

## Research group on *Algebraic Complex Geometry and Differential Geometry*

**IMAR Participants:** V. Brinzanescu, L. Badescu, I. Coanda, P. Ionescu, N. Manolache, C. Anghel, V. Savin

**Romanian Cooperations:** Bucharest University. Several junior Romanian mathematicians (post-doctoral researchers and PhD and master students) have been joined to the group either for direct research activity or for training in research.

**International Cooperations:**

Germany: Kaiserslautern University, Oldenburg University, Essen University

Italy: Messina University

**Workpackages involved:** A1, B1, B2, C3.

**Post-doctoral fellows at IMAR:**

1. Dr. Maurizio Parton from Pisa University, had a 1 month post-doctoral position at IMAR. During his stay at IMAR he had a joint work with Prof. L. Ornea (Bucharest Univ.) and Dr. R. Gini (Pisa Univ.) concerning a reduction process for manifolds that are locally conformal to a Kaehler manifold; he took part at the mini-conference organized at Pitesti University during the first week of the 1-st IMAR Workshop on *Algebraic Geometry, Commutative Algebra & Topology* (the mini-conference at Pitesti University), where he gave the conference on "*Locally conformal Kaehler metrics on Hopf surfaces*", (August 21, 2001).
2. Dr. Rosa Gini from Pisa University had a 1 month post-doctoral position at IMAR. During her stay at IMAR she had a joint work with Prof. L. Ornea (Bucharest Univ.) and Dr. M. Parton (Pisa Univ.) concerning a reduction process for manifolds that are locally conformal to a Kaehler manifold; she continued the preparation of the paper *Cobordism of immersions of 3-manifolds in 4-manifolds*; she took part at the mini-conference organized at Pitesti University during the first week of the 1-st IMAR Workshop on *Algebraic Geometry, Commutative Algebra & Topology* where she gave the talk "*Cobordism of codimension-one immersions*", (August 20, 2001).
3. Dr. Roberto Pignatelli (Bayreuth University) had a 1 month post-doctoral fellowship at IMAR. During his stay he participated to the research activity of the Algebraic Geometry Group and had discussions with Profs. I. Coanda and L. Badescu (IMAR) and he gave 2 conferences at IMAR concerning *Fibrations of small genus*.
4. Dr. Fabio Tonoli (Bayreuth University) had a 1 month post-doctoral fellowship at IMAR. During his stay he participated to the research activity of the Algebraic Geometry Group and had discussions with Profs. I. Coanda and L. Badescu (IMAR) and he gave 2 conferences at IMAR concerning *Sextics in  $\mathbf{P}^3$  with an even set of nodes*.
5. Dr. Paola Frediani (Bayreuth University) had a 1 month post-doctoral fellowship at IMAR. During her stay she participated to the research activity of the Algebraic Geometry Group and had discussions with Profs. I. Coanda and L. Badescu (IMAR) and she gave 2 conferences at IMAR concerning *Real algebraic surfaces*.
6. Dr. Alexander Schmitt (Essen University) had a 1 month post-doctoral fellowship at IMAR. During his stay he participated to the research activity of the Algebraic Geometry group in IMAR; he studied possible extensions of his previous work on singular principal bundles to singular base varieties and he participated in the Conference *Algebraic Geometry, Commutative Algebra and Topology* in Constanta giving the talk: "*Singular Principal Bundles*".
7. Dr. Sebastien Guffroy (Lille 1 University) had a 14 month post-doctoral fellowship at IMAR. During his stay he participated to the research activity of the Algebraic Geometry Group and had discussions with Profs. V. Brinzanescu, P. Ionescu, J. Coanda (IMAR); he gave 2 talks at IMAR and he participated at the international conference of *Commutative Algebra, Algebraic Geometry and Topology*, Constanta September 22 – 26, 2002. He studied the geometry of the parameter space of smooth and connected space curves of degree  $d$  and genus  $g$  and has elaborated 2 scientific papers.

8. Joel Rouyer (Univ. de Haute Alsace, Mulhouse) had a 11 months post-doctoral fellowship at IMAR starting with October 1, 2002. He worked in collaboration with Prof. Tudor Zamfirecu, on the problem of characterization of the real projective plane endowed with its standard metric, among smooth compact surfaces. He has elaborated a paper on the characterization of the real projective plane with constant curvature, by means of farthest points, proving that it is the only surface for which each diametral point admits a closed curve of farthest points..
9. Dr. Laurent Evain (Angers University) had a 1 month post-doctoral fellowship at IMAR, where he worked in the Algebraic Geometry group and gave 2 talks.

