

## CURRICULUM VITAE

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### PIERRE DEBES

born on August 26, 1959

married, 2 children

Professeur des Universités, Classe Exceptionnelle, Ech.2  
Univ. Lille, Lab. Maths Paul Painlevé

### EDUCATION

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- HDR (*Habilitation*), December 1991, Univ. Paris 6
- PhD Maths, July 1984, Univ. Paris 6 (advisor: M. Waldschmidt).
- Agrégation, 1981, (45<sup>e</sup>)
- Former Student of "Ecole Normale Supérieure" (Cachan, ENSET), 1979/84

### WORK EXPERIENCE

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- Univ. Lille 1 - Professor - 1993-now
- Univ. of California in Irvine (USA) - Visiting Professor - 01/1998-08/1998
- Univ. Versailles St-Quentin - Maître de Conférences - 1991/93
- Univ. Paris X-Nanterre - Maître de Conférences - 1987/91
- Univ. of California in Irvine (USA) - Visiting Associate Professor - 02/1989-08/1989
- Univ. of Florida in Gainesville (USA) - Visiting Assistant Professor - 1986/1987
- Faculté des Sciences & Techniques de Monastir (Tunisie) - Assistant Professor - 1984/1986

### MAIN RESPONSIBILITIES

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- Director of Lab. Maths Paul Painlevé - 01/09/2013-31/12/2014 - 200 members
- Director of Math. Doctoral Studies – Region Nord-Pas-de-Calais - 2006-now - 80 PhD students
- Lab-Ex(*cellence*) CEMPI Lille - Training Coordinator & Member of Executive Committee - 2012-now  
see <http://math.univ-lille1.fr/~cempi/index.php>
- Member of Conseil d'Administration (*Main Board*) - Univ. Lille 1 - 2011-2016
- Scientist in Charge of Lille Node of European Network GTEM - 2 contracts 2000-04 & 2006-10 - 15 members
- Director of Research Team *Algèbre&Théorie des Nombres* - Univ. Lille 1 - 09/94-01/96 - 20 members

### SPECIAL RESEARCH POSITIONS

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- Délégation CNRS (*CNRS Secondment*) - 2014/2015
- CRCT (*French Sabbatical*) - 2nd semester 2009
- Délégation CNRS (*CNRS Secondment*) - 1999/2000
- CRCT (*French Sabbatical*) - 1997/1998

### NUMERICAL SUMMARY

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- 54 published articles + 3 proceedings volumes -- 19 co-authors
- 11 PhD students: 8 defended, 2 ongoing, 1 dropped - 5 former students in Academia and 1 postdoc
- 202 invited talks, 81 in a conference, 121 in a university seminar
- 26 Conferences/Summer Schools co-organized, 2 Special Semesters and 6 seminars
- more than 5 years spent abroad on invited positions (excluding conferences)
- members of 55 PhD or HDR defense committees

## AWARDS AND HONORS

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- PEDR/PES (*French Research Grants*):  
1993-1997, 1997-2001, 2001-2005, 2005-2009, 2010-2014, 2014-2018
- PROMOTIONS:
  - o Professor - Classe Exceptionnelle Echelon 2 - 2015
  - o Professor - Classe Exceptionnelle Echelon 1 - 2011 (by national committee CNU)
  - o Professor - 1ère Classe - 2003 (by national committee CNU)
- SPECIAL PROGRAMS
  - o Lab-Ex(*cellence*) CEMPI Lille - Training Coordinator & Member of Executive Committee - 2012-now
  - o European Network GTEM - Scientist in Charge of Lille Node - 2 contracts 2000-04 & 2006-10 (HPRN-CT-2000-00114-GTEM & MRTN-CT-2006-35495-GTEM).
  - o MSRI - special semester 'Galois & fundamental groups' - Key contributor - Fall 1999
- FURTHER FELLOWSHIPS
  - o JSPS Invitation Fellowship for Research in Japan (S17024) - May 2017
  - o NSF grant DMS-8702150 - 1989
  - o Lavoisier Fellowship - Ministère des Affaires Etrangères (France) - 1986

