CURRICULUM of FULVIA SPAGGIARI

Degree in Mathematics cum laude at the University of Modena in 1990.

In 1993 C.N.R. (National Research Council) scholarship at the Department of Mathematics of the University of Modena.

From 1994 to 2006 research assistant in Geometry at the University of Modena (Faculty of Engineering).

Since December 2006 associate professor of Geometry at the University of Modena and Reggio E. (Faculty of Engineering).

Member of the Council of PhD in Mathematics of the Department of Mathematics of the University of Modena and Reggio Emilia from 2004 to 2010.

Since 2015 member of the scientific council of the scientific library BSI of the University of Modena and Reggio Emilia

Member of G.N.S.A.G.A. of C.N.R.

Reviewer for Mathematical Reviews and Zentralblatt Math.

Author of several papers published on international journals.

Scientific activity

My research field is the study of the topological and geometric structures of topological and smooth manifolds by tools of Algebraic and Geometric Topology, Group Theory, Differential Geometry and Homological Algebra.
The obtained results can be subdivided in the following sections:

Section 1. Algebraic and geometric topology of smooth manifolds

Combinatorial characterization of S^1 xS^4 among closed 5-manifolds and extension of this result for the connected sum.
Proof that the topological product RP^3 x S^1 ha regular genus six and that every smooth closed orientable 4--manifold of genus six is topologically homeomorphic to a fibered space over the 1-sphere.
Alternative proof of a classical theorem of L. Moser on the classification of 3-manifolds obtained by surgery on torus knots and determination of the corresponding Seifert invariants.
Classification of the topological and geometric structures for many classes of 3-manifolds known in literature (Fibonacci manifolds, Sieradski manifolds, Kim-Vesnin manifolds) and their generalizations. Introduction of new classes of manifolds obtained as quotient spaces of polyhedral 3-cells by pairwise identifications of the boundary faces and study of their covering properties.
Study of a family of tetrahedron 3-manifolds and their description as Seifert fibered spaces.
Introduction of a family of groups with balanced presentations which generalized the Neuwirth groups and classification of the corresponding 3-manifolds. In the cyclic case we gave a formula for computing the Casson-Walker-Lescop invariant.

Study of the relations between the cyclic presentations of groups and the fundamental group of the cyclic coverings of the 3-sphere branched over 2-bridge knots.
Classification of Takahashi manifolds obtained by Dehn surgery on certain classes of strongly-invertible links and their representation as 2-fold coverings of the 3-sphere branched over certain 3-string braids.
Classification of the topological and geometric structures for some classes of cyclic coverings branched over (hyperbolic) knots corresponding to cyclically presented groups.
Proof a conjecture of Dunwoody for a class of 3-manifolds represented by symmetric Heegaard diagrams.
Combinatorial representation for 3-manifolds with boundary and for their special spines by a class of graphs. Description of an algorithm for constructing their boundary by 6-tuples of non-negative integers.
Study of algebraic properties of families of groups with cyclic presentation which are not fundamental groups of closed hyperbolic 3-orbifolds of finite volume. Study of their split extension groups and determination of conditions under which these are groups of high- dimensional knots.
Short definition of the Witten invariants of 3--manifolds and simple proofs of their invariance.
Varieties of Fibonacci type and study of properties of the underlying groups of monogenic free algebras and relations between their orders and the Fibonacci and Lucas sequences.
Covering properties of 3-manifolds obtained by Dehn surgery on certain classes of periodic links and universal presentation for the fundamental group of a closed orientable 3-manifold.
A new proof, using the notion of relative presentation due to Bogley and Pride, of a theorem of Prishchepov on the asphericity of certain symmetric presentations of groups.
Construction of a Heegaard diagram of genus three for the real projective 3-space which has no waves and pair of complementary handles with smaller complexity with respect to known diagrams.
Simple alternative proof, based on extended Heegaard diagrams, of the representation theorem of all genus two 3-manifoldss of Casali and Grasselli.
Proof, by using a sequence of only three moves, that the two-parameter family of Heegaard diagrams constructed by Ochiai encodes the genuine three-sphere.

