

SCIENTIFIC REPORT ON THE INTENSIVE RESEARCH PERIOD “CONFIGURATION SPACES: GEOMETRY, COMBINATORICS AND TOPOLOGY”

C.DeConcini, M.Salvetti

July 2010

The period has been hosted and organized by the De Giorgi center in Pisa, in collaboration with: INdAM, Department of Mathematics “L. Tonelli”, University of Pisa, Department of Mathematics “G. Castelnuovo”, University of Roma “La Sapienza”.

The main purpose of this intensive research period has been to highlight recent interactions and developments in a very attractive and important area in Mathematics, namely Configuration Spaces and their relations to other topics. What makes this subject particularly appealing is its appearing as a deep link among many different theories such as: Lie Theory, Singularities, Algebraic Geometry, Topology, Knot Theory, Low Dimensional Topology and recently Approximation Theory (Box Splines, etc.) with relations with important cornerstones in Mathematics as the celebrated index theorem.

We are sure our aim was achieved since we succeeded to bring together the leading experts of different areas involving Configuration Spaces, coming from all over the world. As it is certified by the several notes that people left in the website of the Center, the many talks (more than 60) and mini-courses (9 of them) covered a large number of different important interconnected subjects.

The success of the meeting and the very special atmosphere, suitable to a productive working environment, were emphasized by all the participants.

The activities of the period, culminating in two workshops, one at the end of May and one at the end of June, are summarized in the following section.

1 Activities of the period

The “public” activities were substantially divided into:

1. *mini-courses*, addressed to non-experts, especially young researchers, and interdisciplinary, of length varying between 3 and 5 hours;
2. *weekly seminars*, where the speaker was a very-well known expert of his field;
3. *workshops*;

4. *young people weekly seminars*, where the speakers were young researchers from all over the world, self-organized mainly by Filippo Callegaro. Of course, the talks were attended by all participants, and were usually very interesting.

The mini-courses covered:

i) the most recent developments in the theory of Cohomology Jumping Loci and applications, with particular evidence in the study of Characteristic and Resonance Varieties;

ii) The Theory of Splines, Partition Functions, Integral Points in Polyhedra, Dahmen-Micheli spaces, and relations with Representation Theory and Index Theory.

iii) The recent Theory of Moment Angle Complexes, including their topological structure;

iii) Conformal Field Theory, KZ equations and local systems.

In all these cases the theories of Configuration Spaces and Hyperplane Arrangements are central.

Both workshops show the very wide area of interest and applications of these theories. The subjects run from Homotopy Theory to the Mapping Class Group, from Hodge Theory to Artin Groups, from Combinatorics to Algebraic and Tropical Geometry, from Representation Theory to the Geometry of Toric Varieties.

The total number of participants has been around 100 (91 formally registered. Of these, at least 25 were totally supported young researchers .

The activities of the period are accessible at the website of the Center <http://www.crm.sns.it>, as well as all abstracts of the talks. Some speakers (especially those of of mini-courses) also left some notes (or slides).

2 Calendar of the main activities

May 5-6	S. Juzvinski <i>mini-course</i>	Introduction to Arrangements
May 6	A. Björner <i>weekly seminar</i>	A correlation inequality ...
May 10-11	S. Juzvinski <i>mini-course</i>	Introduction to Arrangements
May 10-14	Papadima-Suciu <i>mini-course</i>	Cohomology jumping loci ...
May 12	R Budney <i>weekly seminar</i>	A universal algebra for (spaces of) knots
May 13	D. Baralic, <i>young seminar</i>	Topological obstructions ...
May 13	P. Deshpande <i>young seminar</i>	Homotopy theoretic techniques ... (1)
May 17-21	C. Procesi <i>mini-course</i>	Splines and partition functions
May 19	I. Marin <i>weekly seminar</i>	Residual nilpotence for the fundamental ...
May 13	P. Deshpande <i>young seminar</i>	Homotopy theoretic techniques ... (2)
May 13	K. Williams <i>young seminar</i>	Hyperplane Arrangements and the ...
May 24-26	<i>Workshop</i>	Combinatorial and geometrical aspects of ...
May 27	D. Ibadula <i>young seminar</i>	The explicit forms of the Igusa ...
May 27	J.M. Gomez Guerra <i>young seminar</i>	Stable splittings, spaces of ...
May 28	G. D'Antonio <i>young seminar</i>	Symmetric group actions...
May 28	F. Callegaro <i>young seminar</i>	Homology of complex braid groups