## RESEARCH INVITATIONS ( ≥ 2 weeks)

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- Sophia Univ. (Tokyo) & RIMS (Kyoto) & Osaka Univ. - Japon - 3 weeks - May 2017.
- Univ. Pennsylvania (Philadelphie) & Univ. Chicago - USA - 2 weeks - March-April 2016.
- Tel Aviv Univ. & Technion - Israel - 3 weeks - March-April 2016.
- Galatasaray Univ. (Istanbul) - Turkey - 3 weeks - June 2009.
- MSRI (Berkeley), Billings (Montana) - USA - 3 weeks - March-April 2006.
- Univ. Pennsylvania, Texas A&M & Texas Tech. - USA - 3 weeks - March-April 2005.
- Univ. of Be'er Sheva, Haifa and Tel Aviv - Israel - 2 weeks - February-March 2002.
- University of Pennsylvania (Philadelphie) - USA - 1 month - February-March 2000.
- MSRI (Berkeley): 3 months as Key Contributor - USA - August-October 1999.
- Univ. of California in Irvine - Visiting Professor - USA - 8 months - 01/1998-08/1998
- TIFR (Bombay), SPIC & Maths Sciences Inst (Madras) et Univ. Pondicherry - India - 2 months - Summer 1997.
- Tel Aviv University - Israel - 1 month - Octobre-November 1997.
- Univ. Padova and Venezia - Italy - 1 month - July 1994
- Univ. of California in Irvine - Visiting Associate Professor - USA - 7 months - 02-09/1989
- Univ. of Florida in Gainesville - Visiting Assistant Professor - USA - 1 year - 1986/1987

## RESEARCH EXPERTISE

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- Member of Reading/Editorial Board of
  - o *Journal de Théorie de Nombres de Bordeaux* - since 2006
  - o *North Western European Journal of Mathematics* - since 2014
- Member of Scientific Committee of Conferences:
  - o Geometrical and Combinatorial Methods in Number Theory - Iasi - June 27-July 1, 2016
  - o Final Conference - GTEM network - Barcelone, September 06-10, 2010.
  - o Journées Arithmétiques 2003 - Graz - July 6-12, 2003
- Evaluation of research articles, PhD, HDR and various research applications: ~ 95
- Member of PhD and HDR defense committees: ~ 55

## PHD STUDENTS

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- Bruno DESCHAMPS - 1997 - *currently* Prof. Univ. Le Mans
- Bounab SADI - 1999 - *cur.* Professeur Agrégé in High School
- Yann WALKOWIACK - 2004 - *cur.* Prof. IUT Laval (*Univ. Institute of Technology*)  
(joint supervision with U. Zannier)
- Anna CADORET - 2004 - *cur.* Prof. Univ. Paris 6
- Salah NAJIB - 2005 - *cur.* Prof. Faculté Kourigba (Maroc)  
(joint supervision with M. Ayad)
- Nour GHAZI - 2011 - *cur.* Associate Prof. Univ. Damas (Syria)
- Orlando CAU - 2011 - *cur.* Prof. in Private High School  
(joint supervision with M. Emsalem)
- François LEGRAND - 2013 – 2<sup>nd</sup> year Post-Doc in Dresden after 2 years in Tel Aviv and 1 in Technion (Haifa)
- François MOTTE - started in 2015 - will defend end of 2018
- Angelo IADAROLA - started in 03/2018- 3 year PhD contract from Lille  
(joint supervision with B. Sodaigui)

## SELECTED PUBLICATIONS (full list of 54 in part VII below)

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- *Groups with no parametric Galois realization* - **Ann. Sci. ENS 51** - 2018
- *On the Malle conjecture and the self-twisted cover* - **Israel J. Math. 218** - 2017
- *Tchebotarev theorems for function fields* - **J. Algebra 446** - 2016 - with S. Checcoli
- *Specialization results in Galois theory*, - **Trans. AMS 365** - 2013 - with F. Legrand
- *Galois covers and the Hilbert-Grunwald property* - **Ann. Inst. Fourier 62** - 2012 - with N. Ghazi
- *Harbater-Mumford Components & Towers of Moduli Spaces* - **JIMJ 5** - 2006 - with M. Emsalem
- *Descent varieties for algebraic covers*, **Crelle 574** - 2004 - with J-C. Douai & L. Moret-Bailly
- *Corps psi-libres et théorie inverse de Galois infinie* - **Crelle 574** - 2004 - with B. Deschamps
- *Finiteness results in descent theory* - **J. London Math. Soc. 68** - 2003 - with G. Derome
- *On fields of moduli of curves* - **J. Algebra 211** - 1999 - with M. Emsalem
- *Fields of definition of p-adic covers* - **Crelle 498** - 1998 - with D. Harbater
- *Local-global principles for algebraic covers* - **Israel J. Math. 103** - 1998 - with J-C. Douai
- *Hilbert's irreducibility theorem and G-functions* - **Math. Annalen 309** - 1997 - with U. Zannier
- *Algebraic covers: field of moduli vs field of definition* - **Ann. Sci. ENS 30** - 1997 - with J-C. Douai
- *Arithmetic variation of fibers in algebraic families of curves* - **Crelle 409** - 1990 - with M. Fried
- *Sur un article de Bombieri concernant le Théorème de Décomposition de Weil* - **Amer. J Math. 107** - 1985

