

Algebraic K -Theory, Linear Algebraic Groups, and Related Structures

RTN Network HPRN-CT-2002-00287

Midterm Review Report 1.10.2002 – 06.02.2005

Network Full Title: Algebraic K -Theory,
Linear Algebraic Groups, and Related Structures
Network Short Title: K -Theory and Algebraic Groups
Network Home Page: <http://www.mathematik.uni-bielefeld.de/K+AG/>
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Part A – Research Results

A.1 Scientific Highlights 2004

- The network is proud of having been selected to be represented by a survey talk at the 4ECM (Fourth European Congress of Mathematics, Stockholm, June 27 – July 2, 2004 ¹), One of the postdoctoral scientists of the network, Marina Monsurro (Team 9: Lausanne), has given that representation².
- The former postdoc of our network and up to now local coordinator of our Regensburg team (Team 2), Susanne Pumplün, obtained a permanent position at the University of Nottingham (UK).
- Ahmed Laghribi from Casablanca, Morocco, who was working in the Bielefeld network node, first as an Alexander von Humboldt fellow, later as a RTN postdoctoral scientist, obtained a permanent position at the University of Lens (France).
- The former postdoc of our network, Marco Schlichting, obtained a tenure track position at the Math Department of Louisiana State University (LSU), Baton-Rouge (USA).
- The former postdoc of our network, Christian Haesemeyer, obtained a position as an assistant professor at the Math Department of the University of Illinois at Urbana-Champaign (UIUC), and, also, a one year fellowship at the Institute of Advanced Studies (IAS) at Princeton (USA).
- Kirill Zainoulline from St. Petersburg (Team 13) University (Team 1) obtained a five months extension of his Alexander v. Humboldt Fellowship, he will continue to work in the Bielefeld Team 1.
- Detlev Hoffmann, up to now our local coordinator at Besançon, accepted a professorship at Nottingham University (UK).
- A major scientific event with huge impact in training was a special semester on “K-Theory and Noncommutative Geometry” given at Paris 7 (Jussieu). It was organized by Max Karoubi and Ryszard Nest and focussed on Noncommutative Geometry and Algebraic K-theory, as well as the interrelation between the two subjects.

During the semester three long courses and five short courses were given by international lectures on topics like

- Formes Modulaires et Géométrie Non Commutative
- Introduction to motivic homotopy theory of schemes
- Cyclic homology, noncommutative differential calculus and index theorems
- Cohomology and K-theory
- The de Rham-Witt complex and topological Hochschild homology
- KK-theory and applications
- Deformation quantization and index theorems

¹<http://www.math.kth.se/4ecm/>

²<http://www.math.kth.se/4ecm/program/european.nw.lectures.html>

- K-theory and cyclic homology
- Operads and formality theorems

A series of lectures on advanced topics, and several workshops, seminars and discussion groups were organized.

One of the main activities of this semester was a two weeks international conference at Paris 7:

- K-Theory and Noncommutative Geometry, Clay Mathematics Institute Conference, sponsored by the Leibniz prize of Joachim Cuntz, the Mathematical Institute of Jussieu and the European Community (this Network) 5-17 July 2004

During this conference, 48 talks were given by international speakers.

The following workshops and conferences have been held during the first reporting period and are to be considered as scientific highlights as well. All these events are documented in more detail on the home page of our network: <http://www.math.uni-bielefeld.de/K+AG/>

- February 1 – 5, 2004, Eilat: Workshop on Linear Algebraic Groups, Quadratic Forms and Related Topics. 43 international scientists attended this workshop, among them 19 from this network.
- March 1 – July 17, 2004, Paris, Institut Henri Poincare, Semester on K-Theory and Noncommutative Geometry (see above), organized by Max Karoubi, Ryszard Nest, Claude Lucet.
- Mai 12-15, 2004 Nottingham: LMS Meeting and Workshop, organized by Detlev Hoffmann and John Cremona, with 13 talks by invited speakers, mostly from this network, as well as several contributed talks by young researchers of this network.
- June 21 – 25, 2004, Mini-cours, Lens, Juin 2004 “Formes Quadratiques”: Five international experts were invited to give lectures on various issues around the main topic. 65 participants, including many young researchers, attended this workshop.
- June 27 – July 2, 2004, 4ECM: Fourth European Congress of Mathematics. This network was represented by a talk given by Marina Monsurro, one of this network’s “young scientists”, see above.
- June 28 – July 2, 2004, Sestri Levante (Genova): Summer School and Workshop Motives, K-Theory and Arithmetical Geometry The School has mainly been intended for young researchers coming from European Universities participating in the Network. International senior experts have given several series of lectures on Motivic Galois group, Chow groups of varieties over finite fields and p-adic fields, Categories of motives, Birational motives, Algebraic Stacks, Motivic cohomology and Bloch-Kato Conjecture, and there have also been 12 research talks given by the participants, including several young researchers coming from the teams of the Network. The lecture notes, provided by the speakers, have been posted on the Web site <http://www.mathematik.uni-bielefeld.de/LAG/>

- July 5 – 8, 2004, Dublin 2004 Workshop on K-Theory, Algebraic Groups and Related Structures:

The workshop involved nearly 40 researchers, including a substantial number of young researchers from different nodes of the network.

In the mornings there were three series of talks by international experts on the topics of "K-theory and number theory", "Algebras with involution", and "Algebraic groups" respectively. These were of particular value and benefit to the young researchers especially. There was also one hour-long talk each evening by an international expert, and there were a number of shorter talks, many given by the young researchers themselves.

- July 5 – 17, 2004, Paris, Clay Mathematics Institute Conference on K-Theory and Noncommutative Geometry, organized by P. Baum, E. Blanchard, J. Cuntz, B. Kahn, M. Karoubi, R. Nest, C. Weibel.

All these workshops have been attended by many young researchers from almost all other teams and had a considerable training effect.

- Many research projects mentioned in the workplan have been successfully approached, which is documented by numerous publications which are not "Joint Publications" in the sense of this network – and therefore are not listed here – but also by the "Joint Publications" as listed below.