Section 2. Graph theory and computational geometry

Algorithm for computing the (co)homology of compact polyhedra, based on a representation by edge-colored graphs.
Investigation on some classical conjectures of graph theory and classification, up to isomorphism, of cubic graphs of cromatic index equals 4 (snarks) and order less or equal 28. Introduction of some snark moves in order to recognize irreducible snarks. Classification, up to isomorphism, of almost hamiltonian, hypo-hamiltonian and (co)critical graphs of class two and order less or equal 28.
Construction of infinite families of almost-hamiltonian snarks.
Alternative constructive proof of a theorem of M. Watkins, F. Castagna and G. Prins, i.e., the generalized Petersen graphs are of class one, except the Petersen graph.
Construction of an infinite sequence of weavings which are not realizable as a projection of a number of lines in Euclidean 3-space. This result answers to a problem of J. Pach, R. Pollack and E. Welzl.

Section 3. Homological algebra. Surgery on compact manifolds. Algebraic L-theory.

Complete description of the group of homotopy classes of orientation-preserving homotopy self-equivalences of the connected sum of p copies of S^1 x S^n and study of embeddings of X=#_p S^1 x S^n into the Euclidean (n+3)-space. Classification of the homotopy type of the complement of the image of X in E_n+3 and examples of manifolds homotopy equivalent to a bouquet of sheres which cannot be fibered over a circle.

Proof of a decomposition theorem for closed connected homotopy equivalent smooth four-manifolds and study of the question of when a homotopy equivalence between closed smooth 4-manifolds is homotopic to a topological homeomorphism. New proof of the well-known uniqueness of closed aspherical smooth 4-manifolds with good fundamental groups.
Study of the homotopy type of finite-oriented Poincarè spaces in even dimension and description of the relation of polarized homotopy types over a stage of the Postnikov tower with the concept of CW-tower of categories due to Baues. This fact allows to obtain a new formula for the top-dimensional obstruction for extending maps to homotopy equivalences.
Algebraic characterization of the homotopy type of closed connected orientable topological 4-manifolds with Lambda-free second homotopy group, where Lambda is the integral group ring of the fundamental group of the considered manifolds.
Study of algebraic and geometric properties of closed smooth 4-manifolds with vanishing second homology and results about their embedding in 5-space.
Stable classification of closed spin smooth 4-manifolds by using techniques of Kervaire-Milnor surgery.
Homological conditions for decomposing 4-manifolds into a connected sum up to homotopy type.
Homotopy type and s-cobordism class for closed four-manifolds with special homotopy groups.
Computation of surgery and splitting obstruction groups and natural maps for many diagram of oriented finite (not necessary abelian) 2-groups and homomorphisms which preserve orientations. These results allow to obtain geometric applications for compact manifolds.
Introduction of the concept of surgery on a triple of manifolds and description of algebraic and geometric properties of the corresponding obstruction groups.
Introduction of mixed structures on topological manifolds with boundary and description of the connections between these structures and the classical ones involved in the Wall-Sullivan sugery exact sequence.
Geometric interpretation of the concept of type for an element in a Wall group by using the surgery obstruction groups for filtered manifolds and study of algebraic and geometric properties of the elements of the secon type.
Short proof (based on the Pontryagin-Thom construction) of a well-known theorem of Pontryagin, Steenrod and Wu on the degree map for a connected orientable closed smooth (n+1)-manifold.
Study of the homotopy type for closed topological 2n-dimensional manifolds with poly-surface fundamental groups.

Meetings, workshops and congresses

"Geometria Differenziale ed Analisi Complessa" (Parma, 19/5/1994 - 20/5/1994)

"La ricerca scientifica nella Facolta` di Scienze dell'Universita` di Modena" (Accademia Nazionale di Lettere, Scienze ed Arti di Modena, Febbraio-Marzo 1995).

"Homotopy Theory Conference" Palazzo Feltrinelli, Gargnano (BS), 18/06/1995 - 24/06/1995.

