Sylvie Corteel

Curriculum Vitae

IRIF, CNRS et Université Paris Diderot
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Positions

Spring 2018	**Miller Invited Professor**, *Math Department and Miller Institute*, Berkeley, USA.
Autum 2017	**Simmons Research Professor**, *MSRI*, Berkeley, USA.
2010-	**Directrice de recherche, CNRS**, *Full professor no teaching*, Université Paris-Diderot, France.
2009-2010	**Chargée de recherche CNRS**, *Associate professor no teaching*, Université Paris-Diderot, France.
2005-2009	**Chargée de recherche**, *CNRS, Associate professor no teaching*, Université Paris-Sud, France.
2001-2005	**Chargée de recherche**, *CNRS, Associate professor no teaching*, Université de Versailles Saint-Quentin.
2000-2001	**Maitresse de Conférences**, *Assistant professor*, Université de Versailles.
Spring 2001	**Postdoc**, *Université du Québec à Montréal, Canada*, 6 months.

Education

2010	**Habilitation**, *Université Paris-Diderot*, France.
2000	**PHD**, *Université Paris-Sud*, France, Advisor: Dominique Gouyou-Beauchamps.
1997	**Master of Science**, *NCSU*, USA, Advisor: Carla Savage.
1996	**Engineering degree**, *UTC*, France.

Research interests

Enumerative and algebraic combinatorics.

Management

2017-	**Head of the group "Algorithmes et structures discrètes"**, *(group of four teams: Algorithms, Complex systems, Graph Theory and Combinatorics)*, IRIF, Université Paris Diderot, 32 permanent members.
2010-2017	**Head of the Combinatorics team**, *IRIF, Université Paris Diderot*, 8 permanent members.

Editorial work

2016	**Co-chair of the program committee of FPSAC2016**, *Vancouver, Canada*, (with Andrew Rechnitzer and Anne Schilling).
2014-	**Co-Editor-in-Chief of the Journal of Combinatorial Theory Series A**, *(with Federico Ardila and Jacques Verstraete)*.
2008-	**Editor of Annals of Combinatorics**.
2004, 2010 2012, 2015	**Program committee of FPSAC**.

Advising

Postdocs, *Dan Betea (2015-2017), Jang-Soo Kim (2010-2012)*.

PhD, *Matthieu Josuat-Vergès (2010), Sandrine Dasse-Hartaut (2014), Francois Nunzi (2016)*.

Masters, *Olivier Mallet (2005), Cédric Savelief (2007), Francis Lescarret (2017)*.

Recent invited talks and mini courses

June 2018	**George Andrews 80th birthday**, *Penn State*, USA.
April 2018	**Mid-Atlantic Algebra, Geometry, and Combinatorics (MAAGC) Workshop**, *U Penn*, USA.
April 2018	**Colloquium**, *Math Department, Berkeley*.
October 2017	**Colloquium**, *Math Department, UCSD*.
July 2017	**"Orthogonal Polynomials, Special Functions and Applications" (OPSFA 14)**, *University of Kent*, UK.
November 2016	**Polyhedral Geometry and Partition Theory**, *American Institute of Mathematics*, San Jose, CA, USA.
Sept 2016	**School "Quantum integrable systems, conformal field theories and stochastic processes"**, *Cargẽlse*, Corsica, France.
June 2016	**Mini course**, *Summer school ECCO2016*, Medellin, Colombia.
May 2015	**Lattice Models: Exact Methods and Combinatorics**, *Institut Galileo*, Firenze, Italy.
May 2015	**Random Polymers and Algebraic Combinatorics**, *Oxford, England*.
March 2015	**Mini Course at ALEA**, *CIRM*, Marseille, France.
July 2014	**Plenary speaker**, *FPSAC2014*, Chicago, USA.

