

ILARIA CARDINALI - CURRICULUM VITAE

I was born on June 19th, 1976 in Colle Val d'Elsa (SI).

Academic background

1995 - 1999. I studied Mathematics at the University of Siena. I got my Master degree in Mathematics on December 3rd, 1999 with a dissertation on Diagram Geometry titled "*Geometrie di spazi lineari ove le stelle dei punti sono spazi lineari duali*" under the supervision of prof. Antonio Pasini. I was awarded the grade of 110 cum laude/110. During the Academic studies I spent six months at the University of Gent as an Erasmus student.

1999 - 2003: I did my PhD at the University of Naples "Federico II". On April 3rd, 2004 I successfully defended my PhD dissertation on Galois Geometries titled "*Flock Generalized Quadrangles and Spreads*" written under the supervision of prof. Guglielmo Lunardon.

2003 - 2007: I have been a post-doc student at the University of Siena, Faculty of Engineering.

2007 - 2015: I have been working as a Research Associate (Ricercatore) in Geometry at the University of Siena, Faculty of Engineering.

23/12/2015- present: I have been working as Associate Professor in Geometry at the Department of Information Engineering and Mathematics of the University of Siena.

Periods of leave

28/8/2017- 29/5/2018: I was on maternity leave.

Qualifications

Academic awards and grants

- 24/12/2013: I obtained the National Scientific Abilitation (ASN) for both Full Professor and Associate Professor in Geometry (settore concorsuale 01-A2 Geometria e Algebra- SSD MAT/03 GEOMETRIA).
- 2017: I obtained the FFABR (Fondo per il finanziamento delle attività base di ricerca) from the MIUR.
- 18/09/2018: I reobtained the National Scientific Abilitation (ASN) for Full Professor in Geometry (settore concorsuale 01-A2 Geometria e Algebra- SSD MAT/03 GEOMETRIA).
- 2010-2011-2012-2014-2016-2017: I obtained financial grants from INDAM-GNSAGA to participate to international conferences .

Academic services

- 23/6/2015 - present: PhD Board Member of the PhD School of Information Engineering and Science of the University of Siena.

- 5/12/2018 - present: Board Member of the "Comitato per la Didattica del Corso di Laurea in Ingegneria Gestionale" of the University of Siena.
- 2015- present. Tutor for the first-year students of Ingegneria Informatica.
- 2010 - present. Board Member of the commission organizing the written tests for the first-year students in Engineering who did not pass the CISIA tests.
- I have been a co-supervisor for some Master thesis in Engineering.
- 2021: I have been a member of the Commission for a position of RTDA at Università della Campania and member of the Commission for a position of RTDA at Università di Napoli.

Institutional teaching:

2000-2001: teaching assistant for *Geometria* at Università di Napoli "Federico II".

2001-2002: teaching assistant for *Geometria 3* at Università di Napoli "Federico II".

2002-2003: main instructor for *Corso di Recupero in Algebra Lineare* and teaching assistant for *Precorso in Algebra e Fisica* at the Università di Siena, Facoltà di Ingegneria.

2003-04, 2004-05, 2005-2006 e 2006-2007: teaching assistant for *Algebra Lineare* at the Università di Siena, Facoltà di Ingegneria.

2003-04, 2004-05 e 2005-2006: teaching assistant for *Matematica Discreta* at the Università di Siena, Facoltà di Ingegneria.

2003-04, 2004-05: teaching assistant for *Precorso di Matematica e Fisica* at the Università di Siena, Facoltà di Ingegneria.

2005-06: teaching assistant for *Geometria Combinatoria* at the Università di Siena, Department of Mathematics. Co-supervisor for some second level degree theses in Informatic Engineering.

2007-08, 2008-09: professor of *Algebra Lineare* at the Università di Siena, Facoltà di Ingegneria Automatica (Arezzo).

2007-08, 2008-09: professor of *Matematica Discreta* at the Università di Siena, Facoltà di Ingegneria.

2009-2010: professor of *Algebra Lineare* at the Università di Siena, Facoltà di Ingegneria Automatica (Arezzo).

