures on quiver Grassmannians”
Conference proceeding ICRA2018.
G. Cerulli Irelli.
Cont. Math. (2020)
10. “Linear degenerations of flag varieties”
G. Cerulli Irelli, X. Fang, E. Feigin, G. Fourier, M. Reineke
Math. Z. **287** (2017) .
11. “Geometry of quiver Grassmannians of Dynkin type with applications to cluster algebras”.
G. Cerulli Irelli.
Representation theory-current trends and perspectives, 13-45.
EMS Ser. Congr. Rep., Eur. Math. Soc. (2017)
12. “Schubert Quiver Grassmannians”.
G. Cerulli Irelli, E. Feigin, M. Reineke.
Algebras and Representation Theory. (2016).
<http://rdcu.be/t12w>
13. “Degenerate flag varieties of type A and C are Schubert varieties”.
G. Cerulli Irelli, M. Lanini.
International Mathematics Research Notices. (2014).
arXiv: <http://arxiv.org/abs/1403.2889>.
14. “Homological approach to the Hernandez–Leclerc construction and quiver varieties”.
G. Cerulli Irelli, E. Feigin and M. Reineke.
Representation Theory of the American Mathematical Society. **18** (2014), 1–14.
<http://www.ams.org/journals/ert/2014-18-01/S1088-4165-2014-00449-7/>
arXiv: <http://arxiv.org/abs/1302.5297>.
15. “Desingularization of quiver Grassmannians associated with Dynkin quivers”.
G. Cerulli Irelli, E. Feigin, M. Reineke.
Advances in Mathematics. **245** (2013), 182–207.
<http://www.sciencedirect.com/science/article/pii/S0001870813002119#>
arXiv: <http://arxiv.org/abs/1209.3960>.
16. “Caldero–Chapoton algebras”.
G. Cerulli Irelli, D. Labardini Fragoso, J. Schröer.
Transactions of the American Mathematical Society. **367** (2015), 2787–2822.
<http://www.ams.org/journals/tran/2015-367-04/S0002-9947-2014-06175-8/>
arXiv: <http://arxiv.org/abs/1208.3310>
17. “Degenerate flag varieties: moment graphs and Schröder numbers”.
G. Cerulli Irelli, E. Feigin, M. Reineke.
Journal of Algebraic Combinatorics. **38** (2013), no. 1, 159–189.
<http://link.springer.com/article/10.1007/s10801-012-0397-6#>
arXiv: <http://arxiv.org/abs/1206.4178>

18. “Linear independence of cluster monomials for skew–symmetric cluster algebras”.
G. Cerulli Irelli, B. Keller, D. Labardini Fragoso, P.-G. Plamondon.
Compositio Mathematica. **149** (2013), 1753–1764.
[dx.doi.org/10.1112/S0010437X1300732X](https://doi.org/10.1112/S0010437X1300732X)
arXiv: <http://arxiv.org/abs/1203.1307>
19. “Quivers with potentials associated to triangulated surfaces, Part III: tagged triangulations and cluster monomials”.
G. Cerulli Irelli, D. Labardini Fragoso.
Compositio Mathematica. **148** (2012), 1833–1866.
http://journals.cambridge.org/abstract_S0010437X12000528
arXiv: <http://arxiv.org/abs/1108.1774>
20. “Quiver Grassmannians and degenerate flag varieties”.
G. Cerulli Irelli, E. Feigin, M. Reineke.
Algebra and Number Theory. **6** (2012), no. 1, 165–194.
<http://msp.org/ant/2012/6-1/p05.xhtml>
arXiv: <http://arxiv.org/abs/1106.2399>
21. “Quiver Grassmannians associated with string modules”.
G. Cerulli Irelli.
Journal of Algebraic Combinatorics. **33** (2011), 259–276.
<http://dx.doi.org/10.1007/s10801-010-0244-6>
arXiv: <http://arxiv.org/abs/0910.2592>
22. “Geometry of quiver Grassmannians of Kronecker type and applications to cluster algebras”.
G. Cerulli Irelli, F. Esposito.
Algebra and Number Theory. **5** (2011), no. 6, 777–801.
<http://msp.org/ant/2011/5-6/p02.xhtml>
arXiv: <http://arxiv.org/abs/1003.3037>
23. “Cluster algebras of type $A_2^{(1)}$ ”.
Algebras and Representation Theory. **15** (2012), no. 5, 977–1021.
<http://www.springerlink.com/content/67714h0252207362/>
arXiv: <http://arxiv.org/abs/0904.2543>
24. “A homological interpretation of transverse quiver Grassmannians”.
G. Cerulli Irelli, G. Dupont, F. Esposito.
Algebras and Representation Theory. **16** (2013), no. 2, 437–444.
<http://dx.doi.org/10.1007/s10468-011-9314-2>
arXiv: <http://arxiv.org/abs/1005.1405>
25. Ph.D. thesis: “Structural theory of rank three cluster algebras of affine type”.
G. Cerulli Irelli
Università di padova
<http://paduaresearch.cab.unipd.it/734/>

Rome, June 24, 2022

Giovanni Cerulli Irelli