Grants

2013-2017	**Project Emergences "Combinatoire Ã㠏Paris"**, *funded by the city of Paris (participant)*, 300k Euros.
2013-2016	**Project IDEX USPC "ALEA Sorbonne**, *PI*, 100k Euros.
2014-2015	**France Berkeley Fund (with Lauren Williams)**, *10k Euros*.
2008-2013	**ANR Jeune Chercheur IComb (340k Euros, PI)**, *ANR*.

2006-2009	**ANR blanc Gamma**, *300k Euros, participant*, ANR.
2004-2007	**ACI Jeunes Chercheurs**, *Junior grant 40k euros, 4 participants*.
2003-2005	**Joint NSF-CNRS grant**, *with North Carolina State University and Drexel University*, 12k euros for the french part.
2002-2003	**ATIP-Jeune chercheur CNRS**, *Personal junior grant 6k euros*.

Administrative activities, organization, teaching

2018-2021	**AMS selection committee**, *David Robbins Prize*, USA.
2017	**Scientific committee of the Trimester "Combinatorics and Interactions"**, *Institut Henri Poincaré*, Paris.
2011-2014 and 2015-2015	**Organization of the bimonthly Flajolet seminar**, *Institut Henri Poincaré*.
2010-2014 and 2015-2017	**Organization of the combinatorics seminar at LIAFA (now IRIF)**, *Université Paris Diderot*.
2009-2012 and 2015-2017	**Graduate class "Algorithmics for combinatorics"**, *MPRI*, Université Paris-Diderot.
2016-2020	**Member of the scientific committee of the "UFR Informatique"**, *Université Paris-Diderot*.
2016-2020	**Member of the "Conseil de Laboratoire" IRIF**, *Université Paris-Diderot*.
2016	**Scientific committee of ECCO2016**, *Medellin*, Colombia.
2010-	**Member of the hiring committee**, *Université de Rouen (2016), Université de Marne la Vallée (2015), Université de Bordeaux (2010), Université Paris-Sud (2013), Université Paris Nord (2014), KTH (Sweden, 2010), UCD (Ireland, 2011), Université Paris-Diderot (2017)*.
2013	**Chair of the organization of FPSAC**, *Université Paris-Diderot*, 320 participants.
2010-	**External reviewer for PhD thesis and Habilitations**, *J.C. Aval (Bordeaux, habilitation 2012), S. Giraudo (Marne la Vallée, 2011), H. Cheballah (Paris Nord, 2013), E. Ass (KTH, Stockholm 2015), P. Laborde Zubieta (Bordeaux 2017), R. Naserasr (Paris Diderot 2017), E. Fusy (Ecole Polytechnique, 2015), S. Melczer (ENS Lyon and Waterloo, 2017)*.

Long visits

August 2014, 2015, 2016	**Research collaboration at University of Berkeley**, *1 month each time*.
February 2008	**Invited professor at the Shrãüdinger Institute**, *Vienna*, 2 weeks.
1997-2014	**Regular collaborations and visits**, *North Carolina State University*.
Dec 2005	**Instituto De Matematicas Y Fisica**, *Universidad de Talca, Chile*, 1 month.
January 2005	**Combinatorics Semester**, *Mittag Leffler Institute*, 2 months.
April 2004	**Invited professor**, *University of Melbourne*, 6 weeks.
Feb 2004	**Invited professor**, *Nankai University, China*, 1 month.

Spring 2003	**Invited scholar**, *University of Wisconsin, USA*, 4 months.

Maternity leaves

April-August 2008	**Sisseline**, *born May 23rd 2008*.
March-August 2006	**Viggo**, *born April 10th, 2006*.

Published and accepted papers (from 2013)

S. Corteel, L. Williams, *Macdonald-Koornwinder moments and the two-species exclusion process*, arXiv:1505.00843, Selecta Mathematicae.
Accepted 2017

S. Corteel, O. Mandelshtam, L. Williams, *Combinatorics of the two-species ASEP and Koornwinder moments*, Adv. in Math, 2017.
160-204.

