

Curriculum vitae

Name: JOSÉ IGNACIO BURGOS GIL

Date of fulfillment: 1/10/2012

Surnames: BURGOS GIL **Name:** JOSÉ IGNACIO
D.N.I: 46224782A **Date of birth:** 01/12/1962 **Gender:** Man

Current professional status

Organization: Consejo Superior de Investigaciones Científicas (CSIC)
Faculty, School or Institute: Instituto de Ciencias Matemáticas (ICMAT)
Postal address:

Despacho 409
Instituto de Ciencias Matemáticas
Calle Nicolás Cabrera, 13-15
Cantoblanco
28049 Madrid

Phone number :

E-mail:burgos@icmat.es

Specialization (UNESCO codes): 120101 – Algebraic Geometry, 120501 Algebraic Number Theory.

Professional category and starting date: Investigador Científico - 26/06/2009

Dedication: Full time

Academic training

Bachelors Degree	Center	Date
Chemistry Engineer	Instituto Químico Sarriá (Barcelona Spain)	1986
Degree Mathematics	Universidad de Barcelona (Barcelona Spain)	1988
Doctorate	Center	Date
Mathematics	Universidad de Barcelona (Barcelona Spain)	1994

Previous scientific and/or teaching activities

Activity	Center/Institution	Dates
Asociado T.C.	Universitat Politecnica de Catalunya	1988 - 1989
Ayudante E.U.	Universidad de Barcelona	1989 - 1991
Titular Interino	Universidad de Barcelona	1991 - 1993
Ayudante LRU	Universidad de Barcelona	1993 - 1997
Profesor Titular	Universidad de Barcelona	1997 - 2009

Languages of scientific interest (*Regular, Sufficient, Well*)

Language	Speak	Read	Write
French	Well	Well	Sufficient
English	Well	Well	Well

Participation in funded R+D projects from public calls
(national and/or international)

Title of the project/contract: Fundamental group and D-modules
Kind of contract/program: ACIN - Acciones Integradas
Financing firm/administration: MEDU - Ministerio de Educación y Ciencia
Number of the project/contract: HF-75B **Duration, since:** 1992 **Until:** 1992
Main researcher: V. Navarro Aznar

Title of the project/contract: Families of algebraic varieties
Kind of contract/program: SPGC - Programa Nacional de Promoción General del Conocimiento
Financing firm/administration: SEUI - Secretaría de Estado de Universidades e Investigación
Number of the project/contract: PS90-0069 **Amount:** 36.060,73 **Duration, since:** 1991 **Until:** 1994
Main researcher: Vicente Navarro Aznar
Number of researchers participating: 9
Keywords: Rational homotopy, algebraic varieties, fibrations, mixed Hodge structures, algebraic K-theory.

Title of the project/contract: Fundamental group and D-modules
Kind of contract/program: ACIN - Acciones Integradas
Financing firm/administration: MEDU - Ministerio de Educación y Ciencia
Number of the project/contract: HF-164B **Duration, since:** 1993 **Until:** 1993
Main researcher: V. Navarro Aznar

Title of the project/contract: Families of algebraic varieties II
Kind of contract/program: SPGC - Programa Nacional de Promoción General del Conocimiento
Financing Firm/administration: SEUI - Secretaría de Estado de Universidades e Investigación
Number of the project/contract: PB93-0790 **Amount:** 43.272,87 **Duration, since:** 1994 **Until:** 1997
Main researcher: Vicente Navarro Aznar
Number of researchers participating: 10
Keywords: Rational homotopy, algebraic varieties, fibrations, mixed Hodge structures, algebraic K-theory, motives.

Title of the project/contract: Fibrations of algebraic varieties.
Kind of contract/program: SPGC - Programa Nacional de Promoción General del Conocimiento
Financing firm/administration: SEID - Secretaría de Estado de Educación, Universidades, Investigación y Desarrollo
Number of the project/contract: PB96-0234 **Amount:** 24.641,50 **Duration, since:** 1997 **Until:** 2000
Main researcher: Vicente Navarro Aznar
Number of researchers participating: 9
Keywords: Rational homotopy, Algebraic varieties, Fibrations, Mixed Hodge structures, algebraic K-Theory, Motives, Arakelov Geometry.

Title of the project/contract: Familias de variedades algebraicas y moduli
Kind of contract/program: SPGC - Programa Nacional de Promoción General del Conocimiento
Financing firm/administration: SEID - Secretaría de Estado de Educación, Universidades, Investigación y Desarrollo
Number of the project/contract: BFM2000-0799-C02-01 **Amount:** 26.324,33 **Duration, since:** 2000 **Until:** 2003
Main researcher: José Ignacio Burgos Gil
Number of researchers participating: 5
Keywords: algebraic varieties, fibrations, intersection theory, symplectic geometry, moduli spaces.