A.1 Scientific Highlights 2003

- The network is proud of having been selected to be represented by a survey talk at the 4ECM (Fourth European Congress of Mathematics, Stockholm, June 27 – July 2, 2004³), and it was decided that one of the postdoctoral scientists of the network, Marina Monsurro (Team 9: Lausanne), shall give that representation⁴.
- The local coordinator of our Tbilisi team (team 12), Teimuraz Pirashvili, was awarded the well recognized "Alexander von Humboldt Prize", which allows him to stay a longer period of time at the University of Bielefeld (team 1, partially during the reporting period).
- The local coordinator of our Regensburg team (Team 2), Susanne Pumplün, was awarded the Habilitationspreis of the University of Regensburg for her excellent thesis.
- Ahmed Laghribi from Casablanca, Morocco) was awarded an Alexander v. Humboldt Fellowship for a research stay at the math department at Bielefeld, but since he has been a resident in EU states (France and Belgium) for more than five years he has been given a position as a young researcher in this network.
- Kirill Zainoulline from St. Petersburg (Team 13) was awarded an Alexander v. Humboldt Fellowship for a one years stay at the math department of Bielefeld

³<http://www.math.kth.se/4ecm/>

⁴<http://www.math.kth.se/4ecm/program/european.nw.lectures.html>

University (Team 1). His research proposal is certainly along the main stream of this network.

Since Kirill is in the age of a young researcher (but not eligible for an employment in the framework of this network) we will treat him in the same way as any young researcher.

- The following workshops have been held during the second reporting period:
 - * May 5–9, 2003, Regensburg (Team 2): Workshop on "The Generic Splitting of Quadratic Forms"⁵
 - * June 24–26, Lens: Workshop on "Quadratic Forms" (Team 5: Louvain)
 - * June 30–July 4, 2003, Besançon: Workshop on "Algebraic Groups, Quadratic Forms and Related Topics" (Team 3)

All these workshops have been attended by many young researchers from almost all other teams and had a considerable training effect.

A.2 Joint Publications

Manuscripts with at least one of our young researchers as an author have been marked by (Y).

Teams 9+1: (Y) Giordano Favi, Emmanuel Lequeu: A criterion for a central simple algebra to be split (8 p.)

<http://www.math.uni-bielefeld.de/LAG/>, nr 173.

Teams 10+11: Boris E. Kunyavskii, Louis H. Rowen, Sergey V. Tikhonov, and Vyacheslav I. Yanchevskii: Division algebras that ramify only on a plane quartic curve

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 161.

Teams 1+4: Jurgen Hurrelbrink, Nikita A. Karpenko, and Ulf Rehmann: The Minimal Height of Quadratic Forms of Given Dimension (8 p.) submitted

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 157.

Teams 5+11: D.F. Bazyleu, J. Van Geel, V. I. Yanchevskii: Omega-algebras over Henselian Discrete Valued Fields with real closed residue field (24 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 156.

Teams 5+11: Sergey V. Tikhonov, Jan Van Geel, Vyacheslav I. Yanchevskii: Pythagoras numbers of function fields of hyperelliptic curves with good reduction (17 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 155.

Teams 9+13: M.Ojanguren, I.Panin, K.Zainoulline: On the Norm Principle for Quadratic Forms (14 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 152.

Teams 1+2: (Y) Baptiste Calmès and Jens Hornbostel: Witt Motives, Transfers and Reductive Groups (29 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 143.

Teams 13+5: Louis Rowen, Alexandre Sivatski, Jean-Pierre Tignol: Division Algebras Over Rational Function Fields in One Variable (24 p.)

<http://www.math.uni-bielefeld.de/LAG/>, nr 137.

⁵<http://www-nw.uni-regensburg.de/~asv11938.mathematik.uni-regensburg.de/workshop.html>

Teams 6+5: (Y) David W. Lewis, Thomas Unger and Jan Van Geel: The Hasse principle for similarity of hermitian forms (20 p.)

<http://www.math.uni-bielefeld.de/LAG/>, nr 130.

Teams 3+1: (Y) Detlev W. Hoffmann and Ahmed Laghribi: Isotropy of quadratic forms over the function field of a quadric in characteristic 2 (29 p.)

<http://www.math.uni-bielefeld.de/LAG/>, nr 129.

Teams 4+12: (Book, accepted for publication) V. Franjou, E. Friedlander, T. Pirashvili and L. Schwartz. Polynomial functors, Steenrod algebra and the cohomology of finite group schemes. Panoramas et Synthèses. Soc. Math. de France.

Teams 2+13: (Y) Hornbostel, J., Yagunov, S. Rigidity for henselian local rings and A1-representable theories. Preprint

(<http://www.math.uiuc.edu/K-theory/0688>)

Teams 1+13: Nenashev, A., Zainoulline, K. Oriented Cohomology and Motivic Decompositions of Relative Cellular Spaces. Preprint 2004, 23pp

(<http://www.math.uiuc.edu/K-theory>).

Teams 9+13: Ojanguren, M., Panin, I., Zainoulline, K. On Norm Principle for Quadratic Forms. Submitted to Journal of Ramanujan Math. Soc. 2004.

Teams 6+11: Pedrini and V. Guletskii :Finite dimensional Motives and the Conjectures of Beilinson and Murre, K-Theory 30, 243-263 (2003)

Teams 4+6: B.Kahn, J.Murre and C.Pedrini : On the Chow Motive of an algebraic surface, preprint,Sept 2004.

Teams 4+6: B.Kahn and L.Barbieri-Viale : 1-Motives (preprint July 2004)

Teams 4+6: Contemporary Developments in Algebraic K-Theory : M. Karoubi, A.Kuku and C. Pedrini Editors, ICTP Lectures Notes (2003)

Teams 5+6: K-Theory, A Special Issue in Honor of H.Bass: M. Karoubi,A. Kuku and C. Pedrini Editors, K-Theory (2003)

Teams 3+5: Anne Cortella and Jean-Pierre Tignol, Skolem-Noether pour les algèbres d'endomorphismes de modules de torsion sur des anneaux principaux, submitted.

Teams 3+1: (Y) Detlev W. Hoffmann, Ahmed Laghribi: Quadratic forms and Pfister neighbors in characteristic 2 (33 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 103.

Teams 1+13: I. Panin, U. Rehmann: A Variant of a Theorem by Springer (8 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 126.

Teams 8+2: (Y) Karim Johannes Becher, Detlev Hoffmann: On symbol lengths in Milnor K-theory, Homology, Homotopy and Applications, Vol. 6(1) (2004), p. 17-31.

Teams 9+5: M.-A. Knus, J.-P. Tignol: Quartic Exercises (49 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 106. IJMMS, in print.

Teams 9+5: (Y) G. Berhuy, M. Monsurro, J.-P. Tignol: Cohomological invariants and R-triviality of adjoint classical groups (10 p.)