2009-2010: professor of *Metodi matematici per l'ingegneria informatica - mod.2 Matematica discreta* at the Università di Siena, Facoltà di Ingegneria.

2010-2011: professor of *Algebra Lineare* at the Università di Siena, Facoltà di Ingegneria Automatica (Arezzo).

2011-2012: professor of *Metodi matematici per l'ingegneria informatica - mod.2 Matematica discreta* at the Università di Siena, Facoltà di Ingegneria.

2013-2014; 2014-2015; 2015-2016; 2016-2017; 2018-2019; 2019-2020; 2020-2021; 2021-2022; 2022-2023; 2023-24: professor of *Algebra Lineare* at the Università di Siena, Department of Information Engineering and Mathematics.

2015-2016; 2016-2017; 2018-2019; 2019-2020; 2020-2021; 2021-2022; 2022-2023; 2023-24: lecturer for the *Precorso in Mathematics* for the first year students of Engineering, Mathematics and Physics.

Participation to national and international founded research projects:

- 2001: "Strutture geometriche, combinatorica e loro applicazioni", Progetto PRIN, presso la sede di Napoli.
- 2003: "Strutture geometriche, combinatorica e loro applicazioni", Progetto PRIN, presso la sede di Napoli.
- 2008: "Strutture di incidenza e combinatorie", Progetto PRIN, presso la sede di Napoli. (2008BHF4AW\003).
- 2012: "Strutture geometriche, combinatorica e loro applicazioni," Progetto PRIN, presso la sede di Napoli (2012XZE22K\009).
- 2014: European Project COST IC1104- Working groups 1 and 4.
- 2022-present: PNRR-THE AFF. Spoke 9- CUPB63C22000680007- Tuscany health Ecosystem, PI prof. D. Prattichizzo.

Experiences abroad for research activity:

- February 1997-July 1998: Erasmus student at the *University of Gent*, Belgium, under the Erasmus program of mobility for European students. I attended five courses and successfully passed the corresponding exams.
- 3 September- 30 November 2002: visiting professor at the Department of Mathematics of *The University of Colorado at Denver*, Denver, USA.
- August- September 2007: visiting professor at the *University of Gent* (Belgium).
- 1-15 February 2010: visiting professor at the *University of Gent* (Belgium).
- 19 October -21 December 2012: visiting professor at the *Indian Statistical Institute*, Bangalore, India.
- 7-20 December 2013: visiting professor at the *Indian Statistical Institute*, Bangalore, India.

Editorial Assignments:

- 2021- present: Editorial Board Member of the international journal "Journal of Combinatorial Theory- Series A" (Elsevier).
- 2022 - present. Guest Editor of the international journal "Design Codes and Cryptography" for the Special Issue on Finite Geometries dedicated to the Irsee Conference in 2022.

- 2017-2019. Guest Editor of the international journal “Design Codes and Cryptography” for the Special Issue on Finite Geometries dedicated to the Irsee Conference in 2017.

Review and evaluation activity:

- I am often been contacted to act as a referee for the following journals: European Journal of Combinatorics, Advances in Geometry, Journal of Combinatorial Theory Series A, Finite Fields and their Applications, Discrete Mathematics, Annals of Combinatorics, Designs Codes and Cryptography, Journal of Geometry, Journal of Algebraic Combinatorics, EURASIP Journal of Embedded Systems, Combinatorica, Transactions of the IEEE, Linear and Multilinear Algebra, Linear Algebra and its applications, Geometriae Dedicata, Ricerche di Matematica.
- I am a reviewer for MathSciNet and Zentralblatt MATH.
- I have been an evaluator for a research project of the Czech Republic in 2016.
- I have been an evaluator for PhD Thesis in India in 2018.
- I have been an evaluator for the promotion to Associate professor of an indian researcher in 2019.

Conference organization

- September 2014- present. Member of the Scientific and Organizing committee of the cycle of International Conferences “Finite Geometries” to be held every three years. The first of such conferences has been in 2000 (Isle of Thorns, UK); then in 2001 (Oberwolfach, DE), 2003, 2006, 2011, 2014, 2017, 2022 (Kloster Irsee, DE).
- 2021-2023. Member of the Scientific and Organizing committee of the International conference “Conference on algebraic varieties over finite fields and Algebraic geometric codes” held in February 2023 in Marseille (France).
- 2021-2023. Member of the Scientific committee of the International summer school “Finite Geometry and coding theory” to be held in November 2023 in Hyderabad (India).