Title of the project/contract: Arakelov theory and algebraic cycles in moduli spaces
Kind of contract/program: SPGC - Programa Nacional de Promoción General del Conocimiento
Financing firm/administration: MCTE - Ministerio de Ciencia y Tecnología.
Number of the project/contract: BFM2003-02914 **Amount:** 47.600,00 **Duration, since:** 2003 **Until:** 2006
Main researcher: José Ignacio Burgos Gil
Number of researchers participating: 4
Keywords: Arakelov theory, Fourier-Mukai transform, moduli spaces, arithmetic K-theory

Title of the project/contract: Advanced course in Arakelov Geometry and Shimura varieties
Financing firm/administration: MEDU - Ministerio de Educación y Ciencia
Number of the project/contract: MTM2004-21904-E **Amount:** 3.000,00 **Duration, since:** 2006 **Until:** 2006
Main researcher: José Ignacio Burgos Gil
Number of researchers participating: 2

Title of the project/contract: Recent developments in the arithmetic of Shimura Varieties an Arakelov Geometry
Financing firm/administration: MEDU - Ministerio de Educación y Ciencia
Number of the project / contract: MTM2005-23996-E **Amount:** 6.000,00 **Duration, since:** 2006 **Until:** 2006
Main researcher: José Ignacio Burgos Gil
Number of researchers participating: 2

Title of the project/contract: Recent developments in the arithmetic of Shimura Varieties an Arakelov Geometry
Financing firm/administration: GENE - Generalitat de Catalunya
Number of the project / contract: 2005 ARCS2 00053 **Amount:** 3.000,00 **Duration, since:** 2006 **Until:** 2006
Main researcher: José Ignacio Burgos Gil
Number of researchers participating: 2

Title of the project/contract: Recent developments in the arithmetic of Shimura Varieties an Arakelov Geometry
Financing firm/administration: EUUN - Unió Europea
Number of the project / contract: MSCF-CT-2005-029473 **Amount:** 60.863,75 **Duration, since:** 2006 **Until:** 2006
Main researcher: José Ignacio Burgos Gil
Number of researchers participating: 2

Title of the project/contract: Symplectic and algebraic geometry, Arakelov theory and applications
Kind of contract/program: NMAT - Programa Nacional de Matemáticas
Financing firm/administration: MEDU - Ministerio de Educación y Ciencia
Number of the project / contract: MTM2006-14234-C02-01/ **Amount:** 43.100,00 **Duration, since:** 2006 **Until:** 2009
Main researcher: José Ignacio Burgos Gil
Number of researchers participating: 6
Keywords: Arakelov theory, algebraic varieties, symplectic geometry, computer vision

Title of the project/contract: Symplectic and algebraic geometry, Arakelov theory and applications
Kind of contract/program: NMAT - Programa Nacional de Matemáticas
Financing firm/administration: Ministerio de Ciencia e Innovación
Number of the project / contract: MTM2009-14163-C02-01/ **Amount:** 114.300,00 **Duration, since:** 2010 **Until:** 2012
Main researcher: José Ignacio Burgos Gil / Juan Carlos Naranjo
Number of researchers participating: 14
Keywords: Arakelov theory, algebraic varieties, symplectic geometry, computer vision

Title of the project / contract: **Regulators III**
Kind of contract/Program: NMAT - Programa Nacional de Matemáticas
Financing Firm/administration: Ministerio de Ciencia e Innovación
Number of the project / contract: MTM2009-06450-E/MTM/ **Amount:** 18.000,00 E **Duration, since:** 2010 **Until:** 2010
Main researcher: José Ignacio Burgos Gil / Juan Carlos Naranjo

Title of the project / Contribución a la teoría de Arakelov

Kind of contract/Program: Proyecto Intramural CSIC

Financing Firm/administration: CSIC

Institutions participating: ICMAT, CSIC.

Number of the project / contract: 200950I001 **Amount:** 40.000,00 E **Duration, since:** 1/1/2010 **Until:** 31/12/2010