<http://www.mathematik.uni-bielefeld.de/LAG/>, nr 95.

Teams 2+12: J. Casas, J.-L. Loday, T. Pirashvili, *Leibniz n-algebras*, Forum Mathematicum 14 (2002), 189–207.

Teams 4+1: (Y) B. Kahn, A. Laghribi: A second descent problem for quadratic forms, K-theory 29 (2003), 253–284.

Teams 8+5: (Y) David Lewis, Thomas Unger, Jan Van Geel, Hasse principle for similarity of hermitian forms, preprint.

Teams 7+11: C. Pedrini and V. Guletskii :The Chow Motive of the Godeaux surface, Algebraic geometry, A volume in Memory of Paolo Francia, W.de Gruyter 2002, 179-195

Teams 7+11: C.Pedrini and V. Guletskii :Finite dimensional Motives and the Conjectures of Beilinson and Murre to appear on K-theory: a Volume in Honour of H.Bass,(2003) 2002

Teams 2+8: (Y) S Pumplün and T.Unger, The hermitian level of composition algebras, Manuscripta Mathematica 109 (2002), 511 - 525.

Teams 10+11: B.E. Kunyavskii, L.H. Rowen, S.V. Tikhonov, and V.I. Yanchevskii, Bicyclic algebras of prime exponent over function fields, Preprint, 33 pp., submitted.

Teams 5+11: D.F. Bazyleu, J. van Geel, and V. I. Yanchevskii. Indices of Ω -algebras with special ramification (in preparation).

Teams 5+11: J. van Geel, S.V. Tikhonov, and V. I. Yanchevskii. Pythagoras number of function fields of hyperelliptic curves with good reduction (in preparation).

Teams 1+12: W. Bruns and J. Gubeladze, Higher polyhedral K -groups. J. Pure Appl. Algebra 184 (2003), no. 2-3, 175–228

Teams 1+12: W. Bruns and J. Gubeladze. Divisorial linear algebra of normal semi-group rings. Algebr. Represent. Theory 6 (2003), no. 2, 139–168.

Teams 1+9+13: (Y) Ojanguren M., Panin, I., Zainoulline, K. On Norm principle for quadratic forms. Preprint 2003

Part B – Comparison with the Joint Programm of Work (Annex I of the Contract)

B.1 Research Objectives

The research objectives, as set down in the Work Programme (Annex I of the contract) are still relevant and achievable.

B.2 Research Method

No change of the research method turned out to be necessary.

B.3 Workplan

All the events scheduled in the workplan until September 2004 have taken place⁶, except for the summer school planned at Edinburgh, which was postponed to 2005.

The workplan for the next reporting period is scheduled as foreseen in Annex I of the contract, except that the workshop planned by Regensburg might actually take place at Nottingham, due to the changes of the network as a whole.

B.4 Research Effort of the participants

Professional research effort on the network project (1 st and 2 nd reporting period)			
Participant	Young researchers to be financed by the contract (person-months)	Researchers to be financed from other sources (person-months)	Researchers likely to contribute to the project (number of individuals)
	(a)	(b)	(c)
1. Bielefeld	25	72	18
2. Regensburg	32	30	9
3. Besancon	26	72	18
4. UP7	13	72	17
5. UCL	27	72	17
6. DIMA	7	48	12
7. UEDIN	7	42	9
8. NUID/UCD	12	42	9
9. EPFL	8	114	22
10. Bar-Ilan	0	36	10
11. Minsk	0	12	3
12. RMI	0	28	7
13. RAS	0	20	5
Totals	157	660	156

B.5 Cohesion with Less Favoured Regions

Insomuch Dublin and Lens still are less favoured regions, they are totally integrated into the network, e.g., as is shown by the fact that they successfully did held several workshops and conferences.

⁶even those which were scheduled before the actual start of the network on Sept. 1, 2002

B.6 Organization and Management

B.6.1

The network is organized along the rules which have been set up in the work programme section 4. Various visits for collaboration of single scientists at other nodes have been undertaken.

Decisions relevant for the network were made on the basis of email discussions and by personal contact during the network events.

Dissemination and communication of research results were done by the network's preprint server.

This server published, since the beginning of the reporting period, 53 manuscripts dealing with topics closely related to the network research, written by authors from all over the world, plus 6 Lectures given at the Network Conference: Motives, K-theory and Arithmetical Geometry Summer School & Workshop, Sestri Levante (Genova, Italy) June 28 - July 2, 2004.

The server is already accepted as a dissemination and publication basis by scientists worldwide working in the area of this network.

B.6.2

The relevant network meetings have been listed in section A.1, as they are considered as highlights.

C. Pedrini and Luca Barbieri-Viale have represented the Network at the EAGER Conference 2004 "Workshop Algebraic Cycles and Motives" (Leiden, The Netherlands) from 30 Aug 2004 to 3 Sep 2004. L.Barbieri-Viale has given an invited talk on "Motivic Albanese".

C. Pedrini has represented the Network at the International Conference : "Workshop on Algebraic Geometry and Physics in Lisboa (Portugal) from Sept 6 2004 to Sept 12 2004, where he gave an invited talk on "K-theory and the theory of Motives"

B.6.3

Tabular description of the networking which has taken place during the reporting period:

From/To	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Bielefeld		vp	vp	p	p	v		v	p	cv		p	p
2 Regensburg	cp			v				vp		v		p	pc
3 Besançon	vp	v		v	vcp					c		c	
4 U Paris 7	p	v			v	cp				v		p	
5 Louvain	p	v	pc	v		p		p	p	cv	pc		p
6 Genova				vp	p			v		v	p		
7 Edinburgh				v						c			
8 Dublin		vp		v	p					v			
9 Lausanne	p	v		v	p			v					pc
10 Bar-Ilan	vc		v	v	vc		c	v			p	v	
11 Minsk	v			vc	pv	p		v		cp			
12 Tbilisi	vps	p	c	p	v					c			
13 St. Petersburg	vps	cp		v	p			v	pc	v			

p=joint publication,

v=Visit(e.g. for workshop or seminar),

s=secondment (possibly financed by other grants like Humboldt Fellowships or Prizes)

y=young scientist secondment

c=active cooperations (in the sense of preparing publications, joint seminars)

Beyond these mentioned direct cooperations between the nodes, there were many other cooperations. For example, during the reporting period there was a workshop at Nottingham, England, on Quadratic Forms and related topics, in May 2004, at which scientists from many nodes actively participated (see A.1).

