

CURRICULUM VITAE

Ernesto Spinelli

PERSONAL DATA

Name and Surname: Ernesto Spinelli

Date and Place of Birth: December 31, 1977, Taranto (Italy)

Citizenship: Italian

Current Mailing Address: Dipartimento di Matematica “G. Castelnuovo”, Università degli Studi di Roma “La Sapienza”, P.le Aldo Moro 5, 00185 Roma (Italy)

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ACADEMIC TITLES

- **National Scientific Qualification**

Role: *Full Professor*.

Sector: 01/A2 Geometry and Algebra.

Date: July 31, 2017.

- **National Scientific Qualification**

Role: *Associate Professor*.

Sector: 01/A2 Geometry and Algebra.

Date: December 24, 2013 and September 18, 2018.

- **Research Doctoral (Ph.D.) in Mathematics**

Obtained at: Università degli Studi di Lecce (Italy) on April 28, 2005.

Title of the Thesis: *Lie properties of modular group algebras and restricted universal enveloping algebras*.

Supervisor: Professor Francesco Catino.

Jury of the final examination: Professor Antonio Giambruno (University of Palermo, Italy), Professor Andrea Caranti (University of Trento, Italy), Professor Adalbert Bovdi (University of Debrecen, Hungary).

Final Judgement: *excellent*.

- **Laurea in Mathematics**

Obtained at: Università degli Studi di Lecce (Italy) on July 16, 2001.

Title of the Thesis: *Anelli gruppali modulari con gruppo degli elementi invertibili ipercentrale* (Modular group rings with hypercentral unit group).

Supervisor: Professor Francesco Catino.

Final Score: *110/110 cum laude*.

FELLOWSHIPS AND POSITIONS HELD

- **Assistant Professor of Algebra**

Institution: Faculty of Science of Università degli Studi di Roma “La Sapienza” (Italy).

Date: Since December 1, 2011 to the present.

- **PostDoc Fellowship “Ennio De Giorgi” 2010**

Obtained at: Department of Mathematics of Università del Salento (Italy) as a result of a competitive exam.

Host Institution: Department of Mathematics “E. De Giorgi” of Università del Salento (Italy).

Date: Since February 17, 2011 to November 30, 2011.

- **PostDoc Fellowship 2009 - 2010**

Obtained at: Università del Salento (Italy) as a result of a competitive exam.

Host Institution: Department of Mathematics “E. De Giorgi” of Università del Salento (Italy).

Date: Since December 1, 2009 to November 30, 2010.

Research Title: *Investigation of polynomial and *-polynomial identities of algebras with involution*.

- **PostDoc Fellowship 2005 - 2009**

Obtained at: Università degli Studi di Lecce (Italy) as a result of a competitive exam.

Host Institution: Department of Mathematics “E. De Giorgi” of Università del Salento (Italy).

Date: Since December 1, 2005 to November 30, 2009.

Research Title: *Investigation of the principal Lie parameters of a modular group algebra with particular attention to the link between Lie structure and group structure of the unit group of the group algebra. Investigation of the Lie subalgebra of the skew-symmetric elements and of the subgroup of the unitary units of a group algebra.*

- **Contract Professor for the Course of *Geometry and Algebra***

Obtained at: Faculty of Engineering of Università del Salento (Italy) as a result of a competitive exam.

Date: A.Y. 2010/11.

Course: *Geometry and Algebra*.

Master Degree: Information Engineering.

- **Contract Professor for the Course of *Discrete Mathematics***

Obtained at: II Faculty of Science of Università degli Studi di Bari (Italy) as a result of a competitive exam.

Date: A.Y. 2008/09, 2009/10 and 2010/11.

Course: *Discrete Mathematics*.

Master Degree: Informatics and Digital Communication.

- **Ph.D. Fellowship 2002 - 2005**

Obtained at: Università degli Studi di Lecce (Italy) as a result of a competitive exam.

SCIENTIFIC INTERESTS

Main interests:

- Lie properties of skew and symmetric elements (with respect to an involution) of group algebras. Group identities for symmetric and unitary units.
- Asymptotic methods and Representation Theory in the investigation of PI algebras endowed with an involution or a G -grading.
- Arithmetic of modular group algebras: computation of the principal Lie parameters and of the corresponding parameters for the unit group.
- Dimension and Lie dimension subgroups. Polynomial ideals in group rings and corresponding subgroups. Connections with the Modular Isomorphism Problem.
- Restricted Lie algebras. Lie properties of restricted universal enveloping algebras.