#### **Doctoral research:**

1. Rosa Giovanna Crea from Messina University had a 2 months doctoral fellowship at IMAR. During her stay at IMAR she had scientific discussions with Prof. L. Badescu about smooth connected hypersurfaces and with Prof. P. Ionescu about manifolds of small degree; she took part at the 1-st IMAR Workshop on *Algebraic Geometry, Commutative Algebra & Topology*.
2. Carlo Madonna from «Tor Vergata» University (Rome) had a 1 month doctoral fellowship at IMAR. During his stay at IMAR he continued the work on his PhD thesis *K3 surfaces*; he took part at the mini-conference organized at Pitesti University during the first week of the 1-st IMAR Workshop on *Algebraic Geometry, Commutative Algebra & Topology* where he gave the conference on "ACM bundles on some projective threefolds", (August 21, 2001).
3. Gabriele Biucchi (Alexander von Humboldt University Berlin) had a 1 month doctoral fellowship at IMAR. During his stay at IMAR he participated to the activity of the group on Algebraic Geometry and had discussions with Profs. L. Badescu and I. Coanda (IMAR).

#### **Scientific Objectives:**

1. Birational geometry, classification problems in projective geometry.
2. Moduli problems in complex geometry and holomorphic vector bundles on complex manifolds.
3. Special metrics on differentiable manifolds.

#### **Main Scientific Results:**

1. V. Brinzanescu, R. Moraru: *Holomorphic rank-2 vector bundles over non-Kaehler elliptic surfaces*, ArXiv: math. AG/0306192
2. V. Brinzanescu: *The Fourier-Mukai transform for some elliptic surfaces*, to appear in the Proceedings volume of the Oberwolfach Workshop on General Type Surfaces 2004.
3. R. Gini, L. Ornea, M. Parton: *Locally conformal Kaehler reduction*, to appear in J. Reine angew. Math. 2004 (Crelle J.)
4. I. Coanda, A. Tikhomirov, G. Trautmann: *Irreducibility and smoothness of the moduli space of mathematical 5-instantons over  $P^3$* , Int. J. Math. 14 (2003), 1-46
5. I. Coanda, G. Trautmann: *Horrocks theory and the Bernstein-Gelfand-Gelfand correspondence*, ArXiv: math. AG/0304241
6. S. Guffroy: *Lissite du schema de Hilbert en bas degre*, J. of Algebra 277 (2004), 520-532.
7. S. Guffroy: *Irreducibility of Hilbert scheme*, submitted
8. L. Badescu, M. Schneider: *Formal functions, connectivity and homogeneous spaces*, Proc. Intern. Conf. Alg. Geom., Genova 2001, De Gruyter 2002.
9. M. Mendes Lopes: *A note on a theorem of Xiao Gang*, Collect. Math. 55(2004), no. 1, 33-36.
10. P. Ionescu, D. Naie: *Rationality properties of manifolds containing quasi-lines*, Intern. J. Math. 14 (2003), no.10, 1053-1080
11. J. Rouyer: *A Characterization of the Real Projective Plane*, preprint

### **Research Activity:**

1. The study of projective varieties from the birational point of view and the classification of varieties of small dimension and of projective subvarieties of low degree. The main results obtained on this topic are:
    - the smoothness of the Hilbert scheme in low degree (S. Guffroy).
    - applications of formal functions to connectivity, especially to homogeneous spaces (L. Badescu, M. Schneider)
    - rationality properties of manifolds containing quasi-lines (P. Ionescu, D. Naie)
    - improvement of a theorem of Xiao Gang concerning complex surfaces of general type (M. Mendes Lopes)
  2. The study of holomorphic vector bundles on complex manifolds and moduli spaces in complex geometry. The main results obtained on this topic are:
    - the complete solution to the existence problem of holomorphic rank-2 vector bundles over non-Kaehler elliptic surfaces and the description of moduli spaces of stable bundles on these surfaces (V. Brinzanescu, R. Moraru).
    - The study of the Fourier-Mukai transform for non-Kaehler elliptic surfaces (V. Brinzanescu, R. Moraru).
    - the irreducibility and the smoothness of the moduli space of mathematical 5-instantons over  $P^3$  (I. Coanda, A. Tikhomirov, G. Trautmann)
    - applications of Horrocks theory and the Bernstein-Gelfand-Gelfand correspondence to problems on coherent sheaves and vector bundles. (I. Coanda, G. Trautmann)
  3. The study of special metrics on differentiable manifolds. The main results obtained on this topic are:
    - the reduction of locally conformal Kaehler manifolds, considered as conformal Hermitian manifolds, and the compatibility of this reduction and the Sasaki reduction (R. Gini, L. Ornea, M. Parton).
- Scientific programme with the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences (IMI-BAS):
    - organization and participation at the International Conference and Summer School “Algebraic Geometry, Algebra and Applications”, Borovetz, Bulgaria – September 23 – October 3, 2003.
    - Scientific visits of Profs. Tatyana Ivanova-Gateva, Vesselin Drensky, Nikolai Manev, Ivan Chipchakov and Stefan Ivanov at IMAR in December 2003 – January 2004.
  - There are two research seminars, where these problems and the results were presented:
    1. algebraic geometry seminar
    2. symplectic and differential geometry seminar.