Part C: Training

C.1.1 Advertisement of open positions on various web pages:

- own network's home page:
<http://www.mathematik.uni-bielefeld.de/K+AG/>
- befriended international networks' home pages and others like:
<http://www.math.uiuc.edu/K-theory/>
<http://www.lehigh.edu/dmd1/algtop.html>
- but also on the home pages of the universities and departments involved.

As the tables below and in Part C show, more than 50% of the deliverable person-months have already been committed now.

C.1.2 Table to compare progress in recruitment of young researchers with the plan of the contract:

At several sites, additional training from other sources was given as well (e.g., Marie Curie and A.v.Humboldt fellowships) in the context of the network research topics.

The table in part C shows that, more than half of the deliverable person-months have already been contracted (191 out of 320).

Participant	Contract deliverables of Young Researchers to be financed by the contract (person-months)			Young Researchers financed by the contract so far (person-months)			delivered+planned as of 6.2.05
	Pre (a)	Post (b)	Total (a+b)	Pre (c)	Post (d)	Total (c+d)	
Bielefeld		44	44		31	31	55
Regensburg		33	33	12	20	32	32
Besançon	12	41	53	11	15	26	26
U Paris 7		28	28		13	13	13
Louvain(UCL)	12	24	36	8	24	32	32
Genova(DIMA)	12	24	36	2	12	14	14
Edinburgh(UEDIN)		15	15		7	7	7
Dublin(NUID/UCD)		15	15		12	12	12
Lausanne(EPFL)		30	30		24	24	36
Bar-Ilan		30	30		0	0	21
Minsk		0	0		0	0	
Tbilisi		0	0		0	0	
St. Petersburg		0	0		0	0	
TOTAL	36	284	320	33	141	191	248

C.2 Training Programme

The young researchers have been integrated to the research seminars given at the universities, as well as other research activities like local conferences and workshops. They were given the opportunity to participate in the workshops organized by the network, in which particular survey and introductory courses into various special subfields of the network's research objectives were given by experienced and senior scientists.

A particular training effect was given by conferences and workshops with international referees organized by the network, partially in cooperations with national scientific societies.

Typically, the young researchers here are invited not only to attend introductory courses by experts, but also to give presentations of their own research results in front of an auditory of international experts.

They have been listed in section A.1 "Scientific Highlights", their values for training is mentioned in the reports by the young researchers.

They have been of considerable impact, as can be deduced from the reports by the young researchers as well (Part D). To give a few examples:

The workshops at Lens did have

- June 2003: three series of lectures aimed at an audience of young researchers, by David Leep (U Kentucky), Aleksandr Merkurjev (UCLA Los Angeles) and Fabien Morel (U Paris). 61 registered participants, of which 31 were young researchers.
- June 2004: same format, lectures by Jean-Louis Colliot-Thelene (UCLA Paris), Aleksandr Merkurjev (U Los Angeles), Parimala (Mumbai) and Andrei Suslin (Northwestern U Evanston). 62 registered participants, 32 young researchers

The workshop in Eilat (organized by Bar-Ilan) in February 2004 covered all aspects of linear algebraic groups, quadratic forms and related structures, with eight 1-hour survey lectures and a number of shorter, more specialized talks, with long afternoon breaks for non-formal discussion.

The semester on K-theory and noncommutative geometry, organized by the University Paris 7, March 1st-July 17, 2004, offered a whole semester of training for young researchers. We quote from its programme:

Intensive courses on pre and postgraduate level over a period of four months will be organized in order to bring young researchers up to the level where they can understand and participate in the research going on.

Seven graduate courses were offered on various topics by:

Fabien Morel, Boris Tsygan, Lars Hesselholt, Vincent Lafforgue, Ryszard Nest, Victor Nistor, Dimitri Tamarkin.

In addition, there will be short advanced courses handled by the following mathematicians and physicists :

Jean Bellissard, Michel Dubois-Violette, Joachim Cuntz, Eric Friedlander, Alexander Goncharov, Nigel Higson, Bruno Kahn, Max Karoubi, Marc Levine, Henri Moscovici, Markus Rost, Vladimir Voevodsky, C. Weibel, Mariusz Wodzicki.

The Spring course of Alain Connes at the College de France will be included in the schedule of the Semester during that period.

Each afternoon, about two hours will be devoted to seminars and discussion groups on special topics.

At the end, an international one week conference on the same topic was held at Paris.

In May 2004, the London Math Society and scientists in Nottingham organized a workshop on Quadratic Forms, Algebras with Involution and Algebraic K-Theory (“Midlands Regional Meeting and Workshop”) with ten talks by invited international speakers as well as several shorter talks by young researchers.

In June-Jul2 2004, a one week Summer School and Workshop in Sestri Levante (organized by the Genoa node) was held on Motives, K-Theory and Arithmetical Geometry attracted an audience which contained more than 50 young researches with 6 series of lectures by senior experts from Europe and USA, which is documented at <http://www.math.uni-bielefeld.de/LAG/man/149.html>.

C.3: Table of contracted and planned training

Factual Information on the young researchers

(One line for each contract, first and last month of contract are given in the year column.
* means pre-doc, p means “planned”. Scientific specialty is M02 and sometimes also M03)