May 31-June 4	F.Cohen <i>mini-course</i>	Moment-angle complexes, their stable ...
May 31-June 4	E. Lojenga <i>mini-course</i>	Aspects of the KZ system
June 3	M. Wakefield <i>young seminar</i>	Derivation Radical Subspace Arrangements
June 3	M. Miller <i>young seminar</i>	Lattices, hypergraphs, and the topology ...
June 7-11	A. Varchenko <i>mini-course</i>	The quantum integrable model ...
June 9	A. Bahri <i>weekly seminar</i>	On the KO-theory of toric spaces
June 9	T. Januskiewicz <i>weekly seminar</i>	Cohomology with coefficients in ZG ...
June 10	P. Deshpande <i>young seminar</i>	Arrangements of Submanifolds and ...
June 10	M. Garroubian <i>young seminar</i>	Multiarrangements and Critical Points
June 14-18	M. Vergne <i>mini-course</i>	Box splines and applications to ...
June 14-18	D. Sinha <i>mini-course</i>	Hopf rings in Topology and Algebra
June 16	P. Salvatore <i>weekly seminar</i>	Configuration spaces and ...
June 16	S. Papadima <i>weekly seminar</i>	From a conjecture of Lang to ...
June 18	L. Moci <i>young seminar</i>	Toric arrangements and their wonderful ...
June 18	B. Benedetti <i>young seminar</i>	Collapse depth of triangulated manifolds
June 21-25	<i>Workshop</i>	Algebra and Geometry of Configuration ...

3 Scientific Commettee

Anders Björner
 Corrado De Concini
 Fred Cohen
 Claudio Procesi
 Mario Salvetti

4 Organizing Commettee

Corrado De Concini
 Mario Salvetti
 Filippo Callegaro (young seminar)

5 Abstracts of mini-courses

Sergey Yuzvinsky: A short introduction to arrangements of hyperplanes - May 5-6

<http://www.crm.sns.it/hpp/events/event.html?id=121;sez=documents#title>

Stefan Papadima, Alex Suciu: Cohomology jumping loci and homological finiteness properties - May 10-14

- 1 Homology of local systems and characteristic varieties
- 2 Homology of free abelian covers
- 3 Resonance varieties, tangent cones, formality
- 4 Bieri-Neumann-Strebel-Renz invariants

5 Applications: a) Knots, links, and 3-dimensional manifolds; b) Right-angled Artin groups and toric complexes; c) Kahler and quasi-Kahler manifolds; d) Hyperplane arrangements

<http://www.crm.sns.it/hpp/events/event.html?id=121;sez=documents#title>

Sergey Yuzvinsky: Resonance varieties for arrangements and their relations to combinatorics and algebraic geometry - May 10-11

<http://www.crm.sns.it/hpp/events/event.html?id=121;sez=documents#title>

Claudio Procesi: Splines and partition functions - May 17-21

I will discuss several constructions one can perform starting from a list of vectors and show how some ideas coming from the theory of hyperplane arrangements come into play in numerical analysis and arithmetic. The material is based on a forthcoming book with De Concini, preliminary version available at www.mat.uniroma1.it/procesi/dida.html: Hyperplane arrangements, polytopes, box-splines.

<http://www.crm.sns.it/hpp/events/event.html?id=121;sez=documents#title>

Fred Cohen: Moment-angle complexes, their stable structure and cohomology - May 31-June 4

<http://www.crm.sns.it/hpp/events/event.html?id=121;sez=documents#title>

Eduard Looijenga: Aspects of the KZ system - May 31-June 4

The goal of this minicourse is to show how this local system can be understood in algebro-geometric terms. We will also discuss certain important subsystems (known as Hitchin or WZW systems). It has been conjectured that these subsystems have a flat inner product. We will verify this, essentially following Ramadas, that this is so when one the input data (a simple Lie algebra) is $SL(2)$.