### **Conferences, Talks and Seminars:**

1. Vasile Brinzanescu (IMAR) *Holomorphic vector bundles on some elliptic surfaces*, talk at the Department of Mathematics of the Kaiserslautern University (June 2001);
2. Roberto Pignatelli (Bayreuth University): *Fibrations of small genus*, two conferences at IMAR on March 8 and 21, 2002.
3. Fabio Tonoli (Bayreuth University): *Sextics in  $P^3$  with an even set of nodes*, two conferences at IMAR on March 14 and 28, 2002.
4. Paola Frediani (Bayreuth University): *Real algebraic surfaces*, two conferences at IMAR on March 8 and 14, 2002.
5. Dr. Sebastien Guffroy (Lille 1 University): *Plane curves with nodes and cusps*, talk at IMAR in September 2002.
6. Dr. Sebastien Guffroy (Lille 1 University): *About the smoothness of the Hilbert scheme of curves in low degree*, talk at IMAR in September 2002.
7. Chris Peters (Inst. “J. Fourier”, Grenoble): *Mixed Hodge structures*, talk at IMAR,

September 20, 2002.

8. Herbert Kurke ("Alexander von Humboldt" University, Berlin): "*Vector Bundles on Affine Varieties and Fake Affine Spaces*", talk at IMAR, October 3, 2002.
9. Ersan Akyildiz (Middle East Technical University, Ankara): "*Factoring Poincaré polynomials*", talk at IMAR, September 20, 2002.
10. Gabriele Biucchi ("Alexander von Humboldt" University, Berlin): "*The Krichever correspondence*", talk at IMAR, September 10, 2002.
11. Valentin Savin (IMAR): "*Tannaka Duality on Noetherian Projective Schemes*", talk at "Higher Categorical Structures in Algebraic Geometry", Nice, 17 - 24 May, 2003 and "Advanced School in Basic Algebraic Geometry", I.C.T.P- Trieste, 7-18 July, 2003.
12. Tatyana Ivanova-Gateva (IMI-BAS): "*Set-theoretic solutions of the Yang-Baxter equation and related algebraic structures*", talk at IMAR on December 11, 2003.
13. Vesselin Drensky (IMI-BAS): "*Polynomial automorphisms of affine spaces*", talk at IMAR on January 27, 2004.
14. Nikolai Manev (IMI-BAS): "*On minimal codewords in the 3-rd order binary Reed-Muller codes*", talk at IMAR on January 29, 2004.
15. Stefan Ivanov (IMI-BAS): " *$G_2$ -geometry and relations with string theory*", talk at IMAR on February 3, 2004.
16. Vasile Brinzanescu (IMAR): "*Fibre bundles on Non-Kähler elliptic surfaces*", talk given in the Geometry Seminar at Bayreuth University (February 2004).
17. Laurent Evain (Angers University): "*Compactifications des espaces de configurations dans les schémas de Hilbert*", two talks at IMAR in May 2004.

#### **Organization of:**

- **IMAR Workshop on Algebraic Geometry, Commutative Algebra & Topology**, August 19 - September 15, 2001. 40 participants: 16 from EU countries.