Plenary Lectures in International Conferences (on invitation basis only).

- *Polar Spaces: Basics and Advances.* Workshop and Conference on Groups of Lie types and their Geometries, Bangalore (India), December 2012.
- *On Polar Grassmann codes.* International Conference on Algebraic Geometry and Coding Theory, Mumbai (India), December 2013.
- *On Polar Grassmannians.* International Conference on Finite Geometries. Fourth Irsee Conference, Irsee (Germany), September 2014.
- *Generating sets of polar grassmannians.* International Conference on Finite Geometries and extremal combinatorics, Newark, Delaware (USA) in August 2019.

- *The generating rank of polar grassmannians*. International conference on Graphs and groups, geometries and GAP, Rogla (Slovenia) -hybrid conference- in June 2021.
- *On the generation of J-(polar) Grassmannians*. International conference in honor of Guglielmo Lunardon, Naples, January 2023.
- I have been invited to held a series of lectures at the CIMPA school on “Finite Geometry and coding theory” at the Indian Institute of Technology Hyderabad, India, in November 2023.
- I have been invited to give a plenary lecture at the “International conference on Algebraic Geometry, Coding Theory and Combinatorics” at the Indian Institute of Technology Hyderabad, India, in December 2023.
- I have been invited to held a plenary lecture at the international conference “Combinatorics 2024” in June 2024.

Conference talks and Seminars

All the seminars in this section have been given upon invitation by the hosting institutions.

- *On the Sporadic Semifield Flock*, conference talk at 18th British Combinatorial Conference, University of Sussex, Brighton, July 2001.
- *Translation spreads of the Classical Generalized Hexagon $H(q)$* , conference talk at Combinatorics 2002, Maratea, June 2002.
- *Translation spreads of the Classical Generalized Hexagon*, Geometric and Combinatorial Structures and their Applications, seminar organized by Università di Napoli “Federico II”, 2002.
- *A characterization of regular spreads of $PG(3,q)$ which induce Hermitian spreads of $Q^-(5,q)$* , Algebraic Combinatorics Seminars, seminar organized by the Colorado State University, Fort Collins, Colorado, USA, September 2002.
- *On semifield flocks of the quadratic cone*, seminar organized by The University of Colorado at Denver, Denver, Colorado, USA, in November 2002 during the cycle of seminars called “Discrete Math Seminars”.
- *On herds of ovals*, seminar organized by Università di Napoli “Federico II” in January 2003 during the cycle of seminars called “Geometric and Combinatorial Structures and their Applications”.
- *Herds di ovali e loro gruppi di automorfismi*, conference talk at XVII Congresso UMI, Milano September 2003.
- *Semifield spreads of $PG(3,q^2)$ with center Fq* , conference talk at Combinatorics 2004, Acireale, September 2004.
- *Locally singular hyperplanes in thick dual polar spaces of rank 4*, conference talk at Geometric and Algebraic Combinatorics 3, Oisterwijk, Olanda, August 2005.

