Daniele Alessandrini

Curriculum Vitae
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Contacts

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Research topics: Differential Geometry, Geometric Topology, Geometry of Surfaces. Higher Teichmüller Theory, Higgs Bundles, Geometric Structures, Character Varieties, Teichmüller Theory, Hyperbolic Geometry.

Positions held

2021–pres.	Associate Research Scientist	Columbia University, New York, USA.
2019–2021	Visiting Professor	Columbia University, New York, USA.
2015–2019	Akademischer Rat (Assistant Prof.)	University of Heidelberg, DE.
2012–2015	Akademischer Mitarbeiter (Postdoc)	University of Heidelberg, DE.
2011–2012	Assistant-Docteur (Postdoc)	University of Fribourg, CH.
2010–2011	Postdoc	Max Planck Inst. Math., Bonn, DE.
2008–2010	Postdoc	CNRS, IRMA, Strasbourg, FR.
2007	Research grant	University of Pisa, IT.
2004–2006	PhD scholarship	Scuola Normale Superiore, Pisa, IT.

Education

2004–2007   Graduate student of Mathematics at Scuola Normale Superiore, Pisa, IT.
   Defense of PhD Thesis (Dec 20, 2007), grade 70/70 *cum laude*, advisor R. Benedetti.

1999–2003   Scholarship in Mathematics with Grant at Scuola Normale Superiore, Pisa, IT.
   Defense of Licence Diploma (Dec 3, 2003), grade 70/70 *cum laude*.

1999–2003   Bachelor/Master student of Mathematics at University of Pisa, IT.
   Defense of Master's Thesis (Oct 30, 2003), grade 110/110 *cum laude* and Gold Medal.

Recognitions

2018: Qualification aux fonctions de Professeur des Universités (Qualification for the functions of Professor). This is a French title certifying that my academic titles are equivalent to a Habilitation (HDR).

2017: "Bachelor/Master rights" in Mathematics. The University of Heidelberg gave me the right to be adviser, referee and member of the jury for Bachelor and Master Theses.

2016: "Promozionsrecht" (PhD rights) in Mathematics. The University of Heidelberg gave me the right to be adviser, referee and member of the jury for PhD Theses.

Third party funding

2012–2022	Part of the NSF RNMS GEAR Network.
2017–2019	Project Leader of the DFG (German Research Foundation) Priority Programme Geometry at Infinity.
2016–2019	Principal Investigator of the DFG RTG 2229 Asymptotic Invariants and Limits of Groups and Spaces.
2014	Hengstberger Prize 2014, to organise the Hengstberger Symposium Higher Teichmüller Theory and Higgs bundles, Heidelberg, 2015.

Supervision of PhD students

Johannes Horn	2016 - 2020	
Evgenii Rogozinnikov	2016 - 2020	co-superv. with Anna Wienhard.
Christoph Karg	2016 - 2020	co-superv. with Gabi Weitze-Schmithüsen.

Supervision of undergraduate students

Evgenii Rogozinnikov	Master Thesis	2016	co-superv. with Anna Wienhard.
Stephan Schmitt	Bachelor Thesis	2016	co-superv. with Anna Wienhard.

Referee or Defence Committees for Theses

The University of Sydney	Dominic Tate	PhD Thesis	2020.
University of Rome "La Sapienza"	Federico Wolenski	PhD Thesis	2018.
University of Parma	Gianluca Faraco	PhD Thesis	2018.
University of Strasbourg	Elena Frenkel	PhD Thesis	2018.
University of Heidelberg	Sven Grützmacher	Master Thesis	2018.

Hiring Committees

University of Heidelberg	2019	Junior Professor W1 with Tenure track.
University of Heidelberg	2015	Junior Professor W1.

Referee for journals

AMS Contemporary Mathematics, Commentarii Mathematici Helvetici, Compositio Mathematica, Geometriae Dedicata, Geometry & Topology, Handbook of Teichmüller Theory, International Mathematics Research Notices, Journal of Combinatorial Theory series A, Journal of Differential Geometry, Journal of Topology, Proceedings of AMS, Topology and its applications, Transformation Groups.