SCIENTIFIC PUBLICATIONS

Publications in international peer-reviewed journals:

- [1] with T. Juhasz - G.T. Lee - S.K. Sehgal: **On the lower bound of the derived length of the unit group of a nontorsion group algebra.** *Algebr. Represent. Theory*, DOI:10.1007/s10468-019-09855-x, in press.
- [2] with O.M. Di Vincenzo - V.R.T. da Silva: **A characterization of minimal varieties of \mathbb{Z}_p -graded PI algebras.** *J. Algebra* **539** (2019), 397-418.
- [3] with O.M. Di Vincenzo - V.R.T. da Silva: **Minimal superalgebras generating minimal supervarieties.** *Math. Z.* **288** (2018), 383-400.
- [4] with G.T. Lee - S.K. Sehgal: **Bounded Engel and solvable unitary units in group rings.** *J. Algebra* **501** (2018), 225-232.

- [5] with O.M. Di Vincenzo - V.R.T. da Silva: **Minimal supervarieties with factorable ideal of graded polynomial identities.** J. Pure Appl. Algebra **220** (2016), 1316-1330.
- [6] with G.T. Lee: **Group rings whose skew elements are bounded Lie Engel.** J. Pure Appl. Algebra **219** (2015), 3181-3194.
- [7] with G.T. Lee - S.K. Sehgal: **Lie identities on skew elements in group algebras.** Avitabile, Marina (ed.) et al., Lie algebras and related topics. Workshop on Lie algebras, in honor of Helmut Strade's 70th birthday, Università degli Studi di Milano-Bicocca, Milano, Italy, May 22-24, 2013. Providence, RI: American Mathematical Society (AMS). Contemporary Mathematics **652** (2015), 103-121.
- [8] with G.T. Lee - S.K. Sehgal: **Free groups with involution satisfying a *-group identity.** Arch. Math. (Basel) **104** (2015), 509-512.
- [9] with O.M. Di Vincenzo: **Graded polynomial identities on upper block triangular matrix algebras.** J. Algebra **415** (2014), 50-64.
- [10] with G.T. Lee - S.K. Sehgal: **Group rings whose unitary units are nilpotent.** J. Algebra **410** (2014), 343-354.
- [11] with F. Catino - G.T. Lee: **Group algebras whose symmetric elements are Lie metabelian.** Forum Math. **26** (2014), 1459-1471.
- [12] with G.T. Lee - S.K. Sehgal: **Group rings with solvable unit groups of minimal derived length.** Algebr. Represent. Theory **17** (2014), 1597-1601.
- [13] with G.T. Lee: **Lie metabelian skew elements in group rings.** Glasg. Math. J. **56** (2014), 187-195.
- [14] with O.M. Di Vincenzo: **On some minimal supervarieties of exponential growth.** J. Algebra **368** (2012), 182-198.
- [15] with F. Catino - R. Rizzo: **Lie identities for skew and symmetric elements of semiprime superalgebras with superinvolution.** J. Algebra **368** (2012), 199-208.
- [16] with O.M. Di Vincenzo: **A characterization of *-minimal algebras with involution.** Israel J. Math. **186** (2011), 381-400.
- [17] with F. Catino - G.T. Lee: **The bounded Lie Engel property on torsion group algebras.** J. Pure Appl. Algebra **215** (2011), 2639-2644.
- [18] with O.M. Di Vincenzo: **On the *-minimality of algebras with involution.** J. Algebra **323** (2010), 121-131.
- [19] with G.T. Lee - S.K. Sehgal: **Nilpotency of group ring units symmetric with respect to an involution.** J. Pure Appl. Algebra **214** (2010), 1592-1597.
- [20] with F. Catino - S. Siciliano: **Restricted enveloping algebras with minimal Lie derived length.** Algebr. Represent. Theory **13** (2010), 653-660.
- [21] with F. Catino: **On the derived length of the unit group of a group algebra.** J. Group Theory **13** (2010), 577-588.
- [22] with G.T. Lee: **Group rings whose symmetric units generate an n -Engel group.** Comm. Algebra **38** (2010), 4056-4062.
- [23] with G.T. Lee - S.K. Sehgal: **Group algebras whose symmetric and skew elements are Lie solvable.** Forum Math. **21** (2009), 661-671.
- [24] with G.T. Lee - S.K. Sehgal: **Lie properties of symmetric elements in group rings II.** J. Pure Appl. Algebra **213** (2009), 1173-1178.