### Co-editor of 3 Proceedings Volumes:

- *Geometric and Differential Galois Theories* - **Séminaires et Congrès: 27** - 2016
- *Arithmetic and Geometry around Galois Theory* - **Birkhauser-Progress in Maths 304** - 2013
- *Groupes de Galois arithmétiques et différentiels* - **Séminaires et Congrès 13** - 2013

## SELECTED INVITED TALKS IN CONFERENCES (20 out of 80)

- Algebraic geometry with "fancy" coefficients - Caen - 11/2017
- Conference on Johnson homomorphisms and related topics - Tokyo - 05/2017
- Conference on Geometrical and Combinatorial Methods in Number Theory - Iasi - 06/2016
- Conference on Lifting Problems and Galois Theory - Banff (Canada) - 08/2015
- Galois groups and Brauer groups - Technion, Haifa - 01/2013
- Amitsur Symposium - Tel Aviv - 06/2012.
- Colloque du bicentenaire de la naissance d'Evariste Galois - IHP, Paris - 10/2011.
- *Alexandru Myller* Mathematical Seminar Centennial Conference - Iasi (Romania) - 06/2010.
- Meeting on Profinite Arithmetic Geometry - Red Lodge (Montana) - 04/2006.
- Arithmetic Galois Theory and related moduli spaces - RIMS, Kyoto - 10/2006.
- Arithmetexas 2005 - College Station (Texas) - 04/2005
- Noncommutative Aspects of Number Theory - Durham - 08/2003.
- Euroconferences in Arithmetic Algebraic Geometry - Acquafredda di Maratea - 09/2001.
- MSRI-Evans Lectures - Berkeley - 09/1999.
- Von Neumann Conference Arith. Fundamental Gps & Noncommutative Algebra - MSRI - 08/1999
- Gentner-Symposium on Mathematical Sciences "Field Arithmetic" - Tel Aviv - 10/1997
- International Number Theory Conference - Zakopane-Koscielisko (Poland) - 07/1997
- AMS Summer Research Conference on « Curves over Finite Fields » - Seattle (Washington) - 07/1997
- Conférences de la Société Mathématique Européenne - Besançon - 06/1995.
- International Joint Mathematics Meeting (AMS-IMU) - Univ. of Jerusalem - 05/1995.

*Also includes 9 invited talks in Oberwolfach and 6 in Luminy and many talks (121) in university seminars.*