Name Nat, Age	Participant		Months contr.	Begin/End of Contract				
				2002	2003	2004	2005	2006
Avitabile[IT,29]	Regensburg[DE]		1		07			
Astier[FR,32]	Regensburg[DE]		4		09 12			
Astier[FR,32]	Regensburg[DE]		2			08 09		
Becher[DE,30]	Louvain[BE]		6			04 09		
Becher[DE,30]	Lausanne[CH]		12			10	09	
Calmès[FR,31]	Bielefeld[DE]		6			03 08		
Calmès[FR,31]	Regensburg[DE]		6		09	02		
Calmès[FR,30]	Louvain[BE]		6			09	02	
Calmès[FR,30]	Bielefeld[DE]	p	6				03 08	
Berhuy[FR,30]	Bielefeld[DE]	p	12				04	03
Canepa[RO,26,*]	Genova[IT]		2		09 10			
Delaunay[FR,30]	Lausanne[CH]		4			04 07		
Delaunay[FR,30]	Lausanne[CH]		5			09	01	
Felisatti[IT,35]	Dublin[IR]		6	10	03			
Friedl[DE,31]	Edinburgh[UK]		1			04		
Frings[FR,29]	Louvain[BE]		12	10	09			
García[ES,26]	Regensburg[DE]		1		08			
García[ES,27]	Regensburg[DE]		1			07		
Garkusha	Bar-Ilan[IL]	p	9					01 09
Gomez[ES,29]	Regensburg[DE]		1			07		
Guffroy[FR,33]	Genove[IT]		12			06	05	
Haesemeyer[DE,31]	Paris[FR]		2			06 07		
Hornbostel[DE,32]	Paris[FR]		2			04 05		
Laghribi[MO,36]	Bielefeld[DE]		19		02	08		
Lequeu[FR,34]	Bielefeld[DE]		12			10	09	
Maakestad[NO,35]	Paris[FR]	p	11				01 11	
Mazza[IT,30]	Paris[FR]		8			01 08		
Machura[PL,33]	Bar-Ilan[IL]		12				02	01
Nespolino[IT,32,*]	Louvain[BE]		6		03 08			
Nespolino[IT,32,*]	Besançon[FR]		11		10	08		
Ntokas[GR,31]	Besançon[FR]		15	10	12			
Paugam[FR,27,*]	Regensburg[DE]		11		09	07		
Renaudin[FR,31]	Edinburgh[UK]		6		07 12			
Schlichting[DE,31]	Paris[FR]		1			06		
Sixt[DE,30,*]	Louvain[BE]		2		11 12			
Unger[BE,29]	Regensburg[DE]		1		03			
Unger[BE,29]	Regensburg[DE]		1		06			
Unger[BE,30]	Regensburg[DE]		1			03		
Unger[BE,30]	Regensburg[DE]		1			06		
Varisco[IT,35]	Edinburgh[UK]	p	2				10 11	
Velusek[SL,27,*]	Regensburg[DE]		1			06		
Villa[ES,31]	Dublin[IR]		6		10	03		
Wittmann[DE,30]	Lausanne[CH]		3		10 12			
N.N.	Lausanne[CH]	p	12				10	09
TOTAL			261					

Part D – Sketches of the Young Researchers

D.1 Description of the scientific background of the young researchers, written by themselves

Vincent Astier

-Scientific background: PhD on model theory and quadratic forms in 1999 in the university Paris 7.

-Responsibilities in the network: none other than my post-doc appointment.

-Experiences in the network: I have worked in collaboration with Susanne Pumpluen (Regensburg, Germany; a paper on nonassociative quaternion algebras has been written and submitted), and currently work in collaboration with Thomas Unger (Dublin, Ireland; we work on a local-global principle for weak isotropy of hermitian forms). None of these collaborations would have been possible without the network since the first collaboration started during my first visit to Regensburg (in the previous network) and I met Thomas Unger through the network. I have participated in several conferences organized by the network (in Bielefeld, Duisburg, Regensburg and Dublin). I also carry my own research in Regensburg (on model-theoretic aspects of the algebraic theory of quadratic forms). The environment, the library and the computer facilities are all very satisfying. I have less contacts with network members here since Susanne Pumpluen went to Nottingham, but this is not so much of a problem since I still meet many people regularly at conferences and also visit some of them (I just visited Thomas Unger in Dublin for 10 days and plan to go back, probably in March). In the meantime I can work on my own projects, and there are plenty of people in Regensburg who are interested in both quadratic forms and model theory.

Marina Avitabile

Network title: RTN Network RTN2-2001-00193 K-Theory and Algebraic Groups Host Institution: Department of Mathematics, University of Regensburg. Start/end dates of fellowship contract within the Network: 1.07.2003 /30.07.2003.

Scientific background.

Ph.D. in Mathematics, November 19, 1999, University of Trento. Title of Thesis "Some loop algebras of Hamiltonian Lie algebras". Advisor Prof.A.Caranti.

Publications before starting the training within the network:

- 1 - M.Avitabile and G.Jurman, Diamonds in Thin Lie algebras, Bollettino U.M.I. (8), 4-B (2001), 597-608.
- 2 - M.Avitabile, Ph.D Thesis in Mathematics, "Some loop algebras of Hamiltonian Lie algebras", Trento-1999 (Ph.D Thesis Series- Department of Mathematics, University of Trento).
- 3 - M.Avitabile, Some loop algebras of Hamiltonian Lie algebras, Internat. J. Algebra Comp. 12 (2002), no.4, 535-567.

Research interests: modular Lie algebras and pro p-groups.

Responsibilities in the network.

I gave a talk entitled “Thin Lie algebras” on July 8, 2003. The purpose of the talk was to introduce the historical motivations for the development of the theory of thin Lie algebras. I also gave an overview of the main results obtained on this topic.

Comments on the experience as Young Researcher.

The experience in Regensburg has been positive and worthwhile for both the integration in the host institution and the quality of the scientific training.

Karim Becher

I am 31 years old and finished my PhD three years ago. My research is concerned with algebraic K -theory in the connection to quadratic forms and central simple algebras over fields, which falls in the scope of the network programme. I benefited from the RTN-network in particular by a postdoctoral fellowship which I had from April to September 2004 at the University of Ghent ⁷. This fellowship gave me the opportunity to collaborate with J. Van Geel. We investigated problems in the area of quadratic forms over real fields. Through this collaboration I became acquainted with several new geometric and arithmetic methods and techniques. I obtained new results on some open problems which shall lead to several publications in the near future. I have participated in 2004 in three workshops organized or supported by the network which were held in nodes Nottingham, Lens, and Dublin. At the latter one, I gave a presentation of part of my work at Ghent.

I continue my research work in interaction with the senior and young researchers of the Lausanne node, and I feel that we each profit from this. In my research I am currently collaborating with several people associated to other nodes of the network: J. Van Geel (Ghent), D. Hoffmann (Nottingham), T. Unger and M. Mahmoudi (Dublin), A. Quéguiner (Paris).

I will take part in the organization of an instructional workshop that we plan in Lausanne for July. In 2003 I already participated in the organization of a workshop of the network in Besançon.

My experiences with this network and also the preceding TMR-network (where I benefited from a 2-months’ pre-doc in Dublin and, later, from 10 months of postdoc in Louvain-la-Neuve and Paris) are excellent. I hope that many other young researchers will obtain and take the opportunity to make the acquaintance of one or several institutions within such a network. In my opinion, this is most valuably done at an advanced pre-doc stage by a fellowship of 2-3 months or at postdoc stage by a fellowship of 6-12 months.