Main researcher: José Ignacio Burgos Gil

Publications or scientific documents

Articles in Journals

1. Burgos Gil, J. I., *A C^∞ logarithmic Dolbeault complex*, *Compositio Mathematica* **92**, 61–86 (1994).
2. Burgos Gil, J. I., *Green forms and their product*, *Duke Mathematical Journal* **75**, 529–574 (1994).
3. Burgos Gil, J. I., *Arithmetic Chow rings and Deligne Beilinson cohomology*, *Journal of Algebraic Geometry* **6**, 335–377 (1997).
4. Burgos Gil, J. I.; Wang, S., *Higher Bott-Chern forms and Beilinson's regulator*, *Inventiones Mathematicae* **132**, 261–305 (1998).
5. Burgos Gil, J. I., *Una introducció a la teoria de Arakelov*, *Butlletí de la Societat Catalana de Matemàtiques* **16**, 61–85 (2001).
6. Burgos Gil, J. I.; Wildeshaus, J., *Modules de Hodge sur les variétés de Shimura, et leur dégénérescence dans la compactification de Baily-Borel*, *Comptes Rendus de l'Académie des Sciences Serie I-Mathématique* **336**, 29–34 (2003).
7. Burgos Gil, J. I. Xarles, X., *Fields medals*, *SCM/Notícies* **18**, 28–31 (2003).
8. Burgos Gil, J. I.; Wildeshaus, J., *Hodge modules on Shimura varieties and their higher direct images in the Baily-Borel compactification*, *Annales Scientifiques de l'Ecole Normale Supérieure* **37**, 363–413 (2004).
9. Burgos Gil, J. I. Kramer, J. Kühn, U., *Arithmetic characteristic classes of automorphic vector bundles*, *Documenta Mathematica* **10**, 619–716 (2005).
10. Burgos Gil, J. I. Kramer, J. Kühn, U., *Cohomological arithmetic Chow rings*, *Journal of the Inst. of Math. Jussieu* **6**, 1–172 (2007).
11. Bruinier, J.; Burgos Gil, J. I.; Kühn, U., *Borchers products and arithmetic intersection theory on Hilbert modular surfaces*, *Duke Mathematical Journal* **139**, 1–88 (2007).
12. Burgos Gil, J. I., *Semi-purity of tempered Deligne cohomology*, *Collectanea Mathematica* **59**, 79–102 (2008).
13. Burgos Gil, J. I.; Serrano-Andrés, L.; Oliva, J. M.; Klein, D. J., *On the effect of radical character, substitution and atom encapsulation on the volume of icosahedral (car)boranes*, *Afinidad* **65**, 32–38 (2008).
14. Burgos Gil, J. I.; Philippon, P.; Sombra, M., *Hauteur des sous-schémas toriques et dualité de Legendre-Fenchel*, *Comptes Rendus de l'Académie des Sciences Serie I-Mathématique* **347**, 589–594 (2009).
15. Burgos Gil, J. I.; Litcanu, R., *Singular Bott-Chern classes and the arithmetic Grothendieck Riemann Roch theorem for closed immersions*, *Documenta Mathematica* **15**, 73–176 (2010).
16. Oliva, J. M.; Schleyer, P.v.R.; Goldberg, A.; Aullón, G.; Burgos Gil, J. I.; Fernández-Barbero, A.; Alkorta, I., *On the electronic structure and stability of icosahedral $r - X_2Z_{10}H_{12}$ and $Z_{12}H_{12}^{2-}$ clusters, $r = \{\text{ortho, meta, para}\}$, $X = \{C, Si\}$, $Z = \{B, Al\}$* , *Physical Chemistry Chemical Physics (PCCP)* **12**, 5101–5108 (2010).
17. Burgos Gil, J. I.; Feliu, E.; Takeda, Y., *On Goncharov's regulator and higher arithmetic Chow groups*, *International Mathematics Research Notices* **2011**, 40–73 (2011).
18. Espuny, F., Burgos Gil, J. I., *Generic Self-calibration of Central Cameras from Two Rotational Flows*, *International Journal of Computer Vision* **91**, 131–145 (2011).
19. Burgos Gil, J. I., Sombra, M., *When do the recession cones of a polyhedral complex form a fan?*, *Discrete and Computational Geometry* **46** 789–798 (2011).
20. Burgos Gil, J. I., Freixas, G., Litcanu, R., *Hermitian structures on the derived category of coherent sheaves*, *Journal de Mathématiques Pures et Appliquées* **97** 424–459 (2012).

Publications or scientific documents

Books, chapters of books and conference proceedings

1. Domingo, L.; Burgos Gil, J. I., *Open-shell state parameters for symmetry degenerate orbital systems* in “Quantum Chemistry - Basic Aspects, Actual Trends” (R. Carbó Ed.), Studies in Physical and Theoretical Chemistry **62**, 103–120, Elsevier Science Publishers (1989).
2. Burgos Gil, J. I., “The regulators of Beilinson and Borel”, CRM Monograph Series **15**, American Mathematical Society (2002).
3. Burgos Gil, J. I., *Hermitian vector bundles and characteristic classes* in “The Arithmetic and Geometry of Algebraic Cycles” (B. Brent Gordon et als. Eds.), CRM Proceedings and Lecture Notes **24**, 155–182, American Mathematical Society (2002).
4. Espuny F.; Burgos Gil, J. I., *Generic Self-calibration of Central Cameras from Two "Real" Rotational Flows* in “Proc. of the 8th Workshop on Omnidirectional Vision, Camera Networks and Non-classical Cameras OMNIVIS 2008”.
5. Espuny, F.; Aranda, J.; Burgos Gil, J. I., *Camera Self-calibration with Parallel Screw Axis Motion by Intersecting Imaged Horopters* in “Proc. of the 17th Scandinavian Conference on Image Analysis SCIA 2011”, Lecture notes in Computer Science, 2011, **6688**, 1–12.
6. Espuny, F.; Schoenemann, T.; Kahl, F.; and Burgos Gil, J. I., *Computing generic rotational Flows using warping and its application to self-calibration*, in “Proc. of the Swedish Symposium on Image Analysis (SSBA), 2010.”
7. Burgos Gil, J. I.; Freixas i Montplet, G.; Lițcanu, R., *Some recent results on generalized analytic torsion classes*. “Alexandru Myller” Mathematical Seminar, AIP Conf. Proc., **1329**, Amer. Inst. Phys., Melville, NY, 2011, 49–69.
8. Burgos Gil, J. I.; de Jeu, R.; Lewis, J.; Naranjo, J. C.; Raskind, W.; Xarles, X., eds. *Regulators* Proceedings of the conference Regulators III, Barcelona July, 12-22, 2010, Contemporary Mathematics **571** American Mathematical Society, 2012.