## SELECTED CO-ORGANIZED MEETINGS (13 out of 26)

- Les Rencontres Arithmétiques de Caen – Tatiou – May 29-2 June 3, 2019  
(with V. Bosser, B. Deschamps and J. Poineau)
- Workshop "Arithmetic Geometry and Symmetries around Galois and Fundamental Groups – Oberwolfach April 15-21, 2018 (with B. Collas and M. Fried)
- Summer School "Galois Theory and Number Theory" - Konstanz - July 18-24, 2015 (with L. Bary-Soroker et A. Fehm).
- Special Semester "Arithmetic and Algebraic Geometry" - Lille - 2014.
- Meeting "Arithmetic and differential Galois groups" - CIRM, Luminy - March 29-April 3, 2010 (with D. Bertrand)
- GTEM/Tubitak School "Geometry & Arithmetic around Galois Theory" - Istanbul - June 8-19, 2009 (with M. Uludag)
- GTEM Summer School "Geometry and Arithmetic of Moduli Spaces of Coverings" - Istanbul - 09-20 June 2008 (with P. Lochak, M. Uludag, S. Wewers)
- Meeting on "Arithmetic Galois theory and related moduli spaces" - RIMS, Kyoto - October 23-31 (with M. Fried, J. Koenigsmann, H. Nakamura, K. Ribet)
- Meeting on "Arithmetic and differential Galois groups" - CIRM, Luminy - March 8-13, 2004 (with D. Bertrand)
- Journées Arithmétiques 2001 - Lille - July 2-6, 2001 (with F. Reher)
- Meeting on "Galois theory and Geometry" - CIRM - June 4-8, 2001 (with D. Harbater, F. Pop)
- Ecole TANGA (Théorie Algébrique des Nombres & Géométrie Arithmétique) - Lille - March 26-30, 2001 (with B. Erez et al.)
- Workshop "Galois actions and Geometry" - MSRI Berkeley - October 11-15, 1999 (with H. Nakamura, A. Tamagawa)

## PERSONAL BIBLIOGRAPHY

### • **Volumes:** [3]

- [BBCD13] D. Bertrand, P. Boalch, J.-M. Couveignes and P. Dèbes, *Geometric and Differential Galois Theories*, Proceedings of the 2010 Luminy meeting, March 29, April 3, 2010, *Séminaires et Congrès* **27**, SMF, (2013).
- [DERU13] P. Dèbes, M. Emsalem, M. Romagny, M. Uludag, *Arithmetic and Geometry around Galois Theory*, Proceedings of the 2008 and 2009 GTEM/Tubitak Summer Schools in Istanbul, *Progress in Mathematics* **304**, Birkhäuser, (2013)
- [BD06] D. Bertrand and P. Dèbes, *Groupes de Galois arithmétiques et différentiels*, Proceedings of the 2004 Luminy meeting, March 8-13, *Séminaires et Congrès* **13**, SMF, (2006)

### • **Research Articles in International journals :** [39]

- [D18] P. Dèbes, Groups with no parametric Galois realizations, *Annales Sci. ENS* **51**, (2018), 143-179.
- [D17] P. Dèbes, On the Malle conjecture and the self-twisted cover', *Israel J. Math.* **218** (2017), 101-131.
- [BDN16] A. Bodin, P. Dèbes, S. Najib, Families of polynomials & their specializations, *J. Number Theory* **170**, (2017), 390-408.
- [D16] P. Dèbes, Reduction and Specialization of Polynomials, *Acta Arithmetica* **172/2**, (2016), 175-197.
- [CD16] S. Checcoli, P. Dèbes, Function field extensions and the Tchebotarev property, *J. Algebra* **446**, (2016), 346-372.
- [DL13] P. Dèbes and F. Legrand, Specialization results in Galois Theory, *Trans. A.M.S.* **365/10**, (2013), 5259–5275
- [BCN12] A. Bodin, G. Chèze, P. Dèbes, Specialization of indecomposable polynomials, *Manuscripta Math.* **139**, (2012), 391-403
- [DG12] P. Dèbes, N. Ghazi, Galois covers and the Hilbert-Grunwald property, *Ann. Inst. Fourier* **62/3** (2012), 989-1013.
- [BDN09] A. Bodin, P. Dèbes, S. Najib, On indecomposable polynomials & their spectrum", *Acta Arithmetica* **139**, (2009), 79-100.
- [BDN09b] A. Bodin, P. Dèbes, S. Najib, Irreducibility of hypersurfaces, *Comm. in Alg.* **37/6**, (2009), 1884-1900.
- [CD09] A. Cadoret, P. Dèbes, Abelian constraints in inverse Galois theory, *Manuscripta Math.* **128**, (2009), 329-341
- [DW08] P. Dèbes, Y. Walkowiak, Bounds for Hilbert Irreducibility Theorem, *Pure&Applied Math. Quarterly* **4**, (2008), 1059-1083
- [DE06] P. Dèbes, M. Emsalem, Harbater-Mumford Component & ModuliSpaces Towers, *J. Inst Math Jussieu* **5**, 2006, 351-371
- [DD04] P. Dèbes, B. Deschamps, Corps psi-libres et théorie inverse de Galois infinie, *Crelle* **574**, (2004), 197-218.
- [DDMB04] P. Dèbes, J-C. Douai, L. Moret-Bailly, Descent varieties for algebraic covers, *Crelle* **574**, (2004), 51--78.
- [DD03] P. Dèbes, G. Derome, Finiteness results in descent theory, *J. London Math. Soc.* **2- 68**, (2003), 52--64.
- [DDE00] P. Dèbes, J-C. Douai, M. Emsalem, Famille de Hurwitz & cohomologie non-abélienne, *Ann. Fourier* **50**, 2000, 1001-1037
- [DE99] P. Dèbes, M. Emsalem, On fields of moduli of curves, *J. Algebra* **211**, (1999), 42-56.
- [DD99] P. Dèbes, J-C. Douai, Gerbes and covers, *Comm. in Algebra* **27/2**, (1999), 577-594
- [D99a] P. Dèbes, Density results for Hilbert subsets, *Indian J. Pure and Appl. Math.* **30** (1), (1999), 109-127.

