

Curriculum Vitae

Gábor KORCHMÁROS

General information

Surname: **Korchmáros**, *First:* **Gábor**

citizenship: Hungarian and Italian

birth information: city Makó (Hungary) date: 03-24-1948

Work Address Department of Mathematics, Informatics and Economics
University of Basilicata
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Education, earned degree:

diploma (m.sc.) in math. from Eötvös Loránd University of Budapest, 1971.
Thesis title: Finite Möbius planes, supervisor: F. Kárteszi;

Ph.D. in math. from Eötvös Loránd University of Budapest, 1972. Thesis title:
Configurations inscribed in an oval of a finite projective plane, supervisors:
F. Kárteszi and G. Szász;

Candidate's Degree of Hungarian Academy of Sciences in math. 1980. Thesis
title: Pascal ovals in finite projective planes, supervisors: I. Reiman and
E. Molnár;

Doctor's Degree of Hungarian Academy of Sciences in mathematics, 2000 The-
sis title: Arcs and ovals in finite projective planes, supervisors: L. Lovász,
L. Rónyai and F. Wettle.

Carrier history (listed in chronological order ending with current position):

1971/72 scholarship, Technical University of Budapest

1973 scholarship, Centro Linceo Interdisciplinare at Accademia Nazionale dei Lincei
(Roma) under the supervision of Beniamino Segre

1974/75 teaching assistant, Technical University of Budapest

1976-80 assistant prof., Technical University of Budapest

1981 visiting professor, University of Bari and Perugia (Italy)

1982-84 lecturer, University of Calabria at Cosenza (Italy)
1985-86 lecturer. University of Basilicata at Potenza (Italy)
Research visitor at University of Sussex (1994, 3 months) sponsored by the Royal Society and the Accademia Nazionale dei Lincei
Research visitor at University of Delaware (1998, 1 month).
1987- full professor, University of Basilicata at Potenza (Italy).
2018- emeritus professor, University of Basilicata at Potenza (Italy).
Visiting professor at Eötvös L. University of Budapest (2022, 3 months) sponsored by the Hungarian Academy of Sciences (vendgkutatati program)

Position

1990-1993 Head of the Department of Mathematics at the University of Basilicata at Potenza (Italy);
1994-2000 Vice Head of the Faculty of Sciences at the University of Basilicata at Potenza (Italy);
2000-2001 Head of the Faculty of Sciences at the University of Basilicata at Potenza (Italy);
1996-2005 Member of the Council of the PhD School in Mathematics, Consortium of the universities: University of Naples Federico Secondo, Second University of Naples, University of Basilicata, University of Salerno. 2006 - 2011 Head of the International PhD School in Mathematics “Doctoral Seminar János Bolyai” (Consortium University of Basilicata, Second University of Naples, University of Perugia, Catholic University of Milan, foreign partner University of Szeged). 2012

member of the Council of the PhD School in Mathematics Università degli Studi di PERUGIA “MATEMATICA E INFORMATICA PER IL TRATTAMENTO DELL'INFORMAZIONE E DELLA CONOSCENZA”

2013- member of the Council of the PhD School in Mathematics Università del SALENTO (sede consorziata University of Basilicata) “MATEMATICA E INFORMATICA”

Funds Head of the following projects funded by Italian Ministry of Education and University:

PRIN (PROGRAMMI DI RICERCA SCIENTIFICA DI RILEVANTE INTERESSE NAZIONALE) 1997: Strutture geometriche, combinatoria e loro applicazioni 24 months

PRIN 1999: Strutture geometriche, combinatoria e loro applicazioni 24 months

PRIN 2001: Strutture geometriche, combinatoria e loro applicazioni 24 months

PRIN 2003: Strutture geometriche, combinatoria e loro applicazioni 24 months

PRIN 2005: Strutture Geometriche, Combinatoria e loro Applicazioni 24 months

PRIN 2008: Geometrie di Galois e Strutture di Incidenza 30 months;

PRIN 2013: Strutture Geometriche, Combinatoria e loro Applicazioni, 36 months;
Italian Coordinator Hungarian-Italian Intergovernmental Cooperation Project (MIE Progetto intergovernativo italo-ungherese Strutture algebriche e geometriche e applicazioni) 1996/97

Hungarian-Italian Intergovernmental Cooperation Project (MIE Progetto intergovernativo italo-ungherese Strutture geometriche.e applicazioni 2000/02

Head of the following project funded by Basilicata Region and European Community

POP-FESR II 1993-1999 della Comunità Europea 36 months

Adwards

2014 “doctor honoris causa in mathematics” University of Szeged (Hungary) (see <http://www.math.u-szeged.hu/>)