Publications or scientific documents

Pre-publications

1. Burgos Gil, J. I., Feliu, E., *Higher arithmetic Chow groups*, arXiv:0907.5169 (2009), to appear in *Comentarii Mathematici Helvetici*.
2. Burgos Gil, J. I., Freixas, G., Litcanu, R., *Generalized holomorphic analytic torsion*, arXiv:1011.3702 (2010), to appear in *Journal of the European Mathematical Society*.
3. Burgos Gil, J. I.; Philippon, P.; Sombra, M., *Arithmetic geometry of toric varieties. Metrics, measures and heights*, arXiv:1105.5584 (2011).

Organization of Conferences and Workshops

Conference: *Conference on Recent Developments in the Arithmetic of Shimura Varieties and Arakelov Geometry*. July 10 to 15, 2006.

Kind of participation: *Chair of organizing committee.*

Place of celebration: *Barcelona (SPAIN) Year: 2006.*

Conference: *International Conference on Arithmetic Algebraic Geometry, El Escorial (Madrid, Spain), 4-8 September (2006).*

Kind of participation: *Participation in organizer committee*

Place of celebration: *El Escorial (SPAIN) Year: 2006*

Workshop: *Advanced Course on Arakelov Geometry and Shimura Varieties, February 20 to 25, 2006.*

Kind of participation: *Chair of organizing committee.*

Place of celebration: *Barcelona (SPAIN) Year: 2006.*

Conference: *Barcelona-Kyoto-Paris seminar in Arakelov geometry, Paris, Mars 18-20, 2009.*

Kind of participation: *Participation in organizing committee.*

Place of celebration: *Paris (France) Year: 2009*

Conference: *Paris-Barcelona-Kyoto seminar in Arakelov geometry, Kyoto September 21-24, 2010.*

Kind of participation: *Participation in organizing committee.*

Place of celebration: *Kyoto (Japan) Year: 2010*

web page: <http://www.math.sci.osaka-u.ac.jp/~kawaguch/PBKSeminar/index.html>

Workshop: *Second International School on Geometry and Physics. Geometric Langlands and Gauge Theory. March 17 -26, 2010*

Kind of participation: *Participation in organizing committee*

Place of celebration: *Barcelona (Spain) Year: 2010*

web page: <http://www.crm.cat/aclanglands/>

Conference: *Regulators III, July 12-22, 2010*

Kind of participation: *Participation in organizing committee.*

Place of celebration: *Barcelona (Spain) Year: 2010*

web page: <http://www.imub.ub.es/regulatorsIII/>

Conference: *Heights, April, 26-30, 2011*

Kind of participation: *Participation in organizing committee.*

Place of celebration: *Tossa de Mar (Spain) Year: 2011*

web page: <http://www.imub.ub.es/heights2011/>

Conference: *Kyoto-Paris-Barcelona seminar in Arakelov geometry, Barcelona September 5-9, 2011.*

Kind of participation: *Participation in organizing committee.*

Place of celebration: *Barcelona (Spain) Year: 2011*

web page: <http://www.imub.ub.es/kpb2011/>

Conference: *Periods and Motives. A new perspective in renormalization, Madrid July 2-6, 2012.*

Kind of participation: *Participation in organizing committee.*

Place of celebration: *ICMAT, Madrid (Spain) Year: 2012*

web page: <http://www.icmat.es/congresos/periods-and-motives/>

Conference: *Barcelona-Paris-Kyoto seminar in Arakelov geometry, Kyoto September 18-21, 2012.*

Kind of participation: *Participation in organizing committee.*

Place of celebration: *Kyoto (Japan) Year: 2012*

web page: <http://www.math.kyoto-u.ac.jp/~kawaguch/PBKSeminar12/index.html>

Invited Conferences at International Events

Authors: José Ignacio Burgos Gil

Title: Arithmetic Chow groups and Deligne Beilinson cohomology.

Conference: International Conference on Arakelov Theory

Place of celebration: Bonn (GERMANY) **Year:** 1994

Authors: José Ignacio Burgos Gil

Title: Beilinson's regulator and Chern-Weil theory.