- [DH99] P. Dèbes, D. Haran, Almost hilbertian fields, *Acta Arithmetica* **88/3**, (1999), 269--287
- [DF99] P. Dèbes, M. Fried, Integral specialization of families of rational functions, *Pacific J. Math.* **190**, No. 1, (1999), 45-85.
- [D99b] P. Dèbes, Galois covers with prescribed fibers: the BB problem, *Ann. Scuola Norm. Sup. Pisa, Cl.Sc.* **4**, 1999, 273-286.
- [DD98] P. Dèbes, J-C. Douai, Local-global principles for algebraic covers, *Israel J. Math.* **103**, (1998), 237--257.
- [DZ98] P. Dèbes, U. Zannier, Universal Hilbert subsets, *Math. Proc. Cambridge Phi. Soc.* **124**, (1998), 127--134.
- [DH98] P. Dèbes, D. Harbater, Fields of definition of p-adic covers, *Crelle* **498**, (1998), 223—236
- [DD97] P. Dèbes, J-C. Douai, Algebraic covers: field of moduli vs. field of definition, *Annales Sci. ENS.* **30**, (1997), 303-338.
- [DZ97] P. Dèbes, U. Zannier, Hilbert's irreducibility theorem and G-functions, *Math. Annalen* **309/3**, (1997), 491--503.
- [D96] P. Dèbes, Hilbert subsets and s-integral points, *Manuscripta Mathematica* **89**, (1996), 107-137.
- [D95] P. Dèbes, On a problem of Dvornicich and Zannier, *Acta Arithmetica* **73/4**, (1995), 379-387.
- [DF94] P. Dèbes, M. Fried, Nonrigid constructions in Galois theory, *Pacific J. Math.* **163/1**, (1994), 81-122.
- [D92a] P. Dèbes, On the irreducibility of the polynomials  $P(t^m, Y)$ , *J. Number Theory*, **42/2**, (1992), 141-157.
- [D92b] P. Dèbes, Critères de descente du corps de définition des revêtements de  $\mathbf{P}^1$ , *CRAS Paris, Sér. I* **315**, (1992), 863-868
- [DF90a] P. Dèbes, M. Fried, Arithmetic variation of fibers in algebraic families of curves, *Crelle* **409**, (1990), 106-137.
- [DF90b] P. Dèbes, M. Fried, Rigidity and real residue class fields, *Acta Arithmetica* **56/4**, (1990), 291-323.
- [D86a] P. Dèbes, G-fonctions et Théorème d'irréductibilité de Hilbert, *Acta Arithmetica* **47/4**, (1986), 371-402.
- [D86b] P. Dèbes, Parties hilbertiennes et progressions géométriques, *CRAS Paris, Sér. I* **302/3**, (1986), 87-90.
- [D85] P. Dèbes, Qques remarques sur un article de Bombieri sur le Thm de Décomp. de Weil, *Amer.J. Math.* **107**, 1985, 39-44
- [D83] P. Dèbes, Spécialisations de polynômes, *Math. Rep. Acad. Sci., Royal Soc. Canada* **5**, no 6, (1983), 247-252.