2008 “Euler Medal” by ICA(Institute of Cpmbinatorics and its Applications), Canada (see <http://www.ams.org/notices/200908/rtx090800967p.pdf>)

1976 “Grünwald ”-prize by Bolyai János Math. Soc. Budapest

Teaching - Courses

Higher Geometry, Graph Theory, Algebraic Geometry, Calculus, Algebra,

Languages

English: good

German: moderate

Hungarian: perfect

Italian: perfect

Areas of research interest

Finite geometries and their applications in Coding theory and Cryptography, finite classical groups and their geometry, algebraic geometry over finite field(AMS Subject classification: 51Exx combinatorial geometries and special incidence structures, 05Bxx designs and configurations, 14Hxx algebraic curves, 14Mxx special varieties, 20G linear groups).

Scientific activities

In the editorial board of the following journals:

- Advances in Geometry (de Gruyter) (Impact Factor 2006: 0,577),
- Designs Codes and Cryptography (Springer Verlag), (Impact Factor 2006: 0,637)
- Mediterranean Journal of Mathematics (Birkhäuser Verlag, Basel),
- Contributions of Discrete Mathematics (Calgary, Canada),

Learned Societies

- Unione Matematica Italiana (1980-2008)
- Bolyai János Mathematical Society, 1970-1980
- London Mathematical Society (1995-2008)
- Institute of Combinatorics and its Applications (Fellow)
- American Mathematical Society. (1995-2008)

Scientific papers

He is the (co)author of more than 180 papers published on International journals and the monograph

J.W.P. Hirschfeld – G. Korchmáros –F. Torres, *Algebraic curves over a finite field*. Princeton Series in Applied Mathematics. Princeton University Press, Princeton, NJ, 2008. xx+696 pp. ISBN: 978-0-691-09679-7

Selection of talks at international conferences

- Guilford (U.K.) “Old and new results on ovals in finite projective planes” 13th British Combinatorial Conference University of Surrey, Guildford, 8-12 July 1991 (invited speaker)
- Rhodos (Greece) “Automorphism groups of algebraic curves over a finite field” Third Pythagorean Conference, Geometry, Combinatorial Designs and Cryptology, 1-7 June 2003 (invited speaker)
- Boulder (Colorado,USA) “Blocking-sets of external lines to a conic in $PG(2,q)$ ” AMS Conference, 2-4 October 2003 (invited speaker)
- Rome (Italy) “Trends in geometry; in memory of Beniamino Segre”, 7-9 June 2004 (invited speaker)
- Oberwolfach (Germany) “MDS-codes arcs and algebraic curves” Finite Fields: Theory and Applications 5-11 December 2004 (invited speaker)
- Irsee (Germany) “Ovals with large collineation groups” Finite geometries. Second Irsee Conference 10-16 September 2006
- Ischia (Italy) “Algebraic curves in finite geometry” Combinatorics2006 25 June - 1 July 2006 (invited speaker)
- Tübingen (Germany) “Automorphism groups of algebraic curves” R.Baer Colloquium 9 June 2007 (invited speaker)
- Segovia (Spain) “Automorphism groups of algebraic curves with p-rank zero”, Thematic Seminar “Algebraic Geometry, Coding and Computing” Universidad de Valladolid - October 8-10, 2007. (invited speaker)
- Costermano (Italy) “Some new results on Pellegrino’s arcs in $PG(2,q)$ ” 22-28 June 2008
- San Antonio (Texas, USA) “Recent results on ovals and unitals in desarguesian planes” 26-29 March 2009 (invited speaker)
- Florida Atlantic University (Florida, USA) Groups and Curves Over a Finite Field ‘Cryptology, Desings, and Finite Groups’ 17-22 May 2009 (invited speaker)
- Sabanci University (Turkey) “Automorphism groups of algebraic curves in positive characteristic”, Workshop on Sequences, Codes and Curves, 25-29 September 2009, Antalya (Turchia) (invited speaker)
- University of Delaware (USA) Designs Codes Geometries, “Unitals in finite projective planes ” 29 March - 1 April 2010, (invited speaker)
- IMPA (Rio de Janeiro, Brazil) 10th ALGA (Algebraic geometry and commutative algebra) conference “On maximal curves and their automorphism groups” 5-9 July 2010 (invited speaker)
- MTA (Hungarian Academy of Sciences) “On finite Bolyai Lobacevski planes” Janos Bolyai Memorial Conference BudapestTargu Mures/Marosvasarhely 30 August4 September 2010, (invited speaker).
- Irsee(Germany) “On finite groups realizable by 3-nets embedded in a projective plane over a field” Third Irsee Conference on Finite Geometries 19-25 June 2011, invited speaker.
- Ghent (Belgium) “Large 2-groups of automorphisms of curves with positive 2-rank” The 10th International Conference on Finite Fields and their Applications

Ghent, July 11-15, 2011.