Alexander Varchenko: The quantum integrable model of an arrangement of hyperplanes - June 7-11

Dev Sinha: Hopf rings in topology and algebra - June 14-18

We start with some topics very close to the theme of the workshop, namely the cohomology of unordered configuration spaces and in particular of symmetric groups, as recently studied by Giusti, Salvatore and myself. A key organizing concept is that of a Hopf ring, which is a ring object in the category of coalebras. This notion has been mostly applied in the study of homology of spaces which represent multiplicative cohomology theories such as Eilenberg-MacClane spaces or infinite Grassmannians. But we have found that this structure also applies to cohomology, representation theory, and invariant theory of finite \mathbb{O} series groups \mathbb{O} such as symmetric or alternating groups and general linear groups over finite fields. We both revisit some classical topics and indicate some open areas of investigation stemming from these ideas.

Michèle Vergne: Remarks on Box splines - June 14-18

<http://www.crm.sns.it/hpp/events/event.html?id=121;sez=documents#title>

6 Workshops

Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

The talks in these workshop address, sometimes from different points of view, the study of Hyperplane Arrangements and their applications: for example, their use in the study of the geometrical defined maps between classifying spaces of braid groups, mapping class groups, symmetric groups and automorphisms of free groups.

Interesting combinatorial situations are studied, as those coming from special configurations in Tits buildings, those coming from path algebra representations and those from families of polytopes or simplicial complexes. One has also new applications to homotopy theory and representation theory.

A variety of rather interesting results in the theory of Hyperplane Arrangements, in connection with local system cohomology, Artin groups. etc. are also given.

LIST OF SPEAKERS.

Alejandro Adem
University of British Columbia
16 May 2010 - 29 May 2010]
Talk: Homotopy theory and spaces of representations

Enrique Artal Bartolo
Universidad de Zaragoza
23 May 2010 - 27 May 2010
Talk: Characteristic varieties of quasiprojective groups

Eric Babson
UC Davis
2 May 2010 - 30 June 2010
Talk: Families of projective covers of path algebra representations

Ruth Charney
Brandeis University
24 May 2010 - 28 May 2010
Talk: Length functions of right-angled Artin groups

Graham Denham
University of Western Ontario
15 May 2010 - 13 June 2010
Talk: Enumerative problems for logarithmic forms on hyperplane complements

Alexandru Dimca
Université de Nice Sophia Antipolis, France
16 May 2010 - 30 May 2010
Talk: Hodge Theory and Hyperplane arrangements

Michael Falk
Northern Arizona University
14 May 2010 - 30 June 2010
Talk: Brunnian braids and homomorphisms of arrangement groups

Samuel Gitler
Centro de Investigación y de Estudios Avanzados (Cinvestav) del Instituto
Politécnico Nacional (IPN), Mexico
2 May 2010 - 28 May 2010
Talk: In
finite families of simple polytopes and of simplicial complexes with applications
to toric topology

Stefan Papadima
Institute of Mathematics Simion Stoilow of the Romanian Academy, Bucharest
2 May 2010 - 30 June 2010
Talk: An explicit Kontsevich integral for welded braids

Luis Paris
Université de Bourgogne
24 May 2010 - 4 June 2010
Talk: Minimal index of the mapping class groups

Bernd Sturmfels
University of California at Berkeley
23 May 2010 - 26 May 2010
Talk: Mustafin Varieties

Alexandru Suciu
Northeastern University
2 May 2010 - 30 June 2010
Talk: Free abelian covers and arrangements of Schubert varieties

Ulrike Tillmann
University of Oxford
23 May 2010 - 26 May 2010
Talk: From configuration spaces to moduli space
- from braid to mapping class groups

Volkmar Welker
Philipps-Universität Marburg
Talk: Geometric Combinatorics of Weyl Groupoids

Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Besides a continuation of topics related to those covered in the previous workshop, we had a certain number of talks around conformal field theories, toric arrangements, and toric varieties, representation theory, fundamental groups in Algebraic Geometry, Combinatorics. Another new topic which was considered concerns the surprising connection between Hyperplane arrangements and certain aspects of Approximation Theory.