S. Corteel and A. Nunge, *2-species exclusion process and combinatorial algebras*, Séminaire Lotharingien de Combinatoire, 78B (2017) Article #56, 12 pp. .
Proceedings of the 29th Conference on Formal Power Series and Algebraic Combinatorics, Talk

S. Corteel, *Rogers-Ramanujan identities and the Robinson-Schensted-Knuth correspondence*, Proc. Am. Math. Soc., 2017.
no. 5, 2011-2022

J. Bouttier, G. Chapuy, S. Corteel, *From Aztec diamonds to pyramids: steep tilings*, Trans. Am. Math. Soc., 2017.
369, no. 8, 5921-5959

C. Boutillier, J. Bouttier, G. Chapuy, S. Corteel, S. Ramassamy, *Dimers on Rail Yard Graphs*, Ann. Inst. Henri Poincaré D, Accepted 2016.

D. Betea, C. Boutillier, J. Bouttier, G. Chapuy, S. Corteel, M. Vuletić, *Perfect sampling algorithm for Schur processes*, Markov Processes and Related Fields, Accepted 2016.

S. Corteel, M.A. Martinez, C.D. Savage, M. Weselcouch, *Patterns in Inversion Sequences I*, Discrete Math. Theor. Comput. Sci., 2016 vol. 18 no. 2..

S. Corteel, S. Dasse-Hartaut, *A bijection from staircase tableaux to inversion tables, giving some eulerian and mahonian statistics*, Ann. Comb., (2016) 20: 737.

S. Corteel, D. Forge, V. Ventos, *Bijections between affine hyperplane arrangements and valued graphs*, European J. Combin. 50, 2015, 30–37.

S. Corteel, J. Lovejoy, C.D. Savage, *Anti-lecture hall compositions and Andrews' generalization of the Watson-Whipple transformation*, J. Combin. Theory Ser. A 134, 2015, 188–195.

A. Ayyer, J. Bouttier, S. Corteel, F. Nunzi, *Multivariate juggling probabilities*, Electron. J. Probab. 20, 2015, no. 5, 29 pp.

S. Corteel, M. Josuat-Vergès, J.S. Kim, *Crossings of signed permutations and q-Eulerian numbers of type B.*, J. Comb. 4, 2013, no. 2, 191–228.

Ten most cited papers published in international journals

S. Corteel, J. Lovejoy, *Overpartitions*, Trans. Am. Math. Soc., 356 (2004), 1623-1635.

S. Corteel, L.K. Williams, *Tableaux combinatorics for the asymmetric exclusion process*, Advances in applied mathematics, 39 (3), (2007) 293-310.

S. Corteel, *Crossings and alignments of permutations*, Advances in Applied Mathematics, 38 (2), (2007), 149-163.

S. Corteel, M. Valencia-Pabon, JC. Vera, *On approximating the b-chromatic number*, Discrete Applied Mathematics, 146 (1), (2005) 106-110.

S. Corteel, L.K. Williams, *Tableaux combinatorics for the asymmetric exclusion process and Askey-Wilson polynomials*, Duke Mathematical Journal, 159 (3), (2011) 385-415.

S. Corteel, L.K. Williams, *A Markov chain on permutations which projects to the PASEP*, International Mathematics Research Notices, (2007), rnm055.

S. Corteel, P. Nadeau, *Bijections for permutation tableaux*, European Journal of Combinatorics, 30 (1), (2009) 295-310.

MP. Béal, A. Bergeron, S. Corteel, M. Raffinot, *An algorithmic view of gene teams*, Theoretical Computer Science, 320 (2), (2004) 395-418.

S. Corteel, J. Lovejoy, *Frobenius partitions and the combinatorics of Ramanujan's $_1\psi_1$ summation*, Journal of Combinatorial Theory, Series A, 97 (1), (2002) 177-183.

S. Corteel, B. Pittel, C.D. Savage, H.S. Wilf, *On the multiplicity of parts in a random partition*, Random Structures and Algorithms, 14 (2), (1999) 185-197.