Conference: Arakelov Theory, Values of L-functions

Place of celebration: Cambridge (ENGLAND) **Year:** 1998

Authors: José Ignacio Burgos Gil

Title: Higher Bott-Chern forms and Beilinson's regulator

Conference: Number Theory and Arithmetical Geometry: Arakelov Geometry and Applications

Place of celebration: Obernai (FRANCE) **Year:** 1999

Authors: José Ignacio Burgos Gil

Title: Introducció a la teoria d'Arakelov

Conference: 3 Jornadas Soc. Catalana de Matematiques

Place of celebration: Valencia (SPAIN) **Year:** 2000

Authors: José Ignacio Burgos Gil

Title: Arithmetic Chow groups of Shimura varieties

Conference: Arithmetic Groups and Automorphic Forms

Place of celebration: ESI, Viena (AUSTRIA) **Year:** 2002

Authors: José Ignacio Burgos Gil

Title: Arithmetic Chow groups of Shimura varieties

Kind of participation: Invited conference

Conference: Arakelov Geometry

Place of celebration: CIRM, Luminy (FRANCE) **Year:** 2002

Authors: José Ignacio Burgos Gil

Title: Beilinson's regulator

Kind of participation: Invited conference

Conference: Tamagawa Numbers and Values of L-functions

Place of celebration: Paris (FRANCE) **Year:** 2002

Authors: José Ignacio Burgos Gil

Title: Introduction to Arakelov Geometry and non compact Shimura varieties

Kind of participation: Invited conference

Conference: Felix Klein Kolloquium

Place of celebration: Düsseldorf (FRANCE) **Year:** 2002

Authors: José Ignacio Burgos Gil

Title: A simplicial description of Kähler differentials

Kind of participation: Invited conference

Conference: Lisbon Conference on Commutative Algebra

Place of celebration: Lisbon (Portugal) **Year:** 2003

Authors: José Ignacio Burgos Gil

Title: Cohomological arithmetic Chow groups

Kind of participation: Invited conference

Conference: Number Theory FRG Conference

Place of celebration: Madison (UNITED STATES) **Year:** 2004

Authors: José Ignacio Burgos Gil

Title: Arithmetic Chow groups of non-compact Shimura varieties

Kind of participation: Invited conference

Conference: Number Theory FRG Conference

Place of celebration: *Madison (UNITED STATES) Year: 2004*

Authors: *José Ignacio Burgos Gil*

Title: *Arakelov Geometry II*

Conference: *Intersection of Arithmetic Cycles and Automorphic Forms, December, 12-16, 2005*

Place of celebration: *Montreal (CANADA) Year: 2005*

Authors: *José Ignacio Burgos Gil*

Title: *Direct Images in Arakelov Geometry*

Kind of participation: *Invited conference*

Conference: *Arakelov Geometry. September, 11-17, 2005*

Place of celebration: *Oberwolfach (GERMANY) Year: 2005*

Authors: *José Ignacio Burgos Gil*

Title: *An analogue of Hirzebruch-Zagier formula in Arakelov geometry*

Kind of participation: *Invited conference*

Conference: *Satellite Conference on Algebraic Geometry Segovia, Spain. August 16-19, 2006*

Place of celebration: *Barcelona (SPAIN) Year: 2006*

Authors: *José Ignacio Burgos Gil*

Title: *On singular Bott Chern forms*

Kind of participation: *Invited conference*

Conference: *International Conference on Arithmetic Algebraic Geometry, El Escorial (Madrid, Spain), 4-8 September (2006)*

Place of celebration: *El Escorial (SPAIN) Year: 2006*

Authors: *José Ignacio Burgos Gil*

Title: *An analogue of Hirzebruch Zagier formula in Arakelov Geometry*

Kind of participation: *Invited conference*

Conference: *Topologia delle varietà algebriche complesse, Alghero (Sardegna) 19 - 23 Settembre 2006*

Place of celebration: *Alghero (ITALY) Year: 2006*

Authors: *José Ignacio Burgos Gil*

Title: *On singular Bott-Chern classes*

Kind of participation: *Invited conference*

Conference: *Regulators and Heights in Algebraic Geometry, April 12-16 2008.*

Place of celebration: *Alberta (CANADA) Year: 2008*

Authors: *José Ignacio Burgos Gil*

Title: *Height of Toric subvarieties*

Kind of participation: *Invited conference*

Conference: *Workshop on Arithmetic Geometry, Diophantine approximation and Arakelov theory. 20-24 October 2008*

Place of celebration: *Toronto (CANADA) Year: 2008*

Authors: *José Ignacio Burgos Gil*

Title: *Height of Toric subvarieties*

Kind of participation: *Invited conference*

Conference: *Journées de géométrie d'Arakelov de Rennes, 18-19 December 2008.*

Place of celebration: *Rennes (FRANCE) Year: 2008*

Authors: *José Ignacio Burgos Gil*

Title: *The height of toric varieties*

Kind of participation: *Invited conference*

Conference: *Arakelov theory and its arithmetic applications, Regensburg, February 22-26.*

Place of celebration: *Regensburg (Germany) Year: 2010*

Authors: *José Ignacio Burgos Gil, Gerard Freixas, Razvan Litcanu*

Title: *Generalized Analytic Torsion*

Kind of participation: *Invited conference*

Conference: *"Alexandru Myller" Mathematical Seminar Centennial Conference, June 21-26, 2010 Iasi, Romania*