LIST OF SPEAKERS.

Nero Budur

University of Notre Dame 20 June 2010 - 27 June 2010 Talk: The monodromy conjecture for hyperplane arrangements

Jose Ignacio Cogolludo-Agustin

Universidad De Zaragoza 20 June 2010 - 28 June 2010 Talk: Quasitoric decompositions of plane curves

Daniel C. Cohen

Louisiana State University 8 June 2010 - 26 June 2010 Contributed talk: Some random complexes and associated spaces

Emanuele Delucchi

SUNY Binghamton 23 May 2010 - 30 June 2010 Contributed talk: Complex Matroids in Workshop on "Algebra and Geometry of Configuration Spaces and related structures"

Anthony Henderson

University of Sydney 13 June 2010 - 26 June 2010 Talk: Cohomology of real Coxeter toric varieties

Toshitake Kohno

Graduate School of Mathematical Sciences, the University of Tokyo 18 June 2010 - 30 June 2010 Talk: Quantum representations of mapping class groups and their images

Gustav Lehrer

University of Sydney 12 June 2010 - 30 June 2010 Contributed talk: Hodge numbers, rational points and discriminant varieties

Anatoly Libgober

University of Illinois at Chicago 16 June 2010 - 30 June 2010 Contributed talk: Applications of Hodge theory to cohomology of local systems

Eduard Looijenga

Universiteit Utrecht 21 June 2010 - 25 June 2010 Talk: Hyperbolic structures on toric arrangement complements

Ivan Marin

Institut de Mathématiques de Jussieu, Université Paris 7 20 June 2010 - 27 June 2010 Talk: A Krammer representation for complex braid groups

Daniel Matei

Romanian Academy 15 June 2010 - 30 June 2010 Talk: Logarithmic sheaves and arrangements of hyperplanes

Luca Moci

Università di Roma Tre 21 June 2010 - 25 June 2010 Contributed talk: A Tutte polynomial for toric arrangements

Olga Holtz

UC Berkeley 15 June 2010 - 30 June 2010 Contributed talk: Zonotopal algebra: the hierarchy

Amos Ron

University of Wisconsin - Madison 14 June 2010 - 24 June 2010 Contributed talk: Splines at the crossroads of algebra, combinatorics, geometry and numerical analysis, or Introduction to zonotopal algebra I

Hal Schenck

University of Illinois 17 June 2010 - 26 June 2010 Talk: Equivariant Chow cohomology of nonsimplicial toric varieties

John Shareshian

Washington University in St. Louis 15 June 2010 - 30 June 2010 Contributed talk: Lower intervals in the Bruhat order and inversion arrangements

Mina Teicher

Bar-Ilan University 6 June 2010 - 30 June 2010 Contributed talk: On Fundamental groups of complements of line arrangements

Hiroaki Terao

Department of Mathematics, Hokkaido University 15 June 2010 - 25 June 2010 Talk: Combinatorial and algebro-geometric properties of free arrangements

Alexander Varchenko

University of North Carolina at Chapel Hill 1 June 2010 - 30 June 2010 Contributed talk: Conformal blocks and equivariant cohomology

Michèle Vergne

Centre National de la Recherche Scientifique Ecole Polytechnique. Centre de Mathématiques Laurent Schwartz 29 May 2010 - 25 June 2010 Talk: Analytic continuation of polytopes, and Varchenko's connection

Michelle Wachs

University of Miami 30 May 2010 - 27 June 2010 Contributed talk: On the representation of the symmetric group on the cohomology of the toric variety associated with the type A Coxeter complex

Miguel Xicotencatl

Centro de Investigacion y de Estudios Avanzados 20 June 2010 - 28 June 2010 Contributed talk: On mapping class groups of non-orientable surfaces

7 Full list of registered participants

Takuro Abe

Kyoto University

16 June 2010 - 25 June 2010

Alejandro Adem

University of British Columbia

16 May 2010 - 29 May 2010

Talk: MAY WORKSHOP: Homotopy theory and spaces of representations in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Enrique Artal Bartolo