#### ***Scientific Program:***

*Mini-conference at Pitesti University (August 19 - 26, 2001)*

**L. Funar:** Topological geodesics and virtual rigidity of 3-manifolds

R. Gini: Cobordism of codimension-one immersions

B. Berceanu: Braid arrangements

N. Bonciocat: Group deformations by factor sets

G. Schumacher: Quasi-projectivity of moduli spaces of polarized varieties

M. Parton: Locally conformal Kähler metrics on Hopf surfaces

J. Wisniewski: On manifolds whose tangent bundle contains an ample locally free subsheaf

G. Madonna: ACM bundles on some projective threefolds

D. Popescu: Cohen-Macaulay modules over cubic surfaces

M. Aprodu: On the vanishing of higher syzygies of curves

P. Ionescu: On manifolds of small degree

A. Kiesel: Algebraic geometry and the discrete KP hierarchy

B. Koehler: Asymptotics of Kähler-Einstein metrics and applications

M. Cipu: Properties of the Galois group of the generalized Fibonacci polynomials

I. Coanda: Mathematical instantons on  $\mathbf{P}^3$

C. Anghel: Extensions of instantons

O. Pasarescu: Halphen-Castelnuovo theory for smooth curves in  $\mathbf{P}^n$ ; remarks on the lacunary domains

M. Toma: Vector fields and rational curves on surfaces of class VII

H. Kurke: Lines on complex manifolds I

L. Badescu: Formal functions and connectivity in Algebraic Geometry

*Workshop activity at IMAR (August 26 – September 15, 2004)*

A. Dimca	On the topology of hyperplane arrangements (I)
U. Persson	Geography of 3-folds
P. Pragacz	Characteristic classes for singular varieties (I)
A. Dimca	On the topology of hyperplane arrangements (II)
H. Kurke	Lines on complex manifolds II: elliptic fibration
P. Pragacz	Characteristic classes for singular varieties (II)
G. Trautman	On moduli of instanton bundles on projective spaces
L. Paris	A solution to a conjecture of Tits on Artin groups
M. Jambu	Witt formula and hyperplane arrangements
B. Berceanu	Class numbers in $B_3$
V. Brinzanescu	Vector bundles on some elliptic surfaces
M. Roczen	On the string-theoretic Euler numbers of the 3-dimensional simple singularities
L. Paris	Geometric constructions of faithful representations for braid groups
S. Papadima	Homotopy Lie algebras, lower central series and Koszulness
L. Funar	On geometric simple connectivity of open manifolds
N. Manolache	Combinatorial generalization of the Koszul complex
E. Remm	Affine structures on nilpotent Lie algebras
S. Poirier	Configuration space integral for links in $\mathbf{R}^3$
M. Jambu	Deformations of arrangements
S. Papadima	Braid-like groups and groups of homotopy classes

- **International Conference: Algebraic Geometry, Commutative Algebra & Topology**, Constanta, September 22-26, 2002. 88 participants, 44 from abroad.

**Scientific Program:**

- Ch. Peters: A Noether-Lefschetz property for variations of polarized Hodge structure.  
S. Papadima: I-adic filtration of the higher homotopy groups of hyperplane arrangements.  
J. Wisniewski : On symplectic contractions.  
M. Toma: Rational curves on surfaces of class VII.  
E. Mezzetti: Some remarks on the Gauss map for projective varieties.  
U. Vetter: On the image ideal of a linear form: some results and open questions.  
S. Basarab: Abstract co-Galois theory.  
S. Kallel: Topology of rational functions.  
E. Ballico: Holomorphic vector bundles.  
K. Kashyaramanesh: Finiteness results for local cohomology modules.  
P. Pragacz: Milnor classes for complete intersections.  
P. Ionescu: Rationality and quasi-lines.  
K. Ranestad: Brill-Noether loci on the Lagrangian Grassmannian  $SP(3)/U(3)$   
A. Dimca: Vanishing results for local system cohomology  
G. Floystad: Cohen Macaulay simplicial complexis and their associated coherent sheaves  
F. Tonoli: Even sets of nodes on sextic surfaces  
E. Gasparim: Birational transformations on moduli of bundles on surfaces