Place of celebration: *Iasi (Romania)* **Year:** *2010*

Authors: *José Ignacio Burgos Gil, Patrice Philippon, Martin Sombra*

Title: *Arakelov geometry of toric varieties*

Kind of participation: *Invited conference*

Conference: *Institut d'été Franco-Chinois 2011 en Géométrie Arithmétique 27 juin – 15 juillet 2011 à Chern Institute of Mathematics (Tianjin, Chine)*

Place of celebration: *Tianjin (China)* **Year:** *2011*

Authors: *José Ignacio Burgos Gil, Gerard Freixas, Razvan Litcanu*

Title: *Hermitian structures on the bounded derived category of coherent sheaves*

Kind of participation: *Invited conference*

Conference: *Géométrie arithmétique et motivique, September 19 – September 23.*

Place of celebration: *CIRM Luminy (France)* **Year:** *2011*

Authors: *José Ignacio Burgos Gil, Atsushi Moriwaki, Patrice Philippon, Martín Sombra*

Title: *Arakelov theory of toric varieties. Positivity properties.*

Kind of participation: *Invited conference*

Conference: *Algebraic Cycles and L-functions February 27 – March 2.*

Place of celebration: *Regensburg (Germany)* **Year:** *2012*

Authors: *José Ignacio Burgos Gil*

Title: *Arithmetic Riemann-Theorem*

Kind of participation: *Invited conference*

Conference: *Arakelov Geometry and K-theory. On the occasion of C. Soulé's sixtieth birthday, May 21 – May 23.*

Place of celebration: *Toulouse (France)* **Year:** *2012*

Authors: *José Ignacio Burgos Gil*

Title: *Arakelov theory of toric varieties. Positivity properties.*

Kind of participation: *Invited conference*

Conference: *Arithmetic Geometry and Arithmetic Dynamics. On the occasion of the 70th birthday of Lucien Szpiro, May 29 – June 1.*

Place of celebration: *New York (USA)* **Year:** *2012*

Authors: *José Ignacio Burgos Gil*

Title: *The singularities of the invariant metric of the sheaf of Jacobi forms on the universal elliptic curve*

Kind of participation: *Invited conference*

Conference: *Arithmetic Geometry of Orthogonal and Unitary Shimura Varieties, June 3 – June 8*

Place of celebration: *Banff (Canada)* **Year:** *2012*

Authors: *José Ignacio Burgos Gil*

Title: *The arithmetic Riemann-Roch theorem for projective morphism*

Kind of participation: *Invited conference*

Conference: *Paris-Barcelona-Kyoto seminar on Arakelov geometry, September 18 – September 21*

Place of celebration: *Kyoto (Japan)* **Year:** *2012*

Advanced Courses and International Schools

Title: *Arakelov theory and log-singular hermitian vector bundles.*

Place: Chorin **Country:** Germany **Date:** 23, 24 May, 2005.

Name of the event: International Graduate College: Arithmetic Geometry, Summer School 2005, Chorin, 22nd - 28th May.

Title: *Height of toric varieties*

Place: Beijing **Country:** China **Date:** 3-28 May, 2010.

Name of the event: A course of 20 hours given at the Morningside Center of Mathematics, Chinese Academy of Sciences.

Title: *Height of toric varieties*

Place: Guanajuato **Country:** Mexico **Date:** 3,4,5 November, 2010.

Name of the event: Series of Lectures given at the CIMAT, Guanajuato.

Title: *Generalized analytic torsion*

Place: Université Paris VI **Country:** France **Date:** Mars, 2011.

Name of the event: Series of 4 Lectures given at the Institut Mathématiques de Jussieu in collaboration with Gerard Freixas.

Title: *Algebra y Geometría Computacionales*

Place: ICMAT (Madrid) **Country:** Spain **Date:** July, 2011.

Name of the event: Escuela JAE de Matemáticas 2011

Conferences

Title: *Green Forms*

Place: El Cairo **Country:** Egypt **Date:** 1993

Name of the event: International Conference and Advanced Workshop on Arithmetic Geometry

Title: *A construction of arithmetic Chow groups using Deligne cohomology*

Place: Essen **Country:** Germany **Date:** 1994

Name of the event: Mathematics Department Seminar.

Title: *Formes de Green et Courants de Green*

Place: Nancy **Country:** France **Date:** 1995

Name of the event: Journées Complexes 1995

Title: *Arithmetic K-theory and Beilinson's regulator*

Place: Santa Cruz **Country:** USA **Date:** 1995

Name of the event: 1995 American Mathematical Society Summer Institute: Algebraic Geometry.