- [25] with O.M. Di Vincenzo: **Some results on *-minimal algebras with involution.** Giambruno, A. (ed.) et al., Groups, Rings and Group Rings 2008. International conference, Ubatuba (Brazil), July 27 - August 2, 2008. Providence, RI: American Mathematical Society (AMS). Contemporary Mathematics **499** (2009), 75-87.
- [26] with G.T. Lee: **Group rings whose symmetric units are solvable.** Comm. Algebra **37** (2009), 1604-1618.
- [27] **Lie dimension subgroups and central series related to group algebras.** Algebra Colloq. **16** (2009), 427-436.
- [28] **Group algebras with minimal Lie derived length.** J. Algebra **320** (2008), 1908-1913.
- [29] **Group algebras with minimal strong Lie derived length.** Canad. Math. Bull. **51** (2008), 291-297.
- [30] with F. Catino - S. Siciliano: **A note on the nilpotency class of the unit group of a modular group algebra.** Math. Proc. R. Ir. Acad. **108** (2008), 65-68.
- [31] with F. Catino: **A note on strong Lie derived length of group algebras.** Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat. **10** (2007), 83-86.
- [32] with F. Catino: **Lie nilpotent group algebras and upper Lie codimension subgroups.** Comm. Algebra **34** (2006), 3859-3873.
- [33] with V. Bovdi - T. Juhász: **Modular group algebras with almost maximal Lie nilpotency indices.** Algebr. Represent. Theory **9** (2006), 259-266.
- [34] with S. Siciliano: **Lie nilpotency indices of restricted universal enveloping algebras.** Comm. Algebra **34** (2006), 151-157.
- [35] with S. Siciliano: **Lie metabelian restricted universal enveloping algebras.** Arch. Math. (Basel) **84** (2005), 398-405.
- [36] **Group algebras with almost maximal Lie nilpotency index.** Rend. Circ. Mat. Palermo **54** (2005), 352-358.
- [37] with V. Bovdi: **Modular group algebras with maximal Lie nilpotency indices.** Publ. Math. Debrecen **65** (2004), 243-252.

Preprints and other works:

- [38] **Lie properties of modular group algebras and restricted universal enveloping algebras.** Ph. D. Thesis, Dipartimento di Matematica “E. De Giorgi”, Università degli Studi di Lecce (2005).
- [39] **Lie solvable group algebras and solvable unit group.** Contribution in Report 55/2007: Arithmetik von Gruppenringen (November 25th – December 1st, 2007), Oberwolfach Rep. **4** (2007), 3221-3222 and 3237.
- [40] with G.T. Lee - S.K. Sehgal: **Problems on Lie properties of skew and symmetric elements in group rings.** Avitabile, Marina (ed.) et al., Lie algebras and related topics. Workshop on Lie algebras, in honor of Helmut Strade’s 70th birthday, Università degli Studi di Milano-Bicocca, Milano, Italy, May 22-24, 2013. Providence, RI: American Mathematical Society (AMS). Contemporary Mathematics **652** (2015), 231-233.
- [41] with O.M. Di Vincenzo: **Minimal varieties of PI associative (super)-algebras with respect to their (graded) exponent.** Invited contribution for the Proceedings of the International Conference “Groups, Rings and Group Rings 2014”. Sao Paulo J. Math. Sci. **10** (2016), 248-262.
- [42] with F. Catino - M.M. Miccoli: **Solvable rings.** Invited contribution in honour of Professor Jenő Szep. Pure Math. Appl. **16** (2005), 125-144.