Organizer of Conferences and seminars

International Workshop on Higher Teichmüller Theory,	Tianjin, CN, 2024?
Weekly research seminar Geometry and Topology,	Columbia University, NY, 2022–2023.
40th Southern Germany Colloquium,	Heidelberg, DE, Jun 29–30, 2018.
Geometric Structures and Representation Varieties,	Heidelberg, DE, Feb 19–22, 2018.
Asymptotic geometry of groups and spaces,	Heidelberg, DE, Feb 20–23, 2017.
Hengstberger Symposium:	
Higher Teichmüller theory and Higgs bundles,	Heidelberg, DE, Nov 2–6, 2015.
Weekly research seminar Differential Geometry,	Heidelberg, DE, 2012–2016.

Teaching

– As main lecturer

18. Number Theory and Cryptography - Math UN3020, for undergraduate students, Columbia University (Spring 2023).
17. Calculus I - Math UN1101, for undergraduate students, Columbia University (Fall 2022).
16. Number Theory and Cryptography - Math UN3020, for undergraduate students, Columbia University (Spring 2022).
15. Calculus I - Math UN1101, for undergraduate students, Columbia University (Fall 2021).
14. Intro Modern Algebra I - Math GU4041, for undergraduate students, Columbia University (Spring 2021).
13. Calculus I - Math UN1101, for undergraduate students, Columbia University (Fall 2020).
12. Undergraduate Seminars II - Math UN3952, for undergraduate students, Columbia University (Spring 2020).
11. Calculus I - Math UN1101, for undergraduate students, Columbia University (Fall 2019).
10. Junior Seminar, for Bachelor/Master students, University of Heidelberg (Summer 2019).
9. RTG Course : "Thurston's theory of surfaces", for grad students of the Karlsruhe Institute of Technology and University of Heidelberg (Winter 2017–2018).
8. Student seminar "The Arithmetics of the Hyperbolic Plane", for Bachelor/Master students, University of Heidelberg (Summer 2017).
7. Junior Seminar, for Bachelor/Master students, University of Heidelberg (Summer 2017).
6. Student seminar "Locally homogeneous structures on surfaces", for Bachelor/Master students, University of Heidelberg (Winter 2016–2017).
5. Student seminar "Geometry of Lie groups", for Bachelor/Master students, University of Heidelberg (Summer 2016).
4. Topics in Geometry, for Bachelor/Master students, University of Heidelberg (Summer 2015).
3. Differential Geometry II, for Bachelor/Master students, University of Heidelberg (Winter 2014–2015).
2. Geometry and Topology of Surfaces, for Bachelor/Master students, University of Heidelberg (Summer 2014).
1. Student seminar "Galois Theory", for Bachelor students, University of Fribourg (Spring 2012).

– As assistant

13. "Differential Geometry II", for Bachelor/Master students, University of Heidelberg (Winter 2018–2019).
12. "Differential Geometry I", for Bachelor students, University of Heidelberg (Summer 2018).
11. "Differential Geometry II", for Bachelor/Master students, University of Heidelberg (Winter 2017–2018).
10. "Differential Geometry I", for Bachelor students, University of Heidelberg (Summer 2016).
9. "Higher Mathematics for Physicists III", for Bachelor students, University of Heidelberg (Winter 2015–2016).
8. "Geometric Group Theory", for Bachelor students, University of Heidelberg (Winter 2013–2014).
7. "Differential Geometry II", for Bachelor/Master students, University of Heidelberg (Summer 2013).
6. "Differential Geometry I", for Bachelor students, University of Heidelberg (Winter 2012–2013).
5. "Algebra and Geometry", for Bachelor students, University of Fribourg (Winter 2011–2012).
4. Evaluator of the math written admission contest at Scuola Normale Superiore, Pisa (Sept 2006).
3. Tutor for math and physics freshmen at Scuola Normale Superiore in connection with the "Geometry" lecture course (Year 2005–2006).
2. "Linear Algebra", for Bachelor students of Telecommunication Engineering, University of Pisa (Winter 2004–2005).
1. Tutor for math and physics freshmen at Scuola Normale Superiore in connection with the "Analysis" lecture course (Year 2004–2005).