Title: *Currents, cycles and forms. Complex analytic geometry related to Arakelov theory*

Place: Luminy **Country:** France **Date:** 22/02/1996

Name of the event: Colloque: Géométrie analytique complexe

Title: *Higher Bott Chern forms and Beilinson's regulator*

Place: Berlin **Country:** Germany **Date:** 1997

Name of the event: Mathematics Department Seminar

Title: *Higher Bott Chern forms and Beilinson's regulator*

Place: Banff **Country:** Canada **Date:** 1998

Name of the event: NATO ASI/ 1998 CRM Summer School: The arithmetic and Geometry of Algebraic Cycles

Title: *Higher Bott Chern forms and Beilinson's regulator*

Place: Strasbourg **Country:** France **Date:** 1998

Name of the event: Mathematics Department Seminar

Title: *The Gauss Bonnet Theorem for higher K-theory*

Place: Munster **Country:** Germany **Date:** 1998

Name of the event: Mathematics Department Seminar

Title: *Arakelov Theory with log-log forms*

Place: Berlin **Country:** Germany **Date:** 2000

Name of the event: Oberseminar Koch-Kramer-Zink, Humboldt Universitat

Title: *Vers une théorie d'Arakelov des variétés modulaires*

Place: Montpellier **Country:** France **Date:** 2000

Name of the event: Seminaire AGATA

Title: *Axiomatic Arakelov Chow groups*

Place: Paris **Country:** France **Date:** 2001

Name of the event: Seminaire Institut Galilee

Title: *Arakelov geometry of non compact Shimura varieties*

Place: Lisbon **Country:** Portugal **Date:** 2002

Name of the event: Analysis, Geometry and Dynamical systems seminar. Instituto Superior Tecnico.

Title: *Arakelov geometry of non compact Shimura varieties*

Place: Zurich **Country:** Switzerland **Date:** 2002

Name of the event: Seminaire EHT

Title: *On abstract arithmetic Chow groups*

Place: Paris **Country:** France **Date:** 2002

Name of the event: Séminaire d'Arithmétique et de Géométrie Algébrique. Université Paris Sud (Orsay)

Title: *On Arakelov Chow rings for Shimura varieties*

Place: Paris **Country:** France **Date:** 2002

Name of the event: Séminaire Groupes Réductifs et Formes Automorphes. Université Denis Diderot (Paris VII)

Title: *Cohomological arithmetic Chow groups*

Place: Maryland **Country:** USA **Date:** 2004

Name of the event: Number Theory Seminar

Title: *Arakelov Geometry and good hermitian vector bundles*

Place: Paris **Country:** France **Date:** 18/04/2005

Name of the event: Séminaire Autour de la géométrie d'Arakelov Institut de Mathématiques de Jussieu

Title: *Teoría de Arakelov y fibrados hermíticos con singularidades logarítmicas*

Place: Barcelona **Country:** Spain **Date:** 29/04/2005

Name of the event: Barcelona Number Theory Seminar 2004-2005 (UPC)

Title: *La Conjectura de Hodge*

Place: Barcelona **Country:** Spain **Date:** 22/02/2005

Name of the event: Els set problemes del mil.leni IV Cicle de Conferències Ferran Sunyer i Balaguer

Title: *Motivos y Reguladores*

Place: Barcelona **Country:** Spain **Date:** 30/11/2005

Name of the event: Col.loqui del Departament de Matemàtiques. Universitat Autònoma de Barcelona

Title: *On singular Bott Chern currents*

Place: Regensburg **Country:** Germany **Date:** 27/10/2006

Name of the event: Algebraische Zykel und L-Funktionen

Title: *On singular Bott-Chern forms*

Place: Rennes **Country:** France **Date:** 08/02/2007

Name of the event: Séminaire Géométrie Arithmétique

Title: *The self-calibration of a general central camera*

Place: Rennes **Country:** France **Date:** 12/02/2007

Name of the event: Colloque IRMA (Univ. Rennes I, UER mathématiques)

Title: *The self-calibration of a general central camera*

Place: Iasi **Country:** Romania **Date:** 20/06/2007

Name of the event: Mathematics Department Colloquium

Title: *Closed Immersions in Arakelov Geometry*

Place: Berlin **Country:** Germany **Date:** 05/02/2008

Name of the event: Arithmetic Geometry Seminar

Title: Self-calibration of a general central camera

Place: Hamburgo **Country:** Germany **Date:** 03/02/2008

Name of the event: Geometry Seminar

Title: Altura de variedades tóricas

Place: Madrid **Country:** Spain **Date:** 27-02-2009

Name of the event: Seminario de Geometria Algebraica

Title: Height of toric varieties

Place: Paris **Country:** France **Date:** 17-3-2009

Name of the event: Seminaire SAGA

Title: Singular Bott-Chern forms and the Arithmetic Riemann-Roch theorem

Place: Paris **Country:** France **Date:** 18-3-2009

Name of the event: Seminar Barcelona-Kyoto-Paris in Arakelov Theory

Title: Clases de Bott-Chern singulares y clases de torsión analítica

Place: Barcelona **Country:** Spain **Date:** 22-05-2009

Name of the event: Seminario de Geometría Algebraica

Title: The height of toric varieties

Place: Regensburg **Country:** Germany **Date:** 19-06-2009

Name of the event: Arithmetic Geometry Seminar

Title: Altura de variedades tóricas

Place: Barcelona **Country:** Spain **Date:** 19-04-2009

Name of the event: Seminario de Geometría Tropical

Title: The theory of heights

Place: Indian Institute of Science, Bangalore **Country:** India **Date:** 17-11-2009