Universidad de Zaragoza

23 May 2010 - 27 May 2010

Talk: MAY WORKSHOP: Characteristic varieties of quasiprojective groups in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Eric Babson

UC Davis

2 May 2010 - 30 June 2010

Talk: MAY WORKSHOP: Families of projective covers of path algebra representations in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Lluis Bacardit

Université de Bourgogne

24 May 2010 - 4 June 2010

Anthony Bahri

Rider University, Lawrenceville, NJ, USA

19 May 2010 - 16 June 2010

Seminar: WEEKLY SEMINAR: On the KO-theory of toric spaces

Djordje Baralic

Mathematical Institute SANU, Beograd Serbia

2 May 2010 - 26 May 2010
Contributed talk: YOUNG SEMINAR: Topological obstructions for totally skew embeddings

Bruno Benedetti
TU Berlin
2 May 2010 - 30 June 2010
Contributed talk: YOUNG SEMINAR: Collapse depth of triangulated manifolds

Anders Bjorner
Royal Institute of Technology (KTH) and Mittag-Leffler Institute, Stockholm
2 May 2010 - 8 May 2010
20 June 2010 - 24 June 2010
Seminar: WEEKLY SEMINAR: A correlation inequality with applications in algebraic combinatorics

Ryan Budney
University of Victoria
13 May 2010 - 19 May 2010
Seminar: WEEKLY SEMINAR: A universal algebra for (spaces of) knots

Nero Budur
University of Notre Dame
20 June 2010 - 27 June 2010
Talk: The monodromy conjecture for hyperplane arrangements in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Filippo Callegaro
Dipartimento di Matematica, Università di Pisa
2 May 2010 - 30 October 2010
Seminar: YOUNG SEMINAR: Homology of complex braid groups

Enrico Carlini
Politecnico di Torino
24 May 2010 - 13 June 2010

Francesco Cavazzani
Scuola Normale Superiore, Pisa
2 May 2010 - 30 June 2010

Ruth Charney
Brandeis University
24 May 2010 - 28 May 2010
Talk: MAY WORKSHOP: Length functions of right-angled Artin groups in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Selvaraj Chelliah
Periyar University
2 May 2010 - 30 June 2010

Rocco Chirivi
Dipartimento di Matematica, Università di Pisa
21 June 2010 - 25 June 2010

Jose Ignacio Cogolludo-Agustin
Universidad De Zaragoza
20 June 2010 - 28 June 2010
Talk: Quasitoric decompositions of plane curves in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Daniel C. Cohen
Louisiana State University
8 June 2010 - 26 June 2010
Contributed talk: Some random complexes and associated spaces in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Fred Cohen
University of Rochester, Rochester
10 May 2010 - 30 June 2010
Course: MINICOURSE: Moment-angle complexes, their stable structure and cohomology in Configuration Spaces: Mini courses
Seminar: WEEKLY SEMINAR: The space of commuting n-tuples in a topological group

Maria Angelica Cueto
University of California, Berkeley
21 June 2010 - 26 June 2010

Giacomo d'Antonio
University of Bremen
23 May 2010 - 18 June 2010
Talk: YOUNG SEMINAR: Symmetric group actions on the cohomology of configuration spaces

Corrado De Concini
Università di Roma
2 May 2010 - 30 June 2010

Emanuele Delucchi
SUNY Binghamton
23 May 2010 - 30 June 2010
Contributed talk: Complex Matroids in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Graham Denham
University of Western Ontario
15 May 2010 - 13 June 2010

Talk: MAY WORKSHOP: Enumerative problems for logarithmic forms on hyperplane complements in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th In collaboration with INdAM

Priyavrat Deshpande
The University of Western Ontario, London, Canada
4 May 2010 - 30 June 2009

Contributed talk: YOUNG SEMINAR: Homotopy theoretic techniques in arrangements (1)

Contributed talk: YOUNG SEMINAR: Homotopy theoretic techniques in arrangements (2)

Seminar: YOUNG SEMINAR: Arrangement of Submanifolds and the Tangent-Bundle Complement

Alexandru Dimca
Université de Nice Sophia Antipolis, France
16 May 2010 - 30 May 2010