- Perugia (Italy), “Problems and Results in $PG(2,q)$ ”, Combinatorics 2012. 10-15 September 2012, (invited speaker).
- Linz (Austria), “Garden of curves with many automorphisms”, Workshop on algebraic curves over finite fields, RICAM, November 11-15 2013, (invited speaker).
- Colorado (USA), “Automorphism Groups of Algebraic Curves” CoCoA 2015 - Combinatorics and Computer Algebra July 19-25 2015 Colorado State University, Fort Collins, Colorado, (invited speaker).
- Rogla (Slovenia) “Symmetries of Finite Projective Planes” 2016 PhD Summer School in Discrete Mathematics, Rogla (Slovenia) 26 June - 2 July 2016.
- Berlin (Germany), “Collineation groups of Finite Projective Planes” 7th European Math. Congress, Berlin 18 July - 22 July 2016.
- Rio de Janeiro (Brazil) “Automorphism Groups of Curves with Even Genus in Positive Characteristic” First Joint Meeting Brazil Italy of Mathematics, Rio de Janeiro, August 29 - September 02, 2016 (invited speaker of the section Algebraic Geometry over Finite Fields and its Applications to Coding Theory).
- Szeged (Hungary) “New family of Hemisystems of the Hermitian surface” Finite Geometry Workshop 2017, April 28 – May 1, 2017
- Irsee (Germany) “Hemisystems of the Hermitian surface” Finite Geometries, Fifth Irsee Conference, 10-16 September 2017.
- Campinas (Brazil) “Large Automorphism Groups of Curves in Positive Characteristic ” XXV Brazilian Algebra Meeting, Campinas 03-07 December 2018 (keynote speaker).
- University of Rennes (France) “Maximal Curves over Finite Fields. A Geometric Approach” Conference On Curves over Finite Fields Past, Present and Future (Conference to honor of J.P. Serre, online 24-28 May 2021) (plenary speaker).
- Szeged (Hungary) “On a theorem of Rédei” One-day Geometry Conference, 1 October 2021, (invited speaker).
- Irsee (Germany) “Plane algebraic curves with many symmetries, and complete (k,n) -arcs”, Finite Geometries 2022 Sixth Irsee Conference, 28 August - 3 September 2022, (plenary speaker).
- San Carlos (Brasil) “Plane algebraic curves with large linear automorphism groups and applications to finite geometry” III Workshop on Finite Fields and Applications, September 5 - September 9 2022, (plenary speaker).
- Marsielle (France) “Plane algebraic curves with many symmetries in positive characteristic” Cognac conference CIRM, February 13 - February 17 2023, (invited speaker).
- Aubervilliers (Paris) “Isomorphisms of Maximal Curves” Fq15 (Finite fields and their applications) Conference, 19 - 23 June 2023.

Former PhD Students

- Angela Aguglia, PhD program in Mathematics, Consortium of the universities: University of Naples Federico Secondo, Second University of Naples, University of Basilicata, University of Salerno.
- Vincenzo Giordano, PhD Program in Mathematics, Consortium of the universi-

ties: University of Bari, Politecnico of Bari.

- Lucia Indaco, PhD program in Mathematics, Consortium of the universities: University of Basilicata, Second University of Naples, University of Perugia, foreign partner University of Szeged;

- Daniela Casiello, PhD program in Mathematics, Consortium of the universities: University of Basilicata, Second University of Naples, University of Perugia, foreign partner University of Szeged;

- Valentino Lanzzone, PhD program in Mathematics, Consortium of the universities: University of Basilicata, Second University of Naples, University of Perugia, foreign partner University of Szeged;

- Bence Csajbók, PhD program in Mathematics, Consortium of the universities: University of Basilicata, Second University of Naples, University of Perugia, foreign partner University of Szeged;

- Pietro Speziali, PhD program in Mathematics, Consortium of the universities: University of Salento, University of Basilicata;

- Maria Montanucci, PhD program in Mathematics, Consortium of the universities: University of Salento, University of Basilicata;

- Marco Timpanella, PhD program in Mathematics, Consortium of the universities: University of Salento, University of Basilicata; -

- Pierluigi Rizzo, PhD program in Mathematics, Consortium of the universities: University of Salento, University of Basilicata; -

- Stefano Lia, PhD program in Mathematics, Consortium of the universities: University of Salento, University of Basilicata; -

- Valentino Smaldore, PhD program in Mathematics, Consortium of the universities: University of Salento, University of Basilicata.

Current PhD students -

- Barbara Gatti, PhD program in Mathematics, Consortium of the universities: University of Salento, University of Basilicata.