SCHOOLS AND CONFERENCES

- 2002 School of Algebra “Zeta functions of groups”. Trento (Italy), June 3-7, 2002.
- 2002 Workshop “Teoria dei Gruppi e Applicazioni”. Ischia (Italy), October 22-25, 2002.
- 2003 X International Conference “Groups and group rings”. Ustron (Poland), June 10-14, 2003.
- 2003 Workshop “Teoria dei Gruppi e Applicazioni”. Udine (Italy), November 19-22, 2003.
- 2004 International Conference “Ischia Group Theory 2004”. Ischia (Italy), March 31 - April 3, 2004.
- 2004 Workshop “Algebra e Informatica Teorica III”. Siena (Italy), July 6-7, 2004.
- 2004 Workshop “Teoria dei Gruppi e Applicazioni”. Naples (Italy), November 25-27, 2004.
- 2005 Workshop “Lie Algebras, their Classification and Applications”. Trento (Italy), July 25-27, 2005.
- 2005 Workshop “Omaggio a Guido Zappa”. Florence (Italy), December 9, 2005.
- 2006 International Conference “Ischia Group Theory 2006”. Ischia (Italy), March 29 - April 1, 2006.
- 2006 School of Algebra “Perspectives in rings and algebras”. Murcia (Spain), June 29 - July 1, 2006.
- 2006 Workshop “Teoria dei Gruppi e Applicazioni”. Padua (Italy), September 27-29, 2006.
- 2007 International Conference “Advances in Group Theory and Applications 2007”. Otranto (Italy), June 4-8, 2007.
- 2007 International Conference “Algebraic and combinatorial methods in concrete classes of algebras and groups”. Alden-Biesen (Belgium), September 2-7, 2007.
- 2007 Miniworkshop “Arithmetik von Gruppenringen”. Mathematisches Forschungsinstitut Oberwolfach (Germany), November 25 - December 1, 2007. *Invited upon suggestion of the Organizers. The workshop was opened at 16 participants.*
- 2007 Workshop “Teoria dei Gruppi e Applicazioni”. Florence (Italy), December 12-14, 2007.
- 2008 International Conference “Rings and modules”. Lisbon (Portugal), September 15-19, 2008.
- 2008 Workshop “Algebra e Informatica Teorica IV”. Siena (Italy), September 22, 2008.
- 2009 International Conference “Advances in Group Theory and Applications 2009”. Porto Cesareo (Italy), June 8-12, 2009.
- 2010 International Conference “Arithmetic of group rings and related structures”. Aachen (Germany), March 22-26, 2010.
- 2010 International Conference “Ischia Group Theory 2010”. Ischia (Italy), April 14-17, 2010.
- 2011 Workshop “Bicocca-Workshop on Lie Algebras 2011”. Milano (Italy), May 16-18, 2011. *Main Speaker.*
- 2011 International Conference “Advances in Group Theory and Applications 2011”. Porto Cesareo (Italy), June 7-10, 2011.
- 2012 International Conference “Ischia Group Theory 2012”. Ischia (Italy), March 27-29, 2012.
- 2012 International Conference “Group Rings and Related Topics”. Stuttgart (Germany), June 25-29, 2012.
- 2013 Workshop “Bicocca-Workshop on Lie Algebras 2013”. Milano (Italy), May 22-24, 2013. *Main Speaker.*
- 2013 International Conference “Advances in Group Theory and Applications 2013”. Porto Cesareo (Italy), June 10-14, 2013.
- 2014 School of Algebra “Advances in Group Theory and Applications 2014 - The School”. Porto Cesareo (Italy), June 3-6, 2014.
- 2015 International Conference “Advances in Group Theory and Applications 2015”. Porto Cesareo (Italy), June 16-19, 2015.
- 2015 International Conference “Naples 2015 Conference in Group Theory and its Applications”. Naples (Italy), October 7-8, 2015.
- 2015 Meeting “Groups and Topological Groups 2015”. Salerno (Italy), November 20-21, 2015.
- 2017 International Conference “Groups, Rings and the Yang-Baxter equation”. Spa (Belgium), June 18-24, 2017. *Invited Speaker.*
- 2017 International Conference “Advances in Group Theory and Applications 2017”. Lecce (Italy), September 5-8, 2017. *Invited Speaker.*
- 2019 International Workshop “Non-Associative Algebras in Porto”. Porto (Portugal), April 29 - May 3, 2019. *Invited Speaker.*

- 2019 International Conference “Advances in Group Theory and Applications 2019”. Lecce (Italy), June 24-28, 2019.
- 2019 International Conference “Young Researchers Algebra Conference 2019”. Naples (Italy), September 16-18, 2019. *Invited Speaker*.
- 2019 INDAM Workshop “Polynomial identities in algebras”. Rome (Italy), September 16-20, 2019.