Conferences and Seminars

– Invited mini-courses

8. "Higher Teichmüller spaces and geometric structures", Workshop Higher Teichmüller theory and geometric structures, Pavia (Jun 3–7, 2019).
7. "Higgs bundles and geometric structures on manifolds", Workshop on the Geometry and Physics of Higgs bundles II, University of Illinois at Chicago (Nov 11–12, 2017).
6. "Introduction to Spectral Networks", Seminar Analysis of surface groups representations, MSRI, Berkeley (Mar 25 – Apr 1, 2015).
5. "Introduction to Spectral Networks", University of Luxembourg (Feb 16–18, 2015).
4. "Spectral networks", University of Illinois at Urbana-Champaign (Dec 8–12, 2014).
3. "Teichmüller spaces for surfaces of infinite topological type", Trimester on Teichmüller Theory, ESI, Vienna (Mar 18–22, 2013).
2. "Compactification of parameter spaces from a tropical viewpoint", Mini-Workshop on Low Dimensional Topology, Korea Institute for Advanced Studies, Seoul (Oct 25–27, 2010).
1. "What is a complex projective structure?" School Master Class in Geometry, IRMA, Strasbourg (Apr 27 – May 2, 2009).

– Conferences as invited speaker

25. Joint Congress of Mathematics–American Mathematical Society–European Mathematical Society, Grenoble (Jul 18–22, 2022), Talk "Domains of discontinuity for Anosov representations".
24. Conference "Geometric and Analytic aspects of moduli spaces of Higgs bundles", Strasbourg (Jun 7–11, 2021), Talk "The nilpotent cone in rank one and minimal surfaces".
23. Workshop "Harmonic maps and rigidity", Sisteron (Apr 7–13, 2019), Talk "Generalities on Harmonic maps".
22. Conference "Representations of surface groups and beyond", Lille (Sept 24–26, 2018), Talk "Classification of real and complex projective structures with special holonomy".
21. Workshop on relative character varieties and parabolic Higgs bundles, Indio, California (Feb 24– Mar 3, 2018), Talk "The relative $PSL(2,\mathbb{R})$-character varieties".
20. Kickoff Meeting of the Priority Programme Geometry at Infinity, Potsdam (Nov 9–10, 2017), Talk "Hitchin components for orbifolds".
19. 39th Southern Germany Colloquium on Differential Geometry, Frankfurt (Jun 30 – Jul 01, 2017), Talk "Geometric Structures with Quasi-Hitchin Holonomy".
18. Workshop on Compactifications of moduli spaces of representations, Glacier National Park, Montana (Jun 11–18, 2017), Talk "Tropical compactifications of character varieties".
17. 99th Meeting of Mathematicians and Theoretical Physicists: Geometry, Dynamics and Physics, dedicated to Thurston, Strasbourg (Jun 8–10, 2017), Talk "Geometric Structures with Quasi-Hitchin Holonomy".
16. Conference Compactifications of Buildings and Symmetric Spaces, Heidelberg (May 16–17, 2017), Talk "The horofunction compactification of Teichmüller spaces of surfaces with boundary".
15. Conference Current trends on spectral data for Higgs bundles II, Simons Center, Stony Brook (Jun 11–12, 2016), Talk "AdS 3-manifolds and Higgs bundles".
14. Conference Higgs Bundles in Geometry and Physics, Heidelberg (Feb 29 – Mar 03, 2016), Talk "Maximal components of the character variety of $PSp(4,\mathbb{R})$".
13. Workshop on $\mathsf{Sp}(4,\mathbb{R})$-Anosov representations, Granby, Colorado (Jan 10–18, 2016), Talk "Higgs bundles for real groups".
12. Conference Recent Advances in Surface Group Representations, Strasbourg (Sept 28 – Oct 2, 2015), Talk "Geometric structures on 3-manifolds and Higgs bundles".
11. Conference Dynamics on Moduli Spaces, MSRI, Berkeley, CA (Apr 13–17, 2015), Talk "Degeneration of real projective structures on open surfaces".
10. Higgs Bundles and Harmonic Maps Workshop, Asheville, North Carolina (Jan 3–11, 2015), Talk "Branched hyperbolic surfaces and non-maximal $SL(2,\mathbb{R})$ representations/Higgs bundles".
9. Christmas Workshop, Karlsruhe Institute for Technology (Dec 17–19, 2014), Talk "Thurston's asymmetric metric for unusual surfaces".
8. University of Illinois at Urbana-Champaign, Mini-course "Spectral networks" (Dec 8–12, 2014).
7. Conference Finsler Geometry with Applications, Samos (Sept 22–30, 2014), Talk "Thurston's asymmetric metric for unusual surfaces".
6. Workshop on 3-dimensional geometry and topology, Marseille (Sept 13–16, 2010), Talk "On Teichmüller spaces for surfaces of infinite type".