- *Iperpiani localmente singolari di spazi polari duali*, conference talk at *Giornate di Geometria- Convegno di Coordinamento del gruppo “Strutture Geometriche, Combinatoria e loro Applicazioni”*, Vicenza, September 2005.
- *Immersioni full minimali polarizzate*, seminar organized by Università di Napoli “Federico II” during the cycle of seminars called “Geometric and Combinatorial Structures and their Applications”, October 2005.
- *On the simple connectedness of hyperplane complements in dual polar spaces*, conference talk at *Combinatorics 2006*, Ischia, June 2006.
- *On the structure of full polarized embeddings of symplectic and hermitian dual polar spaces*, conference talk at *Finite Geometries. Second Irsee Conference*, Irsee, Germany, Settembre 2006.
- *Insieme a 2-caratteri che provengono da immersioni full polarizzate*, conference talk at *Giornate di Geometria- Convegno di Coordinamento del gruppo “Strutture Geometriche, Combinatoria e loro Applicazioni”*, Caserta, February 2007.
- *Spin-embeddings, two-intersection sets and two- weight codes*, conference talk at “Generalized Quadrangles, Ovals, and Related Structures: A Conference Honoring Stanley E. Payne”, Oxford, Ohio, USA, March 2007.
- *On the nucleus of the Grassmann-embedding of symplectic dual polar spaces in characteristic 2*, seminar organized by the University of Gent, Belgium during the cycle of seminars called “Seminars on Incidence Geometries and related activities ”, September 2007.
- *Nucleo dell’immersione grassmanniana di spazi polari duali di tipo simplettico*, seminar organized by Università di Napoli “Federico II” during the cycle of seminars called “Geometric and Combinatorial Structures and their Applications”, February 2008.
- *On the grassmann-module of symplectic dual polar spaces of rank 4 in characteristic 3*, conference talk at *Combinatorics 2008*, Costermano sul Garda, Italy, June 2008.
- *On natural $Sp(2n, F)$ -modules* conference talk at *Group Theory, Combinatorics and Computation*, Perth, Australia, January 2009.
- *On the structure of Weyl modules for the symplectic group*, conference talk at *Fourth Pythagorean Conference*, Corfù, Greece, May 2010.
- *On Weyl modules for the symplectic group*, seminar organized by the University of Gent, Belgium, during the cycle of seminars called “Seminars on Incidence Geometries and related activities ”, February 2010.
- *Sui moduli naturali per il gruppo simplettico*, seminar organized by Università di Napoli “Federico II” during the cycle of seminars called “Geometric and Combinatorial Structures and their Applications”, May 2010.
- *Two forms related to the symplectic dual polar spacem*, conference talk *Combinatorics 2010*, Verbania, Italy, June 2010.
- *Forme bilineari e spazi polari duali di tipo simplettico in caratteristica dispari*, conference talk “Giornata di Geometria- 4 Marzo 2011”, Vicenza, Italy, March 2011.

- *Forme bilineari e spazi polari duali di tipo simplettico in caratteristica dispari*, seminar organized by Università di Napoli “Federico II” during the cycle of seminars called “Geometric and Combinatorial Structures and their Applications”, March 2011.
- *On certain forms and quadrics related to symplectic dual polar spaces in even characteristic*, conference talk at *Finite Geometries. Third Irsee Conference*, Irsee, Germany, June 2011.
- *On certain forms related to symplectic dual polar spaces in characteristic 2*, conference talk at *The 10th International Conference on Finite Fields and their Applications*, Gent, Belgium, July 2011.
- *Immersioni di Grassmanniane ortogonali*, seminar organized by Università di Milano Bicocca, Milano, November 2011.
- *Veronese embeddings of dual polar spaces of type B_n* , conference talk “*Incidence geometry and Buildings 2012*”, Gent, Belgium, February 2012.
- *Non-projective embeddings in the Grassmann variety*, conference talk at *Combinatorics 2012*, Perugia, Italy, September 2012.
- *On embeddings of orthogonal grassmannians*, seminar organized by the Indian Statistical Institute, Bangalore, India, November 2012
- *Codici associati a grassmanniane polari*, seminar organized by the Università di Brescia, Italy, October 2013.
- *On elliptic ovoids and their rosettes in a classical generalized quadrangle of even order*, conference talk at *Combinatorics 2014*, Gaeta, Italy, June 2014.
- *Polar Grassmann codes of orthogonal type*, conference talk at *YACC2014* tenutosi a Porquerolles, France, June 2014.
- *On Polar Grassmann codes*, conference talk at *Alcoma 2015*, Kloster Banz (Germany), March 2015.
- *Minimum distance of Symplectic Grassmann codes*, seminar organized by the Università di Brescia, Italy, May 2015.
- *Orthogonal and Symplectic Grassmann codes*, conference talk at “*Giornate di Geometria*”, Caserta, Italy, September 2015.
- *A geometric approach to alternating k -linear forms*, conference talk at *Combinatorics 2016*, Maratea (PZ), Italy, June 2016.
- *Enumerative Coding for Line Polar Grassmannians with applications to codes*, conference talk at *YACC2016*, Porquerolles (France), June 2016.
- *Grassmannians of codes*, seminar organized by the Università degli studi della Campania during the cycle of online seminars called *Galois geometries and their applications*, May 2023.