Name of the event: IISc - CSIC Workshop, November 2009

Title: Singular Bott-Chern classes and analytic torsion

Place: Beijing **Country:** China **Date:** 19-5-2010

Name of the event: Mathematics seminar

Title: Axiomatic characterization of analytic torsion

Place: Kyoto **Country:** Japan **Date:** 21-9-2010

Name of the event: Barcelona-Paris-Kyoto Seminar in Arakelov Geometry, Kyoto, September 21-24 2010

Title: The theory of heights

Place: Durham **Country:** England **Date:** 21-11-2010

Name of the event: Colloquium Mathematics Durham University

Title: The height of toric varieties

Place: Durham university **Country:** England **Date:** 23-11-2010

Name of the event: Arithmetic Geometry Seminar

Title: The theory of heights

Place: Buenos Aires **Country:** Argentina **Date:** 3-3-2011

Name of the event: Colloquium Mathematics Department

Title: Generalized analytic torsion

Place: Université Paris XIII **Country:** France **Date:** 18-3-2011

Name of the event: Seminaire LAGA

Title: Generalized analytic torsion

Place: Hamburg University, **Country:** Germany **Date:** 24-5-2011

Name of the event: Colloquium Mathematics Faculty

Title: Height of toric varieties

Place: Hamburg University **Country:** Germany **Date:** 25-5-2011

Name of the event: Seminario Departamento de Matemáticas

Title: Arakelov theory of toric varieties. Positivity properties

Place: Barcelona **Country:** Spain **Date:** 18-11-2011

Name of the event: Seminario de Geometría Algebraica

Title: Arakelov theory of toric varieties. Positivity properties

Place: Université Paris XIII **Country:** France **Date:** 25-11-2011

Name of the event: Seminaire LAGA

Title: Arakelov theory of toric varieties. Positivity properties

Place: Institute de Mathématiques de Jussieu, Paris, **Country:** France **Date:** 22-3-2012

Name of the event: *Groupe d'Etude sur les Problèmes Diophantiens.*

Title: The theory of heights

Place: Institute de Mathématiques de Jussieu, Paris, **Country:** France **Date:** 29-3-2012

Name of the event: *Colloquium Institut Mathématiques Jussieu.*

Title: Arithmetic Riemann Roch theorem

Place: University of Alberta, Edmonton, **Country:** Canada **Date:** 12-6-2012

Title: Feynman diagrams for dummies

Place: Tamariu, **Country:** Spain **Date:** 10-7-2012

Name of the event: *Coordination meeting research group GEOMAP.*

Supervised Ph.D.-Theses

Title: *On higher arithmetic intersection theory*

Ph.D. candidate: *Elisenda Feliu*

University: *Universitat de Barcelona*

Faculty / School: *Facultat de Matemàtiques*

Year: *2007* **Mark:** ***Excel·lent cum laude* **Key:** ***Tesi Doctoral*

Title: *Généralisation de la théorie d'intersection arithmétique*

Ph.D. candidate: *Gerard Freixas i Montplet*

University: *Université Paris Sud*

Faculty / School:

Year: *2007* **Mark:** ***Excel·lent cum laude* **Key:** ***Tesi Doctoral*

Title: *Self-calibration of projective and generic central cameras*

Ph.D. candidate: *Ferran Espuny Pujol*

University: *Universitat de Barcelona*

Faculty / School: *Facultat de Matemàtiques*

Year: *2009* **Mark:** ***Excel·lent cum laude* **Key:** ***Tesi Doctoral*

Other important activities

Activity: *Vicedean Mathematics Faculty of the University of Barcelona.*

Dates: *2002 - 2005*

Activity: *Secretary of the IMUB (Instituto de Matemáticas de la UB, Mathematics intitute UB)*

Dates: *2007-2009*

Activity: *Editor of the Journal: Collectanea Mathematica*

Dates: *2007-2009*

Other merits, achievements or comments you want to certify
(do not use more than one printed page)

Award to the best TFC 1987, given by the Instituto Químico de Sarriá (IQS).

Award to the best PhD thesis 1994, given by the Faculty of Mathematics of the University of Barcelona.

Referee of international journals: Journal of Algebraic Geometry, Duke Math. J., Int. Math. Res. Not., Collectanea Math., Journal of AMS, Canadian Math. Bull. Publ. of RIMS Journal of Pure and Applied Algebra, Annals of Math., Journal de la ENS, etc.

External expert for the evaluation of projects of the NSF (USA), ANEP (ESP), ANR (France)

Responsible of a innovative teaching project of the University of Barcelona during the year 2002.