Talk: MAY WORKSHOP: Hodge Theory and Hyperplane arrangements in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Thi Anh Thu Dinh
Université de Nice Sophia Antipolis, France
22 May 2010 - 29 May 2010
19 June 2010 - 27 June 2010

Anton Dochtermann
TU Berlin
22 May 2010 - 27 May 2010

Michael Falk
Northern Arizona University
14 May 2010 - 30 June 2010
Talk: MAY WORKSHOP: Brunnian braids and homomorphisms of arrangement groups in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Eva Maria Feichtner
Bremen University
30 April 2010 - 4 June 2010
20 June 2010 - 26 June 2010

Giovanni Gaiffi
Dipartimento di Matematica "L. Tonelli", Università di Pisa
3 May 2010 - 30 June 2010

David Garber
Department of Applied Mathematics, Holon Institute of Technology,
16 June 2010 - 24 June 2010

Contributed talk: Some properties of a conjugation-free geometric presentation of fundamental groups of arrangements in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Mehdi Garroubian
University of Western Ontario; PhD student
Contributed talk: YOUNG SEMINAR: Multiarrangements and Critical Points

Samuel Gitler
Centro de Investigación y de Estudios Avanzados (Cinvestav) del Instituto Politécnico Nacional (IPN), Mexico
2 May 2010 - 28 May 2010
Talk: MAY WORKSHOP: In finite families of simple polytopes and of simplicial complexes with applications to toric topology in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Jose Manuel Gomez Guerra
University of British Columbia
15 May 2010 - 31 May 2010
Contributed talk: YOUNG SEMINAR: Stable splittings, spaces of representations and almost commuting elements in Lie groups

Anthony Henderson
University of Sydney
13 June 2010 - 26 June 2010
Talk: Cohomology of real Coxeter toric varieties in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Olga Holtz
UC Berkeley
15 May 2010 - 30 May 2010
15 June 2010 - 30 June 2010
Contributed talk: Zonotopal algebra: the hierarchy in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Denis Ibadula
Universitatea
21 May 2010 - 28 May 2010
Contributed talk: YOUNG SEMINAR: The explicit forms of the Igusa local zeta functions of certain plane curves

Tadeusz Januszkiewicz

Ohio State University
2 June 2010 - 11 June 2010
Seminar: WEEKLY SEMINAR: Cohomology with coefficients in $\mathbb{Z}G$, or $H^2(G)$ of some spaces related to hyperplane arrangements

Sanjeev Kumar Jena
J E M H S School Charoda Durg
1 May 2010 - 30 June 2010

Arkadius Kalka
Bar Ilan University
6 June 2010 - 27 June 2010

Toshitake Kohno
Graduate School of Mathematical Sciences, the University of Tokyo
18 June 2010 - 30 June 2010
Talk: Quantum representations of mapping class groups and their images in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Dmitry Kozlov
Bremen University
18 June 2010 - 30 June 2010

Martina Lanini
Università degli Studi di Roma Tre
21 June 2010 - 25 June 2010

Gustav Lehrer
University of Sydney
12 June 2010 - 30 June 2010
Contributed talk: Hodge numbers, rational points and discriminant varieties in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Matthias Lenz
TU Berlin
23 May 2010 - 28 May 2010

Anatoly Libgober
Univeristy of Illinois at Chicago
16 June 2010 - 30 June 2010
Contributed talk: Applications of Hodge theory to cohomology of local systems in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Eduard Looijenga
Universiteit Utrecht
30 May 2010 - 26 June 2010
21 June 2010 - 25 June 2010

Course: MINICOURSE: Aspects of the KZ system in Configuration Spaces:
Mini courses

Talk: Hyperbolic structures on toric arrangement complements in Workshop
on "Algebra and Geometry of Configuration Spaces and related structures" June
21th through 25th

Miguel Angel Marco Buzunariz
Csic
24 May 2010 - 27 May 2010

Mario Marietti
SAPIENZA, Universita' di Roma
20 June 2010 - 25 June 2010

Ivan Marin
Institut de Mathématiques de Jussieu, Université Paris 7
20 June 2010 - 27 June 2010
19 May 2010 - 26 May 2010