TALKS

1. **Sulle algebre gruppali Lie nilpotenti.** Workshop “Teoria dei Gruppi e Applicazioni”. Udine (Italy), November 19-22, 2003.
2. **Modular group algebras with maximal lower Lie-nilpotency indices.** International Conference “Ischia Group Theory 2004”. Ischia (Italy), March 31 - April 3, 2004.
3. **Lie properties of group rings.** Workshop “Algebra e Informatica Teorica III”. Siena (Italy), July 6-7, 2004.
4. **Algebre gruppali Lie nilpotenti.** Workshop “Teoria dei Gruppi e Applicazioni”. Naples (Italy), November 25-27, 2004.
5. **Lie nilpotent group algebras and central series.** Workshop “Lie Algebras, their Classification and Applications”. Trento (Italy), July 25-27, 2005.
6. **Algebre gruppali con lunghezza derivata forte di Lie minimale.** Workshop “Teoria dei Gruppi e Applicazioni”. Padua (Italy), September 27-29, 2006.
7. **The Lie structure of a modular group algebra and its unit group.** International Conference “Advances in Group Theory and Applications 2007”. Otranto (Italy), June 4-8, 2007.
8. **Lie solvable group algebras.** International Conference “Algebraic and combinatorial methods in concrete classes of algebras and groups”. Alden-Biesen (Belgium), September 2-7, 2007.
9. **Lie solvable group algebras and solvable unit group.** Miniworkshop “Arithmetik von Gruppenringen”. Mathematisches Forschungsinstitut Oberwolfach (Germany), November 25 - December 1, 2007 (*Invited Talk*).
10. **Algebre gruppali le cui unità simmetriche sono risolubili.** Workshop “Teoria dei Gruppi e Applicazioni”. Florence (Italy), December 12-14, 2007.
11. **On the *-minimality of algebras with involution.** International Conference “Rings and modules”. Lisbon (Portugal), September 15-19, 2008.
12. **Proprietà di Lie di elementi simmetrici ed obliqui di un'algebra gruppale.** Workshop “Algebra e Informatica Teorica IV”. Siena (Italy), September 22, 2008.
13. **Minimal algebras with respect to their *-exponent.** International Conference “Advances in Group Theory and Applications 2009”. Porto Cesareo (Italy), June 8-12, 2009.
14. **Nilpotency of group ring units symmetric with respect to an involution.** International Conference “Arithmetic of group rings and related structures”. Aachen (Germany), March 22-26, 2010.
15. **Group identities for symmetric units of group algebras.** International Conference “Ischia Group Theory 2010”. Ischia (Italy), April 14-17, 2010.
16. **Lie properties of symmetric and skew elements of a group algebra.** Workshop “Bicocca-Workshop on Lie Algebras 2011”. Milano (Italy), May 16-18, 2011 (*Main Speaker*).
17. **On some minimal supervarieties of exponential growth.** International Conference “Group Rings and Related Topics”. Stuttgart (Germany), June 25-29, 2012.
18. **On the Lie subalgebra of skew elements of a group algebra.** Workshop “Bicocca-Workshop on Lie Algebras 2013”. Milano (Italy), May 22-24, 2013 (*Main Speaker*).

19. **Group identities for unitary units of group rings.** International Conference “Groups, Rings and the Yang-Baxter equation”. Spa (Belgium), June 18-24, 2017 (*Invited Speaker*).
20. **Minimal varieties of graded PI algebras.** International Conference “Advances in Group Theory and Applications 2017”. Lecce (Italy), September 5-8, 2017 (*Invited Speaker*).
21. **Codimension growth and minimal varieties.** International Workshop “Non-Associative Algebras in Porto”. Porto (Portugal), April 29 - May 3, 2019 (*Invited Speaker*).
22. **Group and polynomial identities in group rings.** International Conference “Young Researchers Algebra Conference 2019”. Naples (Italy), September 16-18, 2019 (*Invited Speaker*).