5. Conference Tropical structures in geometry and physics, MSRI, Berkeley (Nov 30 – Dec 4, 2009), Talk "On the compactification of the parameter space of convex projective structures".
4. Conference Geometry, dynamics and group representations, CIRM, Luminy (Nov 9–13, 2009), Talk "Compactification of the spaces of convex projective structures".
3. Conference Tropical Geometry in Combinatorics and Algebra, MSRI, Berkeley (Oct 12–16, 2009), Talk "Tropicalization of Teichmüller spaces".
2. Conference Days of Geometry, IRMA, Strasbourg (Sept 21–23, 2006), Talk "Tropicalization of linear actions".
1. Conference Classical and Quantum Gravity in 3 Dimensions, Centro De Giorgi, Pisa (Sept 5–11, 2005). Talk "Dequantization of Teichmüller spaces".

– **Conferences with contributed talk**

7. 19th ÖMG (Austrian Mathematical Society) Congress and Annual DMV (German Mathematical Union) Meeting, Salzburg (Sept 11–15, 2017), Talk "Geometric Structures with Quasi-Hitchin Holonomy".
6. Second GEAR Junior retreat, University of Michigan at Ann Arbor (May 23 – Jun 1, 2014), Talk "Spectral Networks".
5. 4th de Brún Workshop on Group Actions, National University of Ireland, Galway (Dec 6–12, 2010), Talk "On Teichmüller spaces for surfaces of infinite type".
4. Conference Teichmüller Theory, MFO, Oberwolfach (Nov 28 – Dec 4, 2010), Talk "On Teichmüller spaces for surfaces of infinite type".
3. Conference Recent advances in complex and real geometry, Levico Terme, Trento (Oct 20–24, 2008), Talk "Complete hyperbolicity of Lempert's elliptic tubes".
2. Conference Tropical Geometry, MFO, Oberwolfach (Dec 9–15, 2007), Talk "Logarithmic limit sets of real semi-algebraic sets".
1. Conference Recent advances in complex and real geometry, Levico Terme, Trento (Oct 22–26, 2006), Talk "Degeneration of convex projective structures on surfaces".

– **Invited seminar talks**

50. Yale University, Seminar TBA (Oct 25, 2022).
49. CUNY Graduate Center, Seminar TBA (Oct 18, 2022).
48. NYC noncommutative geometry seminar, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Sept 21, 2022).
47. University of California Riverside, Seminar "Domains of discontinuity for Anosov representations" (May 13, 2022).
46. Indian Institute of Science, Bangalore, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Feb 16, 2022).
45. University of Heidelberg, CP7 lunch seminar, "Spectral Networks and non-abelianization" (Dec 1, 2021).
44. Columbia Undergraduate Math Society, Seminar "Hyperbolic surfaces and Teichmüller Theory" (Oct 27, 2021).
43. Universidad de los Andes, Bogotá, Department Colloquium, title "Higher Teichmüller Theory and Character Varieties" (Oct 14, 2021).
42. University of Lisbon, Seminar "The nilpotent cone in rank one and minimal surfaces" (Sept 07, 2021).
41. Nankai University, Tianjin, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (May 27, 2021).
40. University of Rome "La Sapienza", Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Mar 10, 2021).
39. Florida State University, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Feb 09, 2021).
38. Rice University, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Oct 21, 2020).
37. Rutgers Newark, Department Colloquium, title: "Higher Teichmüller Theory and Character Varieties" (Feb 26, 2020).
36. Columbia University, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Feb 21, 2020).
35. Yale University, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Feb 4, 2020).
34. University of Maryland, Seminar "Non commutative cluster coordinates for Higher Teichmüller Spaces" (Oct 7, 2019).

33. IRMA, Strasbourg, Seminar Talk "Classification of real and complex projective structures with special holonomy", (Oct 26, 2018).

32. IHÉS, Paris, Seminar "Domains of discontinuity for (Quasi-)Hitchin representations" (Apr 23, 2018).

31. University of Maryland, Seminar "Domains of discontinuity for (Quasi-)Hitchin representations" (Apr 9, 2018).

30. Bers Seminar, CUNY Graduate Center, Seminar "Geometric Structures with Quasi-Hitchin Holonomy" (Feb 9, 2018).

29. University of South California, Los Angeles, Seminar "Geometric Structures with Quasi-Hitchin Holonomy" (Oct 02, 2017).