Talk: A Krammer representation for complex braid groups in Workshop on
"Algebra and Geometry of Configuration Spaces and related structures" June
21th through 25th

Talk: WEEKLY SEMINAR: Residual nilpotence for the fundamental group
of reflection arrangements

Daniel Matei
Romanian Academy
21 May 2010 - 31 May 2010
15 June 2010 - 30 June 2010

Talk: Logarithmic sheaves and arrangements of hyperplanes in Workshop on
"Algebra and Geometry of Configuration Spaces and related structures" June
21th through 25th

Matthew Miller
Bucknell University
31 May 2010 - 18 June 2010

Contributed talk: YOUNG SEMINAR: Lattices, hypergraphs, and the topol-
ogy of subspace arrangements

Luca Moci
Università di Roma Tre
2 May 2010 - 30 June 2010
21 June 2010 - 25 June 2010

Contributed talk: A Tutte polynomial for toric arrangements in Workshop
on "Algebra and Geometry of Configuration Spaces and related structures" June
21th through 25th

Contributed talk: YOUNG SEMINAR: Toric arrangements and their won-
derful models

Francesca Mori
Dipartimento di Matematica, Università di Pisa

5 May 2010 - 30 June 2010

Shaheen Nazir

The Abdus Salam International Centre for Theoretical Physics (I. C. T. P.)
Trieste

2 May 2010 - 30 June 2010

Stefan Papadima

Institute of Mathematics Simion Stoilow of the Romanian Academy, Bucharest
2 May 2010 - 30 June 2010

Talk: MAY WORKSHOP: An explicit Kontsevich integral for welded braids
in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrange-
ments" May 24th through 26th

Seminar: WEEKLY SEMINAR: From a conjecture of Lang to finiteness
properties of Torelli groups

Course: MINICOURSE: Cohomology jumping loci and homological finite-
ness properties in Configuration Spaces

Alexander Papazoglou

UC Davis

2 May 2010 - 30 June 2010

Luis Paris

Université de Bourgogne

21 June 2010 - 25 June 2010

24 May 2010 - 4 June 2010

Talk: MAY WORKSHOP: Minimal index of the mapping class groups in
Workshop on "Combinatorial and geometric aspects of Hyperplane Arrange-
ments" May 24th through 26th

Claudio Procesi

Università di Roma

2 May 2010 - 30 June 2010

Course: MINICOURSE: Splines and partition functions in Configuration
Spaces

Amos Ron

University of Wisconsin - Madison

14 June 2010 - 24 June 2010

Contributed talk: Splines at the crossroads of algebra, combinatorics, geom-
etry and numerical analysis, or Introduction to zonotopal algebra I in Workshop
on "Algebra and Geometry of Configuration Spaces and related structures" June
21th through 25th

Kyoji Saito

IPMU

20 June 2010 - 27 June 2010

Paolo Salvatore

Università di Roma 2 - Tor Vergata

Seminar: WEEKLY SEMINAR: Configuration spaces and the Levitt conjecture

Mario Salvetti
Dipartimento di Matematica
2 May 2010 - 30 June 2010

Hal Schenck
University of Illinois
17 June 2010 - 26 June 2010
Talk: Equivariant Chow cohomology of nonsimplicial toric varieties in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Simona Settepanella
Scuola Sant'Anna (Pisa)
2 May 2010 - 30 June 2010

John Shareshian
Washington University in St. Louis
15 June 2010 - 30 June 2010
Contributed talk: Lower intervals in the Bruhat order and inversion arrangements in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Dev Sinha
University of Oregon
14 June 2010 - 25 June 2010
Course: MINICOURSE: Hopf rings in topology and algebra in Configuration Spaces

Mentor Stafa
University of Rochester
20 June 2010 - 25 June 2010

Nathaniel Stambaugh
Brandeis University
20 May 2010 - 28 May 2010

Bernd Sturmfels
University of California at Berkeley
23 May 2010 - 26 May 2010
Talk: MAY WORKSHOP: Mustafin Varieties in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements"