XV Congresso U.M.I (Padova, 11/9/1995 - 16/9/1995).

Workshop on differential geometry and topology (Palermo, 3/6/1996 - 9/6/1996).

"Combinatorics '96" (Assisi 8/9/1996 - 14/9/1996), with a communication titled "Some recent results on snarks".

Giornate in onore di Federigo Enriquez (Bologna 22/11/1996, 29/11/1996).

Convegno nazionale del G.N.S.A.G.A. (Perugia 6/11/1997 - 8/11/1997) with a communication titled "Topological properties of n-dimensional handles".

"Conference on real and complex analytic geometry" (Bologna 17/11/1997 -18/11/1997).

"Mathematics towards the third millennium" (Roma 27/5/1999 - 29/5/1999).

XVI Congresso U.M.I. (Napoli, 13/9/1999 - 18/9/1999) with a communication titled "On the classification of the homotopy type of a manifold".

Seminars of "Topologia geometrica e simplettica" University of Pisa: V. Tchernov (Max Planck Institute), "Finite order invariants of Legendrian, of transverse, and of framed knots in contact 3-manifolds", 29/11/1999, 2/12/1999.

Visiting professor at the University of Lubiana (Slovenia) (22/5/2002 - 2/6/2002) for scientific collaboration with Prof. Dusan Repovs.

Joint Meeting UMI-AMS (Pisa, 12/6/2002 - 17/6/2002).

XVII Congresso U.M.I. (Milano, 8/9/2003 -13/9/2003) with a short communication titled "On the classification of 4-manifolds".

VIII Convegno della Societa` Matematica Austriaca (Bolzano, 22/9/2003 - 26/9/2003), with a communication titled "Four--manifolds with special homotopy".

"New perspectives on Holonomy and Submanifolds" (Torino, 23-24 April 2004).

International Conference "Trends in Geometry - In memory of Beniamino Segre (Roma, 7-9 June 2004).

"International Colloquium on Singularities and Low-dimension Topology in honour of Bernard Perron"(Digione (Francia), 14-18 June 2004).

9th International Conference on Differential Geometry and its Applications (Praga (Repubblica Ceca), 29/8/2004 - 4/9/2004).

"Combinatorics '04" (Capomulini (Catania) 13/9/2004 - 18/9/2004) with a communication titled "On the combinatorics of piecewise-linear manifolds".

"Combinatorics '06" (Ischia (Napoli) 25/6/2006 - 1/7/2006) with a communication titled "Groups with cyclic presentations".

"ICM2006" (International Congress of Mathematicians) (Madrid, 23/8/2006-28/8/2006).
"Combinatorics 2008" (Costermano (VR), 22-28 Giugno 2008) with a communication titled "Some questions on cyclically presented groups".

Conference "Topology and Geometry of Manifolds: standard combinatorial representations and algebraic invariants", Department of Physics, Informatics and Mathematics, University of Modena and Reggio E., 16/10/2014.

Teaching

1992-93
"Geometry"- degree course in Mechanical Engineering- University of Modena.

1994-95/ 1995-96/ 1996-97/ 1997-98
"Geometry" - degree courses in Computer/Materials/Mechanical Engineering - University of Modena.

1998-99
- "Geometry" - degree courses in Mechanical Engineering - University of Modena.
- "Geometry" - degree courses in Computer/Electronic Engineering - University of Modena.

1999-2000
- "Geometry" - degree courses in Computer/Electronic/Mechanical/Materials Engineering - University of Modena.
- "Geometry" - degree courses in Engineering - Military Academy of Modena.

2000-01
"Geometry A" - degree courses in Mechanical Engineering -University of Modena and Reggio Emilia.
- "Geometry" - degree courses in Engineering - Military Academy of Modena.

2001-02
- "Geometry A" and "Geometry B" – degree courses in Computer/Electronic/Telecommunication Engineering -University of Modena and Reggio Emilia.
- "Geometry A" - degree courses in Engineering - Military Academy of Modena.