To encourage this, one could increase the flexibility of networks in the repartition of resources; it should not be fixed from the beginning. Furthermore, one should review the criteria for eligibility to fellowships. For example, formal restrictions with the (reasonable) aim to avoid ‘post-docs at home’ may be unreasonably restrictive in practice; they could be replaced by an independent evaluation of the application for the fellowship.

Gregory Berhuy

I’ve been postdoctoral assistant, (for the second year) from September 1st 2002 to 31 August 2003, at the Ecole Polytechnique Federale de Lausanne, Switzerland. During this year, I’ve finished the joint work with Giordano Favi, started the year before, on

⁷associated to the node of Louvain-la-Neuve (Belgium)

essential dimension of functors and on the computation of the essential dimension of cubics in 3 variables. I also have co-organized two Workshops, one on "Linear algebraic groups and related structures", and the other one on "Galois cohomology and linear algebraic groups".

Baptiste Calmès

I have had post-doc positions in the network for the last 18 months. I first spent 6 months in Regensburg (Germany), then 6 months in Bielefeld (Germany), and then 6 months in Louvain-la-Neuve (Belgium).

My academic background is the following: I have a french doctorate (comparable to a P.H.D.) in pure mathematics, for which I wrote a thesis in university Paris 7. My work is mainly about K-theory and Witt groups.

Within the network, I have attended several conferences (Italy, France, Germany). All three conferences were, in my opinion, very interesting and brought together active and leading specialists in the field. This was highly profitable, and enabled me to interact with several people, as well as to improve and enlarge consequently my scientific background.

During the last year, I mainly worked on a common project with Jens Hornbostel (university of Regensburg). This project is about the computation of Witt groups of projective homogeneous varieties. Our collaboration could be achieved mainly because I had this post-doc position in Regensburg at the time. We obtained several encouraging results and released a preprint about this work, which will eventually be published.

Since I just had a post-doc position in the network and since I did not stay more than six months at the same place, I had no administrative responsibility in the network. This enabled me to spend my whole time on research, which is certainly highly profitable for a young mathematician like me.

Giordano Favi

When I first "worked" within the Network I was in my first year of PhD in Lausanne (Switzerland). My interests were in algebraic groups and Galois Cohomology with very little notions on these topics. I never worked officially in the Network but I attended several events organized by the local coordinators. Two of these events* were very close to my subject and I learned a lot thanks to them. Many scientists working within the project gave lectures in Lausanne which were interesting to me. I also met Gregory Berhuy which had a position from the Network at the same time in Lausanne. We worked together and published 2 research papers in the topic of "essential dimension". This was a very positive experience for me. Thanks to the Network I also could attend two times the "Mini cours sur les formes quadratiques" in Lens. This was also a great experience. I met several scientists from the Network in Lens and I learned many things about interesting topics for my research. From my point of view I had only very positive experiences within this Network. It was a great help for my research and my my thesis. It also gave me the opportunity to meet great scientists and young researchers like me and will hopefully help me in my future research career.

*The events were:

-Workshop on Linear Algebraic Groups and Related Topics at Bernoulli Institute, Lausanne, Switzerland (April 2002).

-Workshop on Galois Cohomology and Linear Algebraic Groups at Bernoulli Institute, Lausanne, Switzerland (June 2002).

Stefan Klaus Friedl

I got my PhD from Brandeis University in 2003 under the supervision of Jerry Levine. My main interests lie in knot theory, and there in particular in knot concordance. This requires a good understanding of L-theory. I spent one month at the University of Edinburgh, working with Andrew Ranicki. This one month was in every respect a productive and enjoyable experience.

Miguel Gomez and Esther García

During our stay in the University of Regensburg, we have given a two talks in the Department of Mathematics, entitled:

- 1) The socle of a nondegenerate Lie algebra (M. Gómez, July 23, 2004).
- 2) Martindale-like quotients in Jordan systems (Esther García, July 15, 2004).

Apart from that, we have been working in the following papers:

- 3-Graded Lie Algebras with Jordan Finiteness Conditions [Comm. in Algebra],
- The Jordan Socle and Finitary Lie algebras [J. Algebra],
- Inner ideals of finitary simple Lie algebras [Preprint], and
- The socle of a nondegenerate Lie algebras [Preprint],

where we intend to give a notion of socle for nondegenerate Lie algebras.

In the first two papers we introduce the notion of Jordan socle for nondegenerate Lie algebras. This socle is 3-graded and has a good relation with the Jordan pair associated to the grading. Important examples of nondegenerate Lie algebras which coincide with their socle are some types of finitary Lie algebras (over a field of characteristic zero). In the third paper, "Inner ideals of finitary simple Lie algebras" we characterize inner ideals, principal inner ideals and minimal inner ideals in finitary simple Lie algebras and described them in geometric terms. As a consequence we proved that finitary central simple Lie algebras over a field of characteristic zero satisfy the descending chain condition on principal inner ideals and we study when these algebras are Artinian. This third work has been the key point to introduce a general notion of socle for nondegenerate Lie algebras, which is our fourth work: "The socle of a nondegenerate Lie algebras".

Sébastien Guffroy

I obtained my PhD at the University of Lille, France in January 2002, under the supervision of Prof. D'Almeida, referees Prof. Gruson (Versailles, France) and Prof. Walter (Nice, France). Before being awarded a postdoc position at Genova in the framework of this RTN, I have been a postdoc fellow at the following institutions:

- 09/2002-12/2003 at the Institute of Mathematics of Bucharest, EURROMAT Program
- 01/2004-05/2004 at the University of Barcelona, EAGER Program

Publications:

- “Sur la série linéaire caractéristique d’une famille de courbes planes à noeuds et à cusps”, Nagoya Math. J. Vol 171, 2003, p 51-83
- “Lissité du schéma de Hilbert en bas degré”, J. Algebra Vol 277 (2004) p 520-532
- “Irréductibilité de $H_{d,g}$ pour $d \leq 11$ et $g \leq 2d - 9$ ”, Comm. in Alg. Vol 32 No 12 (2004)

I arrived at the University of Genoa on June the 1st 2004 for a 12-months contract within the RTN “Algebraic K-Theory, Linear Algebraic Groups and related structures”. I am working under the guidance of Prof. Pedrini with whom I seek to put a new insight to some questions in the geometry of curves and surfaces through the theory of intersection of cycles.