Alexandru Suciu
Northeastern University
2 May 2010 - 30 June 2010

Talk: MAY WORKSHOP: Free abelian covers and arrangements of Schubert varieties in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Course: MINICOURSE: Cohomology jumping loci and homological finiteness properties [1] in Configuration Spaces

Course: MINICOURSE: Cohomology jumping loci and homological finiteness properties [2] in Configuration

Course: MINICOURSE: Cohomology jumping loci and homological finiteness properties [3] in Configuration

Dai Tamaki

Department of Mathematical Sciences, Shinshu University

22 June 2010 - 29 June 2010

Mina Teicher

Bar-Ilan University

6 June 2010 - 30 June 2010

Contributed talk: On Fundamental groups of complements of line arrangements in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th In collaboration with INdAM

Hiroaki Terao Department of Mathematics, Hokkaido University 15 June 2010 - 25 June 2010 Talk: Combinatorial and algebro-geometric properties of free arrangements in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th In collaboration with INdAM

Ulrike Tillmann University of Oxford 23 May 2010 - 26 May 2010 Talk: MAY WORKSHOP: From con

figuration spaces to moduli space - from braid to mapping class groups in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Emmanuel Toinet

Université de Bourgogne (DIJON)

24 May 2010 - 4 June 2010

Alvise Trevisan

Vrije Universiteit Amsterdam

2 June 2010 - 10 June 2010

Francesco Vaccarino

Politecnico di Torino - Dipartimento di Matematica

31 May 2010 - 13 June 2010

Alexander Varchenko

University of North Carolina at Chapel Hill

1 June 2010 - 30 June 2010

Course: MINICOURSE: The quantum integrable model of an arrangement of hyperplanes in Configuration

Contributed talk: Conformal blocks and equivariant cohomology in Workshop on "Algebra and Geometry of Configuration Spaces and related structures"

Course: MINICOURSE: The quantum integrable model of an arrangement of hyperplanes in Configuration

Michèle Vergne

Centre National de la Recherche Scientifique Ecole Polytechnique. Centre de Mathematiques Laurent Schwartz

29 May 2010 - 25 June 2010

Course: MINICOURSE: Box splines, and applications to Representation Theory in Configuration Spaces

Talk: Analytic continuation of polytopes, and Varchenko's connection in Workshop on "Algebra and Geometry of Configuration Spaces and related structures"

Michelle Wachs

University of Miami

30 May 2010 - 27 June 2010

Contributed talk: On the representation of the symmetric group on the cohomology of the toric variety associated with the type A Coxeter complex in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Max Wakefield

United States Naval Academy

31 May 2010 - 12 June 2010

Talk: YOUNG SEMINAR: Derivation Radical Subspace arrangements

Volkmar Welker

Philipps-Universität Marburg

Talk: MAY WORKSHOP: Geometric Combinatorics of Weyl Groupoids in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Kristopher Williams

University of Iowa

2 May 2010 - 30 June 2010

Contributed talk: YOUNG SEMINAR: Hyperplane Arrangements and the Milnor Fiber

Miguel Xicotencatl

Centro de Investigacion y de Estudios Avanzados

20 June 2010 - 28 June 2010

Contributed talk: On mapping class groups of non-orientable surfaces in Workshop on "Algebra and Geometry of Configuration Spaces and related structures" June 21th through 25th

Masahiko Yoshinaga

Department of Mathematics, Kyoto University

2 May 2010 - 30 June 2010

Contributed talk: MAY WORKSHOP: Minimal stratification for line arrangements in Workshop on "Combinatorial and geometric aspects of Hyperplane Arrangements" May 24th through 26th

Sergey Yuzvinsky
University of Oregon, Eugene
2 May 2010 - 30 June 2010

Course: MINICOURSE: Resonance varieties for arrangements and their relations to combinatorics and algebraic geometry in Configuration Spaces Course: MINICOURSE: A short introduction to arrangements of hyperplanes in Configuration Spaces

Rade Zivaljevic
Full Research Professor (Mathematical Institute SANU, Belgrade)
20 June 2010 - 26 June 2010

Hugues Zuber
Laboratoire J.A. Dieudonné, Université de Nice - Sophia Antipolis
23 May 2010 - 27 May 2010