2002-03
- "Geometry A" and "Geometry B" - Courses of degree in Electronic/Telecommunication Engineering -University of Modena and Reggio Emilia.
- "Geometry A" - degree courses in Engineering - Military Academy of Modena.

2003-04
"Geometry A" - degree courses in Mechanical/Materials Engineering -University of Modena and Reggio Emilia.
"Geometria B" - degree courses in Electronic/Telecommunication Engineering -University of Modena and Reggio Emilia.

2004-07
"Geometry A" - degree courses in Electronic/Telecommunication Engineering -University of Modena and Reggio Emilia.
"Geometry A" - degree courses in Mechanical/Materials Engineering -University of Modena and Reggio Emilia.

2007-09
"Geometry A" - degree courses in Electronic/Telecommunication Engineering -University of Modena and Reggio Emilia.
"Geometry A" degree courses in Mechanical/Materials Engineering -University of Modena and Reggio Emilia.
"Geometria B" - degree courses in Electronic/Telecommunication Engineering -University of Modena and Reggio Emilia.

2010-11
"Geometry and Linear Algebra" – degree courses in Mechanical/Materials Engineering -University of Modena and Reggio Emilia.

2011-18
"Geometry and Linear Algebra" – degree course in Mechanical Engineering -University of Modena and Reggio Emilia.
"Geometry" - degree course in Electronic Engineering -University of Modena and Reggio Emilia.

2018-19
"Geometry" - degree course in Electronic Engineering -University of Modena and Reggio Emilia.
"Geometry and Linear Algebra" – degree course in Vehicle Engineering -University of Modena and Reggio Emilia.

2019-22
"Geometry" - degree course in Electronic Engineering -University of Modena and Reggio Emilia.
"Geometry" - degree course in Physics -University of Modena and Reggio Emilia.
"Geometry and Linear Algebra" – degree course in Vehicle Engineering -University of Modena and Reggio Emilia.

2022-23
"Geometry" - degree course in Electronic Engineering -University of Modena and Reggio Emilia.
"Geometry and Linear Algebra" – degree course in Vehicle Engineering -University of Modena and Reggio Emilia.

2023-24
"Linear Algebra" - degree course in Electronic Engineering -University of Modena and Reggio Emilia.
"Geometry and Linear Algebra" – degree course in Vehicle Engineering -University of Modena and Reggio Emilia.

2024-25
"Linear Algebra" - degree course in Electronic Engineering -University of Modena and Reggio Emilia.
"Geometry and Linear Algebra" – degree course in Vehicle Engineering -University of Modena and Reggio Emilia.

Scientific publications

1) A. Cavicchioli - F. Spaggiari, *The classification of 3-manifolds with spines related to Fibonacci groups,* in "Algebraic Topology – Homotopy and Group Cohomology", Proceedings of the 1990 Barcelona Conference on Algebraic Topology, Lecture Notes in Math. **1509**, Springer-Verlag Ed., Berlin-Heidelberg -New York, (1992), 50-78.

2) F. Spaggiari, *A note on Generalized Petersen Graphs*, Atti Sem. Mat. Fis. Univ. Modena **41** (1993), 381-392.

3) F. Spaggiari, *On a Theorem of L. Moser*, Boll. Un. Mat. Ital., **7** Ser. A (1993), 421-429.

4) A. Cavicchioli - F. Spaggiari, *On the topological structure of compact 5-manifolds*, Comment. Math. Univ. Carolinae **34** (1993), 513-524.

5) A. Cavicchioli - M. Meschiari – F. Spaggiari, *A graph theoretical algorithm for computing the (co)homology of polyhedra* , Italian J. of Pure and Applied Math. **2** (1997), 19-36

6) F. Spaggiari, *On certain classes of finite groups*, Ricerche di Matematica **46** (1997), 31-43.

7) A. Cavicchioli - F. Hegenbarth – F. Spaggiari, *A splitting theorem for homotopy equivalent smooth 4-manifolds*, Rendiconti di Matematica, Univ. di Roma, Ser. (7), **17** (1997), 523-539.