C.T.C. Wall: Projection genericity of space curves  
 C. Peskine: Geometrically reducible complexes and the postulation of space curves; theorem of F. Han  
 S. Barannikov: On periods associated with families of homotopy associative algebras  
 P. Newstead: Deformations of Picard bundles  
 C. Sabbah: Semisimple perverse sheaves and their direct images  
 H. Kurke: Special properties of 3-folds with quasi-lines  
 G. Pareschi: Regular coherent sheaves on abelian varieties  
 M. Brodmann: Graded Components of local Cohomology Modules - a survey  
 M. Mendes-Lopes: Surfaces with  $p_g=0$  and non-birational bicanonical map  
 G. Danila: A few cohomology spaces of the tautological bundles on the Hilbert schema of points on surfaces  
 M. Manaresi: Generic projections and self-intersections  
 P. Schenzel: On curves of small degree on surface scrolls  
 T. Szemberg: Nagata conjecture and Seshadri constants  
 H. Flenner: Affine surfaces with  $C^*$ - and  $C_+$ -actions  
 U. Persson: Geography of 3-folds  
 C. Pedrini: Finite dimensional motives and Bloch's conjecture for surfaces of general type  
 G. Sankaran: Nef divisors on moduli of abelian varieties  
 I. Luengo: The Monodromy Conjecture for Quasi-Ordinary Singularities  
 I. Coanda: On the BGG-correspondence  
 A. Schmitt: Singular principal bundles  
 F. Melliez: Duality of (1,5)-polarized abelian surfaces  
 R. Strano: A characterization of minimal curves in  $P^3$   
 A. Constantinescu: Variations on Hilbert 14-th Problem: grafts and some local structure theorems for subalgebras

### **Lecture Series:**

1. Miles Reid (Univ. Warwick): 4 lectures on *Graded rings and birational geometry*, at IMAR in March – April 2001.
2. Ulf Persson (Univ. Chalmers): 4 lectures on *Introduction to the geography of algebraic surfaces and threefolds*, at IMAR in April 2002.
3. Paul Gauduchon (Ecole Polytechnique Paris): 4 lectures on *Extremal Kaehler Metrics*, at IMAR in November 2002.
4. Ciro Ciliberto (University "Tor Vergata" Rome): 4 lectures on *Secant varieties, defective varieties and special varieties*, at IMAR in February 2003.
5. Margarida Mendes-Lopes (Lisbon University): 4 lectures on *Surfaces with  $p_g = 0$* , at IMAR in February 2003.
6. Alessandro Verra (Roma University): 4 lectures on *The theta divisor of a Prym Variety; On the uni-rationality of the moduli space of curves of low genus; The unirationality of  $M_{14}$ ; A survey on the rationality problem for cubics*, at IMAR in January 2004.
7. Mauro C. Beltrametti (Genoa University): 4 lectures on *Adjunction theory on surfaces; On the Kawamata rationality theorem – towards a classification of complex polarized varieties; Mukai varieties as hyperplane sections; Projective varieties containing special curves*, at IMAR in January 2004.
8. Vasile Brinzanescu (IMAR): *Moduli problems in complex geometry*, lecture series at SNS-Bucharest, Fall 2003.

## **The International Conference and Summer School “Algebraic Geometry, Algebra and Applications”, Borovetz, Bulgaria – September 23 – October 3, 2003.**

This conference is a result of the scientific cooperation among:

- Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences
- Alfred Renyi Institute of Mathematics of the Hungarian Academy of Sciences
- Institute of Mathematics of the Polish Academy of Sciences
- "Simeon Stoilow" Institute of Mathematics of the Romanian Academy

and their initiative to strengthen the mutual transfer of knowledge and research competencies. The conference should be considered as an expression of the organizers' willing to contribute to the successful creation of an European Research Area.

### **Romanian Organizing Committee:**

Cristian Anghel, Vasile Brinzanescu, Paltin Ionescu.

### **Scientific Programme:**

#### ***Main lectures:***

Zbigniew Jelonek, IMPAN, Warsaw, Poland: *Geometry of polynomial mappings (a cycle of 5 lectures)*

Marek Szyjewski, IMPAN and Silesian University, Poland: *K-theory of schemes (a cycle of 5 lectures)*

Ersan Akyyldyz Middle East Technical University, Ankara, Turkey: *On the factorization of the Poincare polynomial*

Vasile Brinzanescu, IMAR, Bucharest, Romania: *Moduli of stable vector bundles on elliptic surfaces*

Slawomir Cynk, Jagiellonian University, Krakow, Poland: *Modularity of Calabi-Yau threefolds*

Vesselin Drensky, IMI - BAS, Sofia, Bulgaria: *Commutative and noncommutative invariant theory of triangular transformations*

Antonio Giambruno, University of Palermo, Italy: *Growth in PI-algebras*

Rolf-Peter Holzapfel, Humboldt Universitet, Berlin, Germany: *Weighted Surfaces Supporting Elliptic Modular Forms*