Scientific production

a) Papers published on refereed international journals:

1. **A characterization of truncated D_n -buildings as flag-transitive $PG \cdot PG^*$ -geometries**, I. Cardinali and A. Pasini, *Finite Geometries – Proceedings of the 4th Isle of Thorns Conference, Volume 3 of Developments on Mathematics A*. Blokhuis, J.W.P.Hirshfeld, D. Jungnickel and J.A. Thas (eds), Kluwer Academic Publishers, Netherlands, 2001, 99-121.
2. **Spreads in $H(q)$ and 1-systems of $Q(6,q)$** , I. Cardinali, G. Lunardon, O. Polverino and R. Trombetti, *European Journal of Combinatorics*, 23, 4, (2002), 367-376.
3. **On the sporadic semifield flock**, I. Cardinali, O. Polverino and R. Trombetti, *Designs Code and Cryptography*, 30 (2003), 219-226.
4. **On Hermitian spreads**, I. Cardinali and R. Trombetti, *Bulletin of the Belgian Mathematical Society*, 11 (2004), 63-67.
5. **Bruen chains over fields of small order**, I. Cardinali, N. Durante, T. Penttila and R. Trombetti, *Discrete Mathematics*, 282 (2004), 245-247.
6. **Semifield planes of order q^4 with kernel F_{q^2} and center F_q** , I. Cardinali, O. Polverino and R. Trombetti, *European Journal of Combinatorics*, 27,6(2006), 940-961.
7. **Locally singular hyperplanes in thick dual polar spaces of rank 4**, I. Cardinali, B. De Bruyn and A. Pasini, *Journal of Combinatorial Theory Series A*, 113, 4,(2006),636-646.
8. **Minimal full polarized embeddings of dual polar spaces**, I. Cardinali, B. De Bruyn and A. Pasini, *Journal of Algebraic Combinatorics*, 25 (2007), 7-23.
9. **The structure of full polarized embeddings of symplectic and hermitian dual polar spaces**, I. Cardinali and B. De Bruyn, *Advances in Geometry*, 8 (2008),111-137.
10. **A geometric description of the spin-embedding of symplectic dual polar spaces of rank 3**, I. Cardinali and G. Lunardon, *Journal of Combinatorial Theory Series A*, 115,6,(2008), 1056-1064.
11. **On the simple connectedness of hyperplane complements in dual polar spaces**, I. Cardinali, B. De Bruyn and A. Pasini, *Discrete Mathematics* 309 (2009), 294-303.
12. **On the nucleus of the Grassmann embedding of the symplectic dual polar spaces $DSp(2n,F)$, $\text{char}(F)=2$** , I. Cardinali, R. J. Blok and B. De Bruyn, *European Journal of Combinatorics* 30 (2009), 468-472.
13. **Polarized and homogeneous embeddings of dual polar spaces**, I. Cardinali, R.J. Blok, B.De Bruyn and A. Pasini, *Journal of Algebraic Combinatorics* (2009) 30, 381-399.
14. **Regular partitions of dual polar spaces**, I. Cardinali and B. De Bruyn, *Linear Algebra ad its applications* 432 (2010), 744- 769.