28. Caltech, Pasadena, Seminar "Geometric Structures with Quasi-Hitchin Holonomy" (Sept 29, 2017).

27. University of Saarland , Saarbrücken, Seminar "The $PSL(2,\mathbb{C})$ geometry of the Lagrangian Grassmannian" (Nov 21, 2016).

26. Centre for Quantum Geometry of Moduli Spaces, Aarhus, Seminar "The $PSL(2,\mathbb{C})$ geometry of the Lagrangian Grassmannian" (Sept 21, 2016).

25. University of Frankfurt, Seminar "Geometric structures on manifolds and Higgs bundles" (May 10, 2016).

24. Centre for Quantum Geometry of Moduli Spaces, Aarhus, Seminar "Maximal components of the character variety of $PSp(4,\mathbb{R})$" (Feb 17, 2016).

23. IRMA, Strasbourg, Seminar "Maximal components of the character variety of $PSp(4,\mathbb{R})$" (Jan 25, 2016).

22. University of Indiana, Bloomington, Seminar "Degeneration of real projective structures on open surfaces" (May 1, 2015).

21. Caltech, Pasadena, Seminar "Thurston's asymmetric metric for unusual surfaces" (Mar 4, 2015).

20. ETH, Zurich, Seminar "Thurston's asymmetric metric for unusual surfaces" (April 30, 2014).

19. Geometry Day, IRMA, Strasbourg (Oct 18, 2013), Talk "On the rigidity for the asymmetric distance for surfaces with boundary".

18. IRMA, Strasbourg, Seminar "The horofunctions on Teichmüller space" (Apr 29, 2013).

17. Orsay, Paris 11, Seminar "On tropical compactifications of parameter spaces of geometric structures" (Apr 8, 2013).

16. IRMA, Strasbourg, Seminar "Ideal triangulations and shear coordinates on surfaces of infinite type" (May 7, 2012).

15. Max Planck Institute, Bonn, Seminar "On the parameter spaces of projective structures on surfaces and their compactification" (Sept 12, 2011).

14. IRMA, Strasbourg, Seminar "On the parameter spaces of projective structures on surfaces and their compactification" (Jul 4, 2011).

13. University of Marseille, Seminar "On the compactification of Teichmüller-like parameter spaces" (Mar 18, 2011).

12. Max Planck Institute, Bonn, Seminar "On the compactification of Teichmüller-like parameter spaces" (Jan 20, 2011).

11. Max Planck Institute, Bonn, Seminar "On Teichmuller spaces for surfaces of infinite type" (Jan 13, 2011).

10. University of Fribourg, Seminar "On Teichmüller spaces of surfaces of infinite type" (Nov 17, 2010).

9. Institut Fourier, University of Grenoble, Seminar "On Teichmüller spaces of surfaces of infinite type" (Apr 29, 2010).

8. Mathematics Institute Jussieu, Paris 6, Seminar "Tropicalization of the Hilbert scheme" (Mar 31, 2010).

7. Mathematics Institute Jussieu, Paris 6, Seminar "On the compactification of Teichmüller-like parameter spaces" (Mar 30, 2010).

6. University of Warwick, Seminar "On the compactification of Teichmuller-like parameter spaces" (Mar 11, 2010).

5. University of Warwick, Seminar "On the tropicalization of the Hilbert scheme" (Mar 10, 2010).

4. University of Pisa, Seminar "Teichmüller spaces for surfaces of infinite type" (Feb 9, 2010).

3. IRMA, Strasbourg, Seminar "Complexification and tropicalization of convex real projective manifolds" (Oct 13, 2008).

2. Institut Fourier, University of Grenoble, Seminar "Degeneration of convex projective structures on surfaces" (Apr 20, 2007).

1. IRMA, Strasbourg, Seminar "Compactification of Teichmüller spaces from a tropical viewpoint" (May 30, 2005).

Publications

Published or accepted papers

21. D. Alessandrini, O. Guichard, E. Rogozinnikov, A. Wienhard, *Non commutative coordinates for symplectic representations*, accepted on Memoirs of AMS.