I participate to the weekly seminar of Algebraic Geometry and I gave three lectures there:

- 22/06/04 Hilbert scheme of curves in low degree, some positives results.
- 19/10/04 Multiple structures on smooth curves and singularities of normal surfaces.
- 02/11/04 Singularities of surfaces and applications to the Hilbert scheme of curves.

The material conditions I am experiencing are very good here. My installation, in a new country, and in a new university, has been greatly facilitated by the help and efficiency of the people here.

Prof. Pedrini has always been a very available and valuable supervisor. I moreover benefit from the motivating mathematical environment of the university of Genoa. More particularly, I have some regular and fruitful discussions with Prof. Bădescu and Beltrametti.

Up to now, I managed to achieve one part of my research program. This work has taken the form of a 30 pages article that I would submit soon to a mathematical journal of honorable quality. A preliminary version of this work is available at math.univ-lille1.fr/~guffroy/

Christian Haesemeyer

I was a postdoctoral member of the RTN Network HPRN-CT-2002-00287 in June and July of 2004, at University Paris 7 - Denis Diderot. Previously, I had been a postdoc in Essen (Germany) and at the University of Illinois, Urbana-Champaign (USA) after completing my PhD at Northwestern University (Evanston, IL, USA) in 2003. While a member of the network, I gave a presentation at the Workshop on Motivic Homotopy Theory at the Institute Henri Poincaré in Paris (May 26-28, 2004) and attended the Conference on K-theory and noncommutative geometry at IHP (July 5-17, 2004), being a participant of the semester on K-theory and noncommutative geometry at IHP (Spring 2004). During that time, I worked on several joint research projects, both with other members of the network, and with non-members. My experience

was very positive, as the atmosphere at IHP during the semester was stimulating and supportive.

Jens Hornbostel

I got my Ph.D. in Paris in June 2001. My supervisor was Max Karoubi, and the thesis was about hermitian K-theory, including theorems on localization and devissage. After a Postdoc at Northwestern University, I became "Wissenschaftlicher Assistent" by Guido Kings at Regensburg.

In April and May 2004, I was a RTN-Postdoc in Paris. This was during the semester at the Institut Henri Poincaré devoted to K-theory and non-commutative geometry. I got an office at IHP, and the working conditions were very good. There were a number of advanced lectures at IHP during this period devoted to Algebraic K-theory, motivic homotopy theory and related topics, given by experts such as Friedlander, Morel, Kahn and Hesselholt. I learned a lot during these two months both from the lectures and from discussions with other scientists at the IHP. Of course, as two months is a rather short period it is hard to measure the precise scientific outcome, but I believe I benefited a lot from my stay there. For instance, my work with Baptiste Calmes on Witt motives made some progress during this time, and I also got a better understanding on Morel's conjecture on the rational motivic sphere spectrum and a possible relationship with hermitian K-theory. At the end of the two months, there was a workshop on Motivic Homotopy Theory which I organized together with Max Karoubi and Marco Schlichting, and which - I think - was very successful.

For my publications and preprints, see my homepage

<http://homepages.uni-regensburg.de/hoj09966/>

Emmanuel Lequeu

I defended my PhD-thesis in September 2003 at the University of Besançon in France. I work on G -hermitian forms, trace forms of G -Galois algebras, central simple algebras with involutions, Galois cohomology. Last year I was at the Ecole Polytechnique Fédérale de Lausanne, in Switzerland, where I got an assistant position of teaching and research. This year I got a fellowship of the RTN Network and I have a postdoc position at the Mathematisches Institut Göttingen in Germany.

According to me, the Network is very important because it provides to young researchers a financial support which lets them to work in the scientific community several months after the defense of their PhD-thesis. This financial support is represented not only by the months of pre-docs or post-docs, but also by the reimbursement of the costs related to the conferences organized by the Network in its different nodes. These conferences give the opportunity to young researchers to meet more advanced researchers and to discuss with them, and to present their work in talks. So these meetings let them to be more known.

Of course, this European Network has a social angle which is important in the modern practice of sciences. This stay in Göttingen is for me the first stay in a country of foreign culture and language. I learn a different university tradition. This is an interesting experience for mathematics, languages and social relations.

Marco Schlichting

Scientific background: PhD in mathematics at university of Paris 7 (advisor: Max Karoubi), postdoc at UIUC (mentor: Dan Grayson), at Essen university (mentor: Helene Esnault), at IHP (mentor: Max Karoubi).

Participation in the Network: June 1-June 30, 2004 at IHP, Paris.

I continued to work on a new approach to Karoubi's hermitian K-theory, extending it to schemes and derived categories, proving localization theorems, and providing a new approach to Karoubi's fundamental theorem. I gave talks about (partial) results at the conference in Paris (July 5 - 17, 2004, Conference on K-theory and Noncommutative Geometry) and in Montreal (October 2 - 6, 2004, Algebraic K-theory, 2004). Results will appear in preprint form sometime this spring.

In June 2004, I have also engaged in discussions about Weibel's K-dimension conjecture with Christian Haesemeyer, Guillermo Cortinas and Charles Weibel. Results will appear in preprint form sometime this spring.

Summary: I have greatly benefited from the network's support which allowed me to be in Paris in June 2004, to discuss mathematics with Max Karoubi, Fabien Morel, Marc Levine, Bernhard Keller, Christian Haesemeyer, Denis-Charles Cisinski, Guillermo Cortinas, Charles Weibel, and many other mathematicians based in Paris or visiting IHP.

Dejan Velušček

I was a young researcher in the network at the University of Regensburg under supervision of Susanne Pumplün in June 2004.

Scientific background

My research area are sums of permuted products of n -th powers in division rings and the analogous notions in $*$ -fields. More specific: I study notions like higher product levels (resp. $*$ -levels), higher Pythagoras numbers (resp. $*$ -Pythagoras numbers) and higher level orderings (resp. $*$ -orderings). I'm also interested in the relations between the above notions and in the valuation theory which lies behind it.

During my stay in Regensburg as a young researcher in the network I concentrated on the study of higher product $*$ -levels of $*$ -fields. Since the research areas of various network guests and my supervisor partially overlapped with mine, we were able to exchange various fruitful ideas for the present and future research on various topics, e.g. on forms of higher level, quaternion algebras and theory of valuations on division rings. The research concerning a part of the paper: " $*$ -version of the Joly-Becker theorem", coauthored by Igor Klep, was done at that time, too.

Responsibilities

My responsibility as the young researcher was to present my research in talks in seminar. I gave a few talks on research I've done concerning the "lifting" of higher level signatures and n -real places on division rings in Algebra Seminar.