15. **On the Grassmann module of symplectic dual polar spaces of rank 4 in characteristic 3**, I. Cardinali, *Discrete Mathematics* 310 (2010), 3219-3227.
16. **On natural representations of the symplectic group**, I. Cardinali, R.J. Blok and A. Pasini, *Bullettin of the Belgian Mathematical Society-Simon Stevin* 18(2011), 1-29.
17. **On Weyl modules for the symplectic group**, I. Cardinali and A. Pasini, *Innovation in Incidence Geometry* 12 (2011), 85-110.
18. **Two forms related to the symplectic dual polar space in odd characteristic**, I. Cardinali and A. Pasini, *Design Codes and Cryptography* 64 (2012),47-60.
19. **On a series of modules for the symplectic group in characteristic 2**, I. Cardinali and A. Pasini, *Theory and applications of finite fields. Contemp. Math.*, 579, *Amer. Math. Soc., Providence, RI, 2012*, 43–54.
20. **Spin-embeddings, two-intersection sets and two- weight codes**, I. Cardinali and B. De Bruyn, *Ars Combinatoria*, 109 (2013), 309-319.
21. **On certain forms and quadrics related to symplectic dual polar spaces in characteristic 2**, I. Cardinali and A. Pasini, *Design Codes and Cryptography*, 68 (2013), 229-258.
22. **Codes and caps from orthogonal Grassmannians**, I. Cardinali and L. Giuzzi, *Finite Fields Appl.* 24 (2013) 148–169.
23. **Veronesean embeddings of dual polar spaces of orthogonal type**, I. Cardinali and A. Pasini, *Journal of Combinatorial Theory series A*, 120 (2013), 1328-1350.
24. **Grassmann and Weyl embeddings of orthogonal grassmannians**, I. Cardinali and A. Pasini, *Journal of Algebraic Combinatorics*, 38(2013), n.4, 863–888.
25. **Polar Spaces: basics and advances**, I. Cardinali, *Groups of Exceptional Type, Coxeter Groups and Related Geometries. Springer Proceedings in Mathematics & Statistics. Vol. 82* (2014), 41-74.
26. **Embeddings of Line-grassmannians of polar spaces in Grassmann varieties**, *Groups of Exceptional Type, Coxeter Groups and Related Geometries. Springer Proceedings in Mathematics & Statistics. Vol. 82* (2014), 75-110.
27. **On certain submodules of Weyl modules for $SO(2n+1, F)$ with $\text{char}(F)=2$** , I. Cardinali and A. Pasini, *Journal of Group Theory*, 17 (2014) n.4, 559-588.
28. **Minimum distance of Symplectic Grassmann codes**. I. Cardinali and L. Giuzzi, *Linear Algebra Appl.* 488 (2016), 124-134.
29. **Line Polar Grassmann codes of orthogonal type**. I. Cardinali, L. Giuzzi, K. V. Kaipa and A. Pasini. *J. Pure Appl. Algebra* 220 (2016), no. 5, 1924–1934.
30. **Elliptic ovoids and their rosettes in a classical generalized quadrangle of even order**. I. Cardinali and N.S.N. Sastry. *Proc. Indian Acad. Sci. Math. Sci.* 126 (2016), no 4., 591–612.