8*)* A. Cavicchioli - M. Meschiari - B. Ruini – F. Spaggiari, *A survey on snarks and new results: products, reducibility and a computer search,* J. of Graph Theory **28** (2) (1998), 57-86.

9) A. Cavicchioli - F. Hegenbarth – F. Spaggiari, *Topological properties of high-dimensional handles*, Cahiers de Topologie et Geom. Diff. Categoriques **39-1** (1998), 45-62.

10) B. Ruini – F. Spaggiari, *On the structure of Takahashi Manifolds*, Tsukuba J. Math. **22** (3) (1998), 72-737; corrigendum, Tsukuba J. Math. **24** (2000), 433-434 **.**

11) F. Spaggiari, *On the genus of* RP^3 x S^1, Collect. Math. **50** (3) (1999), 229-241.

12) A. Cavicchioli - B. Ruini – F. Spaggiari, *Cyclic branched coverings of 2-bridge knots* , Rev. Matematica Complutense **12** (2) (1999), 383-416.

13) A. Cavicchioli - B. Ruini – F. Spaggiari, *On a conjecture of M.J. Dunwoody*, Algebra Colloquium **8** (2) (2001), 169-218.

14) B. Ruini – F. Spaggiari, *Manifold spines and hyperbolicity equations*, Rend. Ist. Mat. Univ. Trieste, Suppl. 1 **32** (2001), 333-374.

15) A. Cavicchioli – F. Spaggiari, *On the homotopy type of Poincaré spaces*, Annali di Matematica **180** (2001), 331-358.

16) A. Cavicchioli - F. Hegenbarth – F. Spaggiari, *Embedding 4-manifolds with vanishing second homology*, Topology and its Appl. **123** (2002), 313-322.

17*)* B. Ruini – F. Spaggiari, *On the computation of L-groups and natural maps*, Abh. Math. Sem. Univ. Hamburg **72** (2002), 297-308.

18) B. Ruini – F. Spaggiari – A. Vesnin, *On spines of Seifert fibered manifolds*, Aequationes Math. **65** (2003), 40-60.

19) A. Cavicchioli - T.E. Murgolo - B. Ruini – F. Spaggiari, *Special classes of snarks*, Acta Applicandae Mathematicae **76** (2003), 57-88.

20) A. Cavicchioli - D. Repovs – F. Spaggiari, *Topological properties of cyclically presented groups*, J. Knot Theory and Ramifications **12** (2) (2003), 243-268.

21) A. Cavicchioli - B. Ruini – F. Spaggiari, *Decomposing four-manifolds up to homotopy type,* Beitrage zur Algebra und Geometrie, i.e., Contributions to Algebra and Geometry **44** (1) (2003), 189-201.

22) E. Rafikov - D. Repovs – F. Spaggiari, *On calculation of the Witten invariants of 3-manifolds*, J. Austral. Math. Soc. **75** (2003), 385-398.

23) F. Spaggiari, *Four-manifolds with π_1-free second homotopy,* Manuscripta Math. **111** (2003), 303 -320.

24) F. Spaggiari, *On the stable classification of spin four-manifolds*, Osaka J. Math. **40** (2003), 835-843.

25) E. Barbieri – A. Cavicchioli – F. Spaggiari, *Seifert hyperelliptic manifolds*, International J. of Pure and Applied Math. **6** (3) (2003), 317-342.

26) Yu. V. Muranov - D. Repovs – F. Spaggiari, *Surgery on triples of manifolds,* Mat. Sbornik **194** (8) (2003), 1251-1271.

27) E. Barbieri – F. Spaggiari*, On branched coverings of lens spaces***,** Proc. Edinburgh Math. Soc. **47** (2004), 271-288.

28) E. Barbieri - F. Spaggiari, *Periodic links and manifolds*, JP Jour. Topology and Geometry **4** (2004) , 35-52

29) A. Cavicchioli - F. Spaggiari, *Varieties of Fibonacci Type*, The Fibonacci Quarterly **42** (2004), 256-265.

30) F. Hegenbarth - D. Repovs – F. Spaggiari, *Connected sums of 4-manifolds*, Topology and its Appl. **146-147** (2005), 209-225.