INVITED SEMINAR PRESENTATIONS

1. **A note on group algebras of 2-groups of almost maximal class.** University of Debrecen (Hungary), January 22, 2003 (invited by Professor Adalbert Bovdi).
2. **Modular group algebras with maximal Lie nilpotency indices.** University of Oradea (Romania), November 3, 2004 (invited by Professor M. Ursul).
3. **Lie properties of group rings and restricted universal enveloping algebras.** Informatic and Mathematical Institute of Nyiregyhaza (Hungary), November 9, 2004 (invited by Professor G. Gat).
4. **Upper Lie codimension subgroups.** University of Zaporizhzhia (Ukraine), February 23, 2005 (invited by Professor A. Konovalov).
5. **On some Lie properties of restricted universal enveloping algebras.** University of Zaporizhzhia (Ukraine), March 3, 2005 (invited by Professor A. Konovalov).
6. **Algebre gruppali Lie risolubili.** University of Bari (Italy), November 20, 2007 (invited by Professor O.M. Di Vincenzo).
7. **Algebre gruppali le cui unità simmetriche sono risolubili.** University of Bari (Italy), November 21, 2007 (invited by Professor O.M. Di Vincenzo).
8. **Identità polinomiali in algebre con involuzione: algebre gruppali e algebre *-minimali.** University of Rome “La Sapienza” (Italy), July 19, 2011 (in the ambit of the competition for a position of Assistant Professor in Algebra).
9. **Lie identities for skew and symmetric elements of group algebras.** National University of Ireland in Galway (Ireland), October 18, 2012 (invited by Professor T. Hurley).
10. **Algebre gruppali le cui unità soddisfano identità gruppali.** University of Naples “Federico II” (Italy), February 26, 2014 (invited by Prof. F. de Giovanni).
11. **Crescita delle codimensioni in algebre PI.** University of Salento (Italy), January 8, 2016, (invited by Prof. S. Siciliano).
12. **Varietà minimali di PI algebre graduate.** University of Naples “Federico II” (Italy), March 10, 2017 (invited by Prof. F. de Giovanni).
13. **Codimension growth and minimal varieties.** University of Rome “Tor Vergata” (Italy), May 25, 2018 (invited by Prof. F. Gavarini).

RESEARCH VISITS ABROAD

January 19 - 31, 2004: University of Debrecen (Hungary) invited by Professor Adalbert Bovdi.

October 25 - November 14, 2004: University of Debrecen (Hungary) invited by Professor Adalbert Bovdi.

February 20 - March 6, 2005: University of Zaporizhzhia (Ukraine) invited by Professor A. Konovalov.

May 2006: University of Alberta (Canada) invited by Professor S.K. Sehgal.

October 2006: University of Alberta (Canada) invited by Professor S.K. Sehgal.

July 2007: University of Alberta (Canada) invited by Professor S.K. Sehgal.

May 2008: University of Alberta (Canada) invited by Professor S.K. Sehgal.

July 2009: University of Alberta (Canada) invited by Professor S.K. Sehgal.

July 2010: University of Alberta (Canada) invited by Professor S.K. Sehgal.

August 2012: University of Alberta (Canada) invited by Professor S.K. Sehgal.

July 2013: University of Alberta (Canada) invited by Professor S.K. Sehgal.

June 19 - July 13, 2014: University of Alberta (Canada) invited by Professor S.K. Sehgal.

August 4 - 23, 2015: University of Alberta (Canada) invited by Professor S.K. Sehgal.