• **Refereed Articles in Conference Proceedings** : [15]

- [DL-p13] P. Dèbes, F. Legrand, Twisted covers and specializations, in *Galois-Teichmueller theory and Arithmetic Geometry*, Proceedings for Conferences in Kyoto (October 2010), H. Nakamura, F. Pop, L. Schneps, A. Tamagawa eds., *Advanced Studies in Pure Mathematics* **63**, Math. Soc. of Japan, (2010), 141-162.
- [DL-p11] P. Dèbes, N. Ghazi, Specializations of Galois covers of the line, Alexandru Myller Mathematical Seminar, Proceedings of the Centennial Conference, V. Barbu and O. Carja, Eds, *American Institute of Physics* **1329**, (2011), 98-108
- [D-p06] P. Dèbes, An introduction to the modular tower program, in *Groupes de Galois arithmétiques et différentiels, Séminaires et Congrès* **13**, SMF, (2006).
- [D-p02] P. Dèbes, Descent theory for algebraic covers, in *Arithmetic Fundamentals Groups, Proceedings of Symposia in Pure Mathematics* **70**, AMS, ed. by M. Fried and Y. Ihara, (2002), 3-25.
- [D-p01a] P. Dèbes, Théorie inverse de Galois et géométrie - une introduction, in *Arithmétique des revêtements algébriques, Séminaires et Congrès* **5**, SMF, (2001), 1-26.
- [D-p01b] P. Dèbes, Méthodes topologiques et analytiques en théorie inverse de Galois -- Théorème d'existence de Riemann, in *Arithmétique des revêtements algébriques, Séminaires et Congrès* **5**, SMF, (2001), 27-41.

- [D-p01c] P. Dèbes, Revêtements topologiques, annex of *Arithmétique des revêtements algébriques*, *Séminaires et Congrès* **5**, SMF, (2001), 163-214.
- [D-p99a] P. Dèbes, Arithmétique et espaces de modules de revêtements, in *Number Theory in Progress*, Proceedings of the Number Theory conference in Zakopane, K. Gyory, H. Iwaniec, J. Urbanowicz ed., Walter de Gruyter, (1999), 75-102.
- [D-p99b] P. Dèbes, Some arithmetic properties of algebraic covers, in *Aspects of Galois Theory*, *London Math. Soc. Lecture Note Series* **256**, H. Voelklein, P. Mueller, D. Harbater, J. G. Thompson ed., Cambridge University Press, (1999), 66-84.
- [D-p99c] P. Dèbes, Regular realization of abelian groups with controlled ramification, in *Applications of Curves over Finite Fields*, *Contemporary Math.* **245**, M. D. Fried ed., (1999), 109-115.
- [DD-p97] P. Dèbes, B. Deschamps, The Regular Inverse Galois problem over large fields, in *Geometric Galois Action*, *London Math. Soc. Lecture Note Series* **243**, L. Schneps and P. Lochak ed., Cambridge University Press, (1997), 119-138.
- [D-p95] P. Dèbes, Covers of  $\mathbf{P}^1$  over the  $p$ -adics', in *Recent developments in the Inverse Galois Problem*, *Contemporary Math.* **186**, M. D. Fried ed., (1995), 217-238.
- [D-p90] P. Dèbes, Groupes de Galois sur  $K(T)$ , *Sém. Th. Nombres de Bordeaux* **2**, (1990), 229-243.
- [D-p87] P. Dèbes, Résultats récents liés au thm d'irréductibilité de Hilbert, *Sém. Th. Nombres Paris 85/86* (1987), 19-37.
- [D-p83] P. Dèbes, Une version effective du théorème d'irréductibilité de Hilbert, *Sém. Anal. Ultramétrique Amice-Christol-Robba*, (1982/83), no 10, 10 pages.

• **Further publications:** [3]

- [D-f95] P. Dèbes, Compte rendu sur le livre *Topics in Galois Theory* de J.P.-Serre, [traduction d'une "Book review" de M. Fried, *Bull. A.M.S.*], *Gazette des mathématiciens* **66**, SMF, (10/95), 15 pages.
- [D-f91] Etude arithmétique des revêtements de  $\mathbf{P}^1$ , Habilitation Thesis, *Publications Univ. Paris 10 et Publications Univ. Paris 6* ("Problèmes diophantiens"), (1991).
- [D-f84] P. Dèbes, Valeurs algébriques de fonctions algébriques et théorème d'irréductibilité de Hilbert, PhD thesis, *Publications Univ. Paris 6*, (1984).