31) D. Repovs - M. Skopenkov – F. Spaggiari, *On the Pontryagin-Steenrod-Wu Theorem*, Israel J. Math. **145** (2005), 341-347

32) A. Cavicchioli – D. Repovs – F. Spaggiari*, Families of group presentations related to topology*, J. of Algebra **286** (2005), 41-56.

33) A. Cavicchioli - Yu.V. Muranov - F. Spaggiari, *Relative groups in surgery theory*, Bull. of the Belgian Math. Soc. – Simon Stevin **12** (2005), 109-135.

34) D. Repovs - A. Skopenkov - F. Spaggiari, *An infinite sequence of non-realizable weavings,* Discrete Appl. Math. **150** (2005), 256-260.

35) F. Spaggiari, *The combinatorics of some tetrahedron manifolds*, Discrete Math. **300** (2005), 163-179.

36) E. Barbieri - A. Cavicchioli – F. Spaggiari, *Dehn surgeries on periodic links*, Math. Nachr. **279** (5-6) (2006), 477-489.

37) A. Cavicchioli - F. Hegenbarth – F. Spaggiari, *Manifolds with poly-surface fundamental groups,* Monatsh. Math. **148** (2006) , 181-193.

38) A. Cavicchioli - Y.V. Muranov - F. Spaggiari, *Mixed structures on a manifold with boundary*, Glasgow Math. J. **48** (2006), 125-143.

39) A. Cavicchioli – Y.V. Muranov – F. Spaggiari, *On the elements of the second type in surgery groups,* Max-Planck Institut fur Mathematik MPIM2006, Bonn (Germany), n. 111, 2006.

40) A. Cavicchioli – L. Paoluzzi– F. Spaggiari, *On the classification of Kim and Kostrikin manifolds*, J. Knot Theory and Ramifications **15** (5) (2006), 549-569.

41) A. Cavicchioli - F. Spaggiari, *Certain cyclically presented groups with the same polynomial*, Comm. in Algebra **34** (2006), 2733-2744.

42) A. Cavicchioli - F. Spaggiari, *A note on irreducible Heegaard diagrams*, Intern. J. Math. & Math. Sci. (2006), vol. 2006, ID 53135, 1-11.

43) A. Cavicchioli – F. Spaggiari, *Remarks on a paper of M. Ochiai*, Manuscripta Math. **120** (2006), 265-270.

44) A. Cavicchioli – F. Spaggiari, *Topology of four-manifolds with special homotopy groups,* Bull. Austral. Math. Soc. 74 (2006), 321-335

45) A. Cavicchioli - F. Spaggiari – M. Wang, *A topological study of some groups arising from cellular quotients*, Algebra Colloq. **13** (2) (2006), 349-360.

46) F. Spaggiari, *Asphericity of symmetric presentations*, Publicacions Matemàtiques **50** (2006), 133-147.

47) F. Spaggiari, *A geometric study of generalized Neuwirth groups*, Forum Math. **18** (2006), 803-827.

48) E. Barbieri – A. Cavicchioli – F. Spaggiari, *A Generalization of Helling-Kim-Mennicke Groups and Manifolds,* J. Lie Theory **17** (2007), 857-867.

49) A. Cavicchioli – F. Spaggiari, *On the genus of real projective spaces,* Archiv Math. **89** (2007), 570-576.

50) E. Barbieri − A. Cavicchioli – F. Spaggiari, *Universal presentations for manifold groups*, European J. Comb. **29** (2008), 1309-1320.

51) A. Cavicchioli – F. Spaggiari, *Graphs encoding 3-manifolds of genus two,* Discrete Math. **308** (2008), 308-318.

52) A. Cavicchioli – E. O'Brien – F. Spaggiari, *On some questions about a family of cyclically presented groups,* J. Algebra **320** (2008), 4063-4072.

53) A. Cavicchioli – F. Spaggiari, *A result in surgery theory,* Canadian Math. Bull. **51** (4) (2008), 508-518.