Oskar Kedzierski IMPAN, Warsaw, Poland: *McKay correspondence*

Plamen Koshlukov, University of Campinas, Campinas, Brazil: *Polynomial identities in positive characteristic*

Adrian Langer, Warsaw University, Poland: *Moduli of sheaves on surfaces*

Nicolae Manolache, IMAR, Bucharest, Romania: *Cohen-Macaulay Multiple Structures*

Tomasz Maszczyk, Warsaw University, Warsaw, Poland: *On geometry of the representation site*

Athanasios Papistas, Aristotles University, Thessaloniki, Greece: *Automorphisms of relatively free groups and Lie algebras*

Piotr Pragacz, IMPAN, Warsaw, Poland: *Subresultants and Schur functions*

Tomasz Szemberg, IMPAN and Pedagogical Academy in Cracow, Poland: *Asymptotic invariants of linear series*

Jenő Szigeti, University of Miskolc, Miskilc, Hungary: *Determinants and Cayley Hamilton theorem for matrices over Lie nilpotent rings*

Anatoly Yakovlev, St.Petersburg State University, Russia: *Homology of Hopf algebras over noncommutative rings: restriction and transfer*

#### ***Participants (35 min. regular talk):***

Mutsumi Amasaki, Hiroshima University, Hiroshima, Japan: *A proof of the connectedness of space curve invariants for a special case.*

Cristian Anghel, IMAR, Bucharest, Romania

Serban Basarab, IMAR, Bucharest, Romania: *A topological group theoretic approach of the co-Galois theory*

Constantin Beli, IMAR, Bucharest, Romania: *Representations of integral quadratic forms by sums of squares*

Emrah Cakcak, Middle East Technical, University, Ankara, Turkey: *Subfields of the Function Field of the Deligne-Lusztig Curve of Ree Type*

Ivan Chipchakov, IMI - BAS, Sofia, Bulgaria: *Abelian extensions, Brauer groups and norm groups of primarily quasilocal fields*

Mihai Cipu, IMAR, Bucharest, Romania: *Dickson polynomials that are permutations*

Adrian Constantinescu IMAR, Bucharest, Romania: *Surgeries on an algebraic variety: grafting a point along a germ of formal curve*

Marco D'Anna, Universita di Catania, Catania, Italy: *The Apéry algorithm for a plane curve singularity*

Tatiana Gateva-Ivanova, IMI - BAS, Sofia, Bulgaria: *On the set-theoretic solutions of the Yang-Baxter equation*

Atanas Iliev, IMI - BAS, Sofia, Bulgaria: *Severi varieties and their varieties of reductions*

Ali Jaballah, University of Sharjah, Sharjah, UAE: *Extensions of integral domains with only finitely many intermediate rings*

Ali Ulas Ozgur Kisisel, METU, Ankara, Turkey: *Factorization of Poisson brackets and enumerative geometry*

Ming-chang Kang, National Taiwan University, Taipei, Taiwan: *Introduction to Noether's problem for dihedral groups*

Azniv Kasparian, Sofia University, Sofia, Bulgaria: *Around Holzapfel's Conjecture on Ball Quotient Surfaces*

Dmitry Malinin, Belarusian State Pedagog. University, Minsk, Belarus: *On the existence of finite Galois stable groups and some applications to finite group schemes*

Cigdem Ozakin, METU, Ankara, Turkey

Yildiray Ozan, METU, Ankara, Turkey: *On cohomology of invariant submanifolds of Hamiltonian actions*

Ovidiu Pasarescu, IMAR, Bucharest, Romania: *On the Classification of Embedded Projective Curves*

Maria Petkova, Humboldt Universität, Berlin, Germany

Tsetska Rashkova, University of Rousse, Rousse, Bulgaria: *Identities in algebras with involution*

Oleg Romaniv, L'viv National University, L'viv, Ukraine: *Noncommutative 2-Euclidean rings*

Yildiz Senay, Middle East Technical University, Ankara, Turkey

Tatyana Todorova, Sofia University, Sofia, Bulgaria: *A representation of trigonometric sums via trigonometric integrals*

Jose Maria Tornero, Universidad de Sevilla, Sevilla, Spain: *Equimultiple locus of embedded algebroid surfaces and blowing-up*

Ali Muhammed Uludag, Galatasaray Univ., Istanbul, Turkey: *Branched coverings of projective spaces by products of discs*

Hamdi Murat Yildirim, METU, Ankara, Turkey: *Nonlinearity properties of the multiplication operation of the block cipher*

*IDEA*