31. **Regular partitions of half-spin geometries.** I. Cardinali and B. De Bruyn, *Linear Algebra Appl.* 511 (2016), 203-225.
32. **Enumerative Coding for Line Polar Grassmannians.** I. Cardinali and L. Giuzzi, *Finite Fields Appl.* 46 (2017) 107–138.
33. **A geometric approach to alternating k -linear forms.** I. Cardinali, L. Giuzzi and A. Pasini, *J. Algebraic Combin.* 45 (2017), no. 4, 931-963.
34. **Line hermitian Grassmann codes and their parameters.** I. Cardinali, and L. Giuzzi, *Finite Fields Appl.*, vol.51 (2018), p.407-432.
35. **On transparent embeddings of point-line geometries.** I. Cardinali, L. Giuzzi and A. Pasini, *J. Combin. Theory Ser. A* 155 (2018), 190–224. 51
36. **Minimum distance of orthogonal line-Grassmann codes in even characteristic.** I. Cardinali and L. Giuzzi. *J. Pure Appl. Algebra*, vol. 222 (2018), p. 2975-2988.
37. **Geometries arising from trilinear forms on low-dimensional vector spaces.** I. Cardinali, and L. Giuzzi, *Advances in Geometry*, vol. 19 (2019), p. 269-290.
38. **Implementing line-Hermitian Grassmann codes.** I. Cardinali, L. Giuzzi, *Linear Algebra and its Applications*, vol. 580 (2019), p. 96-120.
39. **Preface to the special issue on finite geometries.** Cardinali, I., Lavrauw, M., Metsch, K., Pott, A. In: Designs, Codes and Cryptography. Special Issue: Finite Geometries. vol. 87, p. 715-716, 2019.VAN GODEWIJCKSTRAAT 30, 3311 GZ DORDRECHT: Springer New York LLC.
40. **Grassmann embeddings of polar Grassmannians.** I. Cardinali, L. Giuzzi and A. Pasini *J. Combin. Theory Ser. A* 170 (2020), 105-133.
41. **The generating rank of a polar Grassmannian.** I. Cardinali; L. Giuzzi; A. Pasini. In *Advances in Geometry* - ISSN:1615-715X vol. 21 (4) (2021) pp.515-539.
42. **Nearly all subspaces of a classical polar space arise from its universal embedding.** I. Cardinali; L. Giuzzi; A. Pasini, *Linear Algebra and its Applications*, vol. 627 (2021) pp.287-307.
43. **On the Grassmann graph of linear codes.** I. Cardinali; L. Giuzzi; M. Kwiatkowski. *Finite Fields Appl.* 75 (2021), Paper No. 101895, 17 pp.
44. **The generating rank of a polar Grassmannian.** I. Cardinali; L. Giuzzi; A. Pasini. *Adv. Geom.* 21 (2021), no. 4, 515–539.
45. **On the generation of some Lie-type geometries.** I. Cardinali; L. Giuzzi; A. Pasini. *J. Combin. Theory Ser. A* 193 (2023), Paper No. 105673, 23 pp.
46. **On the generation of polar Grassmannians.** I. Cardinali; L. Giuzzi; A. Pasini. chapter in the Volume "Combinatorial Algebra and the Monster Group" editor A. Ivanov, *LMS Lecture Note Series*, vol. 487, Cambridge University Press, (2023).

47. **On orthogonal polar spaces.** I. Cardinali and L. Giuzzi, *Linear Algebra and its Applications*, vol.674 (2023) pp. 493-518.
48. **Characterizations of symplectic polar spaces.** I. Cardinali, H. Cuypers, L. Giuzzi and A. Pasini, *Adv. Geom.* 23 (2023), no. 2, 281–292.
49. **Grassmannians of codes**, I. Cardinali and L. Giuzzi, *Finite Fields Appl.*, 94 (2024), 102342.

c) Monographs:

50. **The q -clan geometries with $q=2^e$** I. Cardinali and S.E. Payne, Birkhäuser, *Frontiers in Mathematics*, Basel 2007, ISBN 978-3-7643-8507-1.

d) Extended abstracts/proceedings:

51. **Flock generalized quadrangles e fibrazioni**, I. Cardinali, *Bollettino della Unione Matematica Italiana. A* [0392-4033], I. Cardinali (2005),8, 3, 477 -480 .
52. **The simple connectedness of hyperplane complements in thick dual polar spaces of rank at least 4**, B. De Bruyn, I. Cardinali and A. Pasini, extended abstract, *Electronic Notes of Discrete Mathematics*, 26 (2006), 15-20.
53. **Non-projective embedding in the grassmann variety**, I. Cardinali, extended abstract,, *Electronic Notes of Discrete Mathematics*, 40 (2013), 53-57.
54. **Some results on caps and codes related to orthogonal Grassmannians – a preview**, I. Cardinali and L. Giuzzi, extended abstract, *Electronic Notes of Discrete Mathematics*, 40 (2013), 139-144.
55. **Polar Grassmann codes of orthogonal type**. I. Cardinali and L. Giuzzi, extended abstract for the interational conference YACC2014, Porquerolles, (Francia)
56. **Polar Grassmannians and their codes**. I. Cardinali and L. Giuzzi, extended abstract for the interational conference MEGA, Trento, (2015).
57. **Enumerative Coding for Line Polar Grassmannians with applications to codes**. I. Cardinali and L. Giuzzi, extended abstract for the interational conference YACC2016, Porquerolles, (Francia).

e) Manuscripts:

58. **Geometrie di spazi lineari ove le stelle dei punti sono spazi lineari duali**, I. Cardinali, tesi di Laurea, manoscritto (1999).
59. **Flock Generalized Quadrangles and Spreads**, I. Cardinali, tesi di Dottorato, manoscritto (2003).