54) A. Cavicchioli – F. Spaggiari, *Classifying combinatorial 4-manifolds up to complexity,* Bol. Soc. Mat. Mexicana **14** (3) (2008), 303-319.

55) E. Barbieri – A. Cavicchioli – F. Spaggiari, *Some series of honey-comb spaces,* Rocky Mountain J. Math. **39** (2) (2009), 381- 398.

56) A. Cavicchioli – F. Hegenbarth – Y.V. Muranov – F. Spaggiari, *On iterated Browder-Livesay invariants,* Math. Notes **86** (2) (2009), 196- 215.

57) A. Cavicchioli – Y.V. Muranov – F. Spaggiari, *Surgery on pairs of closed manifolds,* Czechoslovak Math. J. **59** (2009), 551- 571.

58) A. Cavicchioli – Y.V. Muranov – F. Spaggiari, *Assembly maps and realization of splitting obstructions,* Monatshefte fuer Mathematik **158** (4) (2009), 367-391.

59) A. Cavicchioli –D. Repovs – F. Spaggiari, *Palindrome presentations of rational knots,* J. Knot Theory and Ramifications **18** (3) (2009), 343- 361.

60) A. Cavicchioli – F. Spaggiari – A.I. Telloni, *Topology of compact space forms from Platonic solids. I*, Topology and its Appl. **156** (2009), 812- 822.

61) A. Cavicchioli – F. Spaggiari – A.I. Telloni, *Topology of compact space forms from Platonic solids. II*, Topology and its Appl. **157** (2010), 921- 931.

62) F. Spaggiari, *Regular genus and products of spheres*, J. Korean Math. Soc., **47** (5) (2010), 925-934.

63) A. Cavicchioli – F. Spaggiari – A.I. Telloni, *Dehn surgeries on some classical links*, Proceed. Edinburgh Math. Soc. **54** (2011), 33-45.

64) A. Cavicchioli - F. Spaggiari, *Tetrahedron manifold series of Heegaard genus two with knot presentation and Dehn surgery*, Acta Math. Hungarica **131** (4) (2011), 307-322. .

65) A. Cavicchioli – F. Spaggiari, *The combinatorics of piecewise linear manifolds by colored graphs*, International Mathematical Forum **7** (8) (2012), 339-368.

66) A. Cavicchioli – F. Spaggiari – A.I. Telloni, *Fundamental group and covering properties of hyperbolic surgery manifolds*, Geometry **2013** (2013), 1-8.

67) A. Cavicchioli – F. Spaggiari, *Cyclic branched coverings of some pretzel links*, Periodica Math. Hungarica **67** (1) (2013), 1-14.

68) A. Cavicchioli – F. Hegenbarth- Yu. V. Muranov - F. Spaggiari, *On the surgery theory for filtered manifolds*, Mathematics and Statistics **1** (4) (2013), 204-219.

69) A. Cavicchioli – F. Spaggiari – A.I. Telloni, *Cusped hyperbolic 3-manifolds from regular polyhedra*, Huston Journal of Mathematics **39** (4) (2013), 1161-1174.

70) A. Cavicchioli – E. Molnar – F. Spaggiari – J. Szirmai, *Some tetrahedron manifolds with Sol geometry and related groups*, Journal of Geometry **105** (2014), 601-614.

71) Spaggiari – A.I. Telloni, *Isometry groups of some Dunwoody manifolds,* Algebra Colloquium **23 (1)** (2016) 117-128.

72) A. Cavicchioli- F. Spaggiari *On certain classes of closed 3-manifolds with different geometric structures,* in: A Mathematical Tribute to Professor Josè Maria Montesinos Amilibia (M. Castrillon, E. Martin-Peinador, J.M. Rodrigues-Sanjurjo, J.M. Ruiz eds.), Departamento de Geometria y Topologia, Facultad de Ciencias Matematicas, Univ. Complutense Madrid, Madrid (2016), 227-242. ISBN: 978-84-608-1684-3. Ed. Ulzama Digital, Espana.