PARTICIPATION TO RESEARCH PROJECTS

1. **University Research Projects 2018:** *Principal Investigator* of the University Research Project “*Identità polinomiali e metodi combinatori in strutture algebriche e geometriche*”. Funds from Università degli Studi di Roma “La Sapienza” (Italy).
2. **University Research Projects 2017:** *Principal Investigator* of the University Research Project “*Identità polinomiali e metodi combinatori in strutture algebriche e geometriche*”. Funds from Università degli Studi di Roma “La Sapienza” (Italy).
3. **University Research Projects 2016:** *Principal Investigator* of the University Research Project “*Identità polinomiali e metodi combinatori in strutture algebriche e geometriche*”. Funds from Università degli Studi di Roma “La Sapienza” (Italy).
4. **University Research Projects 2015:** *Principal Investigator* of the University Research Project “*Identità polinomiali e metodi combinatori in strutture algebriche e geometriche*”. Funds from Università degli Studi di Roma “La Sapienza” (Italy).
5. **University Research Projects 2014:** *Principal Investigator* of the University Research Project “*Identità polinomiali e metodi combinatori in strutture algebriche e geometriche*”. Funds from Università degli Studi di Roma “La Sapienza” (Italy).
6. **University Research Projects 2013:** *Principal Investigator* of the University Research Project “*Identità polinomiali e metodi combinatori in strutture algebriche e geometriche*”. Funds from Università degli Studi di Roma “La Sapienza” (Italy).
7. **University Research Projects 2012:** *Principal Investigator* of the University Research Project “*Identità polinomiali e metodi combinatori in strutture algebriche e geometriche*”. Funds from Università degli Studi di Roma “La Sapienza” (Italy).

8. **PRIN 2012:** Participant to the National Research Project PRIN 2012 “*Spazi di Moduli e Teoria di Lie*” coordinated by Professor Corrado De Concini (University of Rome “La Sapienza”, Italy). Funds from Ministero dell’Istruzione, dell’Università e della Ricerca (Italy).
9. **FIRB Futuro in Ricerca 2012:** Participant to the National Research Project FIRB Futuro in Ricerca 2012 “*Prospettive in Teoria di Lie*” coordinated by Professor Alberto De Sole (University of Rome “La Sapienza”, Italy). Funds from Ministero dell’Istruzione, dell’Università e della Ricerca (Italy).
10. **PRIN 2007:** Participant to the National Research Project PRIN 2007 “*Teoria dei Gruppi e Applicazioni*” coordinated by Professor Federico Menegazzo (University of Padua, Italy). Funds from Ministero dell’Istruzione, dell’Università e della Ricerca (Italy).

ORGANIZING ACTIVITY

Member of the Scientific Committee of the International Conference:

- *Advances in Group Theory and Applications 2015*, Porto Cesareo (Italy), June 16-19, 2015.

Member of the Organizing Committee of the International Conferences:

1. *Advances in Group Theory and Applications 2007*, Otranto (Italy), June 4-8, 2007.
2. *Advances in Group Theory and Applications 2009*, Porto Cesareo (Italy), June 8-12, 2009.
3. *Advances in Group Theory and Applications 2011*, Porto Cesareo (Italy), June 7-10, 2011.
4. *Advances in Group Theory and Applications 2013*, Porto Cesareo (Italy), June 10-14, 2013.
5. *INDAM Workshop 2019 - Polynomial Identities in Algebras*, Rome (Italy), September 16-20, 2019.

EVALUATION ACTIVITY

Referee for Ministero dell’Istruzione, dell’Università e della Ricerca (Italy) for the evaluation of applications for the call SIR 2014.

BOARD OF THE EXAMINERS FOR DOCTORAL DISSERTATIONS

- Member of the Board of Examiners for the Doctoral Dissertations at University of Naples “Federico II” (Italy) of:
 1. Dr. Maria Martusciello (July 17, 2014);
 2. Dr. Caterina Rainone (July 17, 2014).
- Member of the Board of Examiners for the Doctoral Dissertations at University of Catania (Italy) of:
 1. Dr. Maria Vittoria Cuzzupè (March 23, 2017);
 2. Dr. Antonio Ioppolo (March 23, 2017).
- Member of the Board of Examiners for the Doctoral Dissertations at University of Naples “Federico II” (Italy) of:
 1. Dr. Mattia Brescia (April 28, 2017);
 2. Dr. Roberto Ialenti (April 28, 2017);
 3. Dr. Marco Trombetti (April 28, 2017).
- Member of the Board of Examiners for the Doctoral Dissertations at University of Salento (Italy) of:
 1. Dr. Ilaria Colazzo (July 20, 2017).
- Referee for the Thesis submitted for the PhD degree in Mathematics and Informatics at University of Catania by Dr. Carla Rizzo (September-October 2018).