20. D. Alessandrini, G. Lee, F. Schaffhauser, *Hitchin components for orbifolds*, Journal of the European Mathematical Society (2022). published online first https://doi.org/10.4171/JEMS/1210

19. D. Alessandrini, A. Berenstein, V. Retakh, E. Rogozinnikov, A. Wienhard, *Symplectic groups over noncommutative algebras*, Selecta Mathematica (2022). https://doi.org/10.1007/s00029-022-00787-x

18. D. Alessandrini, V. Disarlo, *Generalizing stretch lines for surfaces with boundary*, International Mathematics Research Notices (2021). https://doi.org/10.1093/imrn/rnab222

17. D. Alessandrini, *Higgs bundles and geometric structures on manifolds*, SIGMA **15** (2019), 039, 32 pages.

16. D. Alessandrini, B. Collier, *The Geometry of Maximal Components of the $PSp(4,\mathbb{R})$ Character Variety*, Geometry & Topology **23** (2019), 1251–1337.

15. D. Alessandrini, Q. Li, *Anti de Sitter 3-manifolds and Higgs bundles*, Proceedings of AMS **146** (2018), n. 2, 845–860.

14. V. Disarlo (joint w. D. Alessandrini), *Generalized stretch lines for surfaces with boundary*, Oberwolfach Reports **40** (2018), 2506–2509.

13. D. Alessandrini, L. Liu, A. Papadopoulos, W. Su, *The horofunction compactification of Teichmüller spaces of surfaces with boundary*, Topology Appl. **208** (2016), 160–191.

12. D. Alessandrini, L. Liu, A. Papadopoulos, W. Su, *On the inclusion of the quasiconformal Teichmüller space into the length-spectrum Teichmüller space*, Monatsh. Math. **179** (2016), n. 2, 165–189.

11. D. Alessandrini, M. Nesci, *On the tropicalization of the Hilbert scheme*, Collect. Math. **64** (2013), n. 1, 39–59.

10. D. Alessandrini, *Logarithmic limit sets of real semi-algebraic sets*, Adv. Geom. **13** (2013), n. 1 155–190.

9. D. Alessandrini, L. Liu, A. Papadopoulos, W. Su, *The behaviour of Fenchel-Nielsen distance under a change of pants decomposition*, Comm. Anal. Geom. **20** (2012), n. 2, 369–394.

8. D. Alessandrini, L. Liu, A. Papadopoulos, W. Su, *On local comparison between various metrics on Teichmüller spaces*, Geom. Dedicata **157** (2012), 91–110.

7. D. Alessandrini, L. Liu, A. Papadopoulos, W. Su, *On various Teichmüller spaces of a surface of infinite topological type*, Proc. Amer. Math. Soc. **140** (2012), 561–574.

6. D. Alessandrini, A. Saracco, *Convexity properties and complete hyperbolicity of Lempert's elliptic tubes*, Internat. J. Math. **22** (2011), n. 5, 603–617.

5. D. Alessandrini, L. Liu, A. Papadopoulos, W. Su, Z. Sun, *On Fenchel-Nielsen coordinates on Teichmüller spaces of surfaces of infinite type*, Ann. Acad. Sci. Fenn. Math. **36** (2011), n. 2, 621–659.

4. D. Alessandrini, *On Teichmüller spaces for surfaces of infinite topological type*, Oberwolfach Reports **7** (2010), 3113–3116.

3. D. Alessandrini, *Dequantization of real convex projective manifolds*, AMS Contemp. Math. **495** (2009), 61–85.

2. D. Alessandrini, *Tropicalization of group representations*, Algebr. Geom. Topol. **8** (2008), n. 1, 279–307.

1. D. Alessandrini, *Geometric properties of logarithmic limit sets over the reals*, Oberwolfach Reports **4** (2007), 3286–3288.

Recent Preprints

1. D. Alessandrini, C. Davalo, Q. Li, *Projective structures with (Quasi)-Hitchin holonomy*, preprint `arXiv:2110.15407` (2021).

Papers in preparation

2. D. Alessandrini, S. Maloni, N. Tholozan, A. Wienhard, *The geometry of quasi-Hitchin symplectic Anosov representations*, in preparation.

1. D. Alessandrini, Q. Li, A. Sanders, *Nilpotent Higgs bundles and minimal surfaces in hyperbolic three space*, in preparation.

Theses

2. D. Alessandrini, *A tropical compactification for character spaces of convex projective structures*, Ph.D. Thesis, (2007). `http://math.columbia.edu/~alessandrini/Publications/PhDThesis.pdf`

1. D. Alessandrini, *Compattificazioni di varietà di caratteri e applicazioni topologiche*, (translation: "Compactifications of varieties of characters and topological applications"), Master Thesis (2003). `http://etd.adm.unipi.it/theses/available/etd-10112003-174635/`