73) D. J. Garity -U. H. Karimov -D. Repovs - F. Spaggiari, *A New Class of Homology and Cohomology 3-Manifolds,* Mediterr. J. Math. **13** (2016), 1277-1283 DOI 10.1007/s00009-015-0549-8, published online March 8, 2015, Springer, Basel 2015.

74) A. Cavicchioli – F. Hegenbarth – F. Spaggiari, *PD_4-Complexes: constructions, cobordisms and signatures,* Homology, Homotopy and Applications **18 (2)** (2016), 267-281. DOI: http://dx.doi.org/10.4310/HHA.2016.v18.n2.a15.

75) A. Cavicchioli – F. Hegenbarth – F. Spaggiari, *On four-dimensional Poincare` duality cobordism groups,* Mediterr. J. Math. **15 (2)** (2018), 61-78 DOI: https://doi.org/10.1007/s0009-018-1102-3, published online March 17, 2018.

76) A. Cavicchioli- F. Spaggiari, *The character variety of some classes of rational knots*, Journal of Knot Theory and Its Ramifications **28**, No. 9 (2019) 1-15. DOI: https://doi.org/10.1142/S021821651950055X

77) A.Cavicchioli – F. Spaggiari, *On graph-theoretical invariants of combinatorial manifolds*, The Electronic Journal of Combinatorics **26 (3)** (2019), 1-15.

78) A. Cavicchioli – F. Hegenbarth – F. Spaggiari, *Four-dimensional Complexes with Fundamental Class,* Mediterr. J. Math. **17 (6)** (2020), 1-18 https://doi.org/10.1007/s00009-020-01618-z

79) A. Cavicchioli- F. Spaggiari, *On reduced complexity of closed piecewise linear 5-manifolds*, Periodica Math. Hungarica, (2021) online il 10/2/2021 DOI: https://doi.org/10.1007/s10998-020-00375-6.

80) A. Cavicchioli – F. Spaggiari, *Recognizing Euclidean Space Forms with minimal fundamental tetrahedra*, Note di Matematica, Univ. Lecce **41**(2) (2021), 83-102 https://doi.org/10.1285/115900932v41n2p83

81) A. Cavicchioli- F.Spaggiari, *New formulas for the character varieties of two-bridge links,* Journal of Geometry **112** (43) (2021) https://doi.org/10.1007/500022-021000608-0

82) A. Cavicchioli- F. Hegenbarth- F.Spaggiari, *Fundamental class, Poincarè duality and finite orientedFC_4-complexes,* Forum Math. **34** (3) (2022) 627-643 https://doi.org/10.1515/forum-2021-0070

83) A. Cavicchioli- F. Spaggiari, *All Dehn fillings of the Whitehead link complement are tetrahedron manifolds,* International Electronic Journal of Geometry **15**(2) (2022) 18-27 https://doi.org/10.32323/iejgeo.602178

84) A. Cavicchioli- F. Spaggiari, *Spines and surgery descriptions of graph manifolds,* Topology and its Applications **339** Part A (43) (2023), 108579 https://doi.org/10.1016/j.topol.2023.108579

85) A. Cavicchioli- F. Spaggiari, *The character variety of one relator groups,* Extracta Mathematicae **38** (1) (2023), 105-123 https://doi.org/10.17398/2605-5686.38.1.105

86) A. Cavicchioli – F. Spaggiari, *Exceptional Dehn surgeries on some infinite series of hyperbolic knots and links,* Mediterr. J. Math. **21** (3) (2024), 1-18 https://dx.doi.org/10.1007/s00009-024-02633-0

87) A. Cavicchioli – F. Spaggiari**,** *Exceptional surgeries on hyperbolic knots arising from the 3-chain link,* Examples and counterexamples **7** (2025), 1-3. https://dx.doi.org/10.1016/j.exco.2025.100182

88) A. Cavicchioli – F. Spaggiari**,** *Surgery presentations of cube manifolds reducible to two generators,* Publ. Math. Debrecen **106 (1-2)** (2025), 29-52. https://dx.doi.org/10.5486/PMD.2025.9728

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