EDITORIAL ACTIVITY

- Referee for several ISI journals reviewed by Zentralblatt MATH and MathSciNet among which: *Journal of Algebra*, *Forum Mathematicum*, *Finite Fields and Their Applications*, *Journal of Pure and Applied Algebra*, *Journal of Algebra and Its Applications*, *Communications in Algebra*, *Rocky Mountain Journal of Mathematics*, *Bollettino dell'Unione Matematica Italiana*, *Rivista di Matematica della Università di Parma*, *Publicationes Mathematicae Debrecen*.
- Reviewer for Zentralblatt MATH and Mathematical Reviews.

TEACHING ACTIVITY

A.Y. 2004/05: Collaboration for the Courses of Algebra I e II for the Bachelor Degree Course in Mathematics at Università degli Studi di Lecce.

A.Y. 2006/07: Collaboration for the Course of Algebra I for the Bachelor Degree Course in Mathematics at Università degli Studi di Lecce.

A.Y. 2007/08: Collaboration for the Course of Algebra II for the Bachelor Degree Course in Mathematics at Università del Salento.

A.Y. 2008/09: Contract Professor of Discrete Mathematics (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Informatics and Digital Communication at the II Faculty of Science of Università degli Studi di Bari.

A.Y. 2009/10: • Collaboration for the Course of Algebra II for the Bachelor Degree Course in Mathematics at Università del Salento.

- Ph.D. Course “Involutions in particular classes of algebras” at Università del Salento (jointly with G.T. Lee).
- Contract Professor of Discrete Mathematics (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Informatics and Digital Communication at the II Faculty of Science of Università degli Studi di Bari.

A.Y. 2010/11: • Contract Professor of Geometry and Algebra (SSD MAT/03 - Geometry) for the Bachelor Degree Course in Information Engineering at the Faculty of Engineering of Università del Salento.

- Contract Professor of Discrete Mathematics (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Informatics and Digital Communication at the II Faculty of Science of Università degli Studi di Bari.

A.Y. 2011/12: Instructor of Algebra I (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2012/13: Instructor of Algebra I (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2013/14: Instructor of Algebra I (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2014/15: Instructor of Algebra II (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2015/16: Instructor of Algebra I (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2016/17: Instructor of Discrete Mathematics (SSD MAT/02 - Algebra) for the Master Degree Course in Mathematics and Applications at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2017/18: • Instructor of Discrete Mathematics (SSD MAT/02 - Algebra) for the Master Degree Course in Mathematics and Applications at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.
• Co-Instructor of Algebra I (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2018/19: • Instructor of Discrete Mathematics (SSD MAT/02 - Algebra) for the Master Degree Course in Mathematics and Applications at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.
• Co-Instructor of Algebra I (SSD MAT/02 - Algebra) for the Bachelor Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

A.Y. 2019/20: Instructor of Algebra Superiore (SSD MAT/02 - Algebra) for the Master Degree Course in Mathematics at the Faculty of Science of Università degli Studi di Roma “La Sapienza”.

SUPERVISED STUDENTS

Supervisor for the Bachelor’s Degree Thesis in Mathematics at Università degli Studi di Roma “La Sapienza”:

1. Benedetta Gori: “*Algebre con identità polinomiali: il Teorema di Amitsur-Levitzki*” (defended on Sept 23, 2014).
2. Francesca Romana Novelli: “*Anelli gruppalì con sole unità banali*” (defended on Oct 27, 2014).
3. Valentina Rizzo: “*La struttura dei Gruppi Hamiltoniani*” (defended on Dec 16, 2015).
4. Manuel Remondi: “*Ricoprimenti minimali di gruppi*” (defended on Sept 21, 2016).
5. Samanta Gattola: “*Limite superiore per le codimensioni di algebre PI*” (defended on Dec 13, 2016).
6. Elena Pascucci: “*Sul problema di isomorfismo modulare*” (defended on Oct 25, 2018).
7. Davide Stellati: “*Esistenza di polinomi centrali per algebre di matrici*” (defended on Oct 25, 2018).
8. Maria Saccà: “*Aspetti algebrici della Teoria dei Codici*” (defended on Dec 13, 2018).

OTHERS

1. **GNSAGA:** Member of “*Gruppo nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni*” (GNSAGA) section “*Strutture Algebriche e Geometria Combinatoria*”.
2. **UMI:** Member of “*Unione Matematica Italiana*” (UMI).