Experiences

General experience of my stay in Regensburg as a young researcher in the network was very good. I was given a lot of opportunities to exchange ideas and to collaborate with young researchers and other network members which visited University of Regensburg at that time. The talks and lectures which were held at the department (especially in the algebra group) broadened my research scope and gave me a deeper knowledge on the mathematical subjects connected to my area of research. The number of responsibilities was reasonably low so that I was able to fully concentrate on my research.

Oliver Villa

After a year at the Ohio State University, I got a post-doc position in Dublin for six months. During my six months in Dublin, I was able to finish a project on Siegel

transformations (see E. W. Ellers and Oliver Villa, *Siegel Transformations for even characteristic*, Linear Algebra Appl. 395 (2005), 163-174).

In Dublin I have met a very active team. Through frequent discussion with the members of the team and also participating in the weekly algebra seminar, I have had the possibility to expand my scientific knowledge on quadratic-form-theoretic invariants for involutions on central simple algebras. Thanks to this new knowledge, I have concluded a paper on quaternions (see A. Elduque and Oliver Villa, *A note on the Linkage of Hurwitz Algebras*, to appear in Manuscripta Mathematica).

I have also started a collaboration with David W. Lewis, Jean-Pierre Tignol and Mohammad Mahmoudi: we have written a paper on decomposable quadratic forms which will be submitted in the following month.

Christian Wittmann

I was working in the research group "Structures algébriques et géométriques" of Prof. Eva Bayer Flückiger at the EPF Lausanne, Switzerland, as a postdoc, funded by the network for three months. The main topic of my research was to study the structure of certain parts of class groups of function fields in one variable over a finite field, in particular certain ideal class groups of function field extensions. In the case of a Galois extension these groups have a richer structure, since they are finite Galois modules. The aim was to generalize results and conjectures that exist for the other class of global fields, i.e. number fields. For these one has results and very interesting conjectures (Cohen-Lenstra heuristics). The research atmosphere and infrastructure in Lausanne was definitely very profitable. The group consisted of several young researchers from different countries, working on algebra, geometry and number theory, and there was always the opportunity for stimulating mathematical discussions. We had many interesting guests in the weekly seminar, and it was also possible to attend workshops and conferences. I once traveled to a short conference held in Besançon, France, where I was also invited to give a talk in the seminar shortly afterwards.

Part E – Network Financing

E.1 For each participant, the first line in the following table gives the total budget. The second line (“spent”) gives the amount of money spent at the end of the second reporting period (Sep. 30, 2004) as stated in the cost statements. (Note: At the time of this writing, the second cost statement is not confirmed by the Commission yet.) The third line (“cmtd = committed”) gives the amount which was spent during the first two reporting periods plus the amount bound by existing contracts or commitments with post- or pre-docs. The currency is the Euro.

Participant		A. Personnel	B. Networking	C. Other	D. Overheads	Total
1. Bielefeld	total	158400.00	14506.00	0.00	34776.00	207682.00
	spent	62637.68	15993.12	0.00	15726.16	94356.96
	cmtd	100437.68	15993.12	0.00	23286.16	139716.96
2. Regensburg	total	118800.00	11377.00	0.00	26032.00	156209.00
	spent	65755.10	5538.12	0.00	14258.65	85551.87
	cmtd	88250.10	5538.12	0.00	18757.65	112545.87
3. Besancon	total	158300.00	36546.00	0.00	38254.00	233100.00
	spent	56146.73	13452.97	0.00	25538.70	95138.40
	cmtd	56146.73	13452.97	0.00	25538.70	95138.40
4. UP7	total	105909.00	22550.00	0.00	26388.00	154847.00
	spent	44454.98	10991.59	0.00	11089.31	66535.88
	cmtd	90854.98	10991.59	0.00	20369.31	122215.88
5. UCL	total	130646.00	17678.00	0.00	29665.00	177989.00
	spent	101899.71	9060.27	0.00	22191.99	133151.97
	cmtd	121569.71	9060.27	0.00	26125.99	156755.97
6. DIMA	total	91000.00	16919.00	0.00	21583.00	129502.00
	spent	14200.00	24042.69	0.00	7648.54	45891.23
	cmtd	34600.00	24042.69	0.00	11728.54	70371.23
7. UEDIN	total	48320.00	14235.00	0.00	12511.00	75066.00
	spent	19281.20	2260.85	0.00	4308.41	25850.46
	cmtd	23379.20	2260.85	0.00	5128.01	30768.06
8. NUID/UCD	total	45505.00	11299.00	0.00	11360.00	68164.00
	spent	37212.00	10243.07	0.00	9491.01	56946.08
	cmtd	40313.00	10243.07	0.00	10111.21	60667.28
9. EPFL	total	131195.00	12958.00	0.00	0.00	144153.00
	spent	33580.25	2996.40	0.00	0.00	36576.65
	cmtd	50380.25	2996.40	0.00	3360.00	56736.65
10. Bar-Ilan	total	80550.00	22139.00	0.00	20537.00	123226.00
	spent	33580.25	2996.40	0.00	0.00	36576.65
	cmtd	32220.00	11409.00	0.00	8726.00	52355.00
11. Minsk	total	0.00	8400.00	0.00	1600.00	10000.00
	spent	0.00	0.00	0.00	0.00	0.00
	cmtd	0.00	0.00	0.00	0.00	0.00
12. RMI	total	0.00	8400.00	0.00	1600.00	10000.00
	spent	0.00	4964.85	0.00	992.97	5957.82
	cmtd	0.00	4964.85	0.00	992.97	5957.82
13. RAS	total	0.00	8400.00	0.00	1600.00	10000.00
	spent	0.00	9204.35	0.00	1840.87	11045.22
	cmtd	0.00	9204.35	0.00	1840.87	11045.22
TOTAL	total	1068625.00	205407.00	0.00	225906.00	1499938.00
	spent	468747.90	111744.68	0.00	113086.61	693579.19
	cmtd	638151.65	120157.28	0.00	155965.41	914274.34

Part F – Proposed revision to the contract

F.1 The coordinator of the Besançon team, Detlev Hoffmann, has moved to the University of Nottingham, UK.

The coordinator of the Regensburg team, Susanne Pumplin, has accepted an offer of a permanent position at the University of Nottingham, UK.

Since these two are very active scientists in the areas of this network concerning both research and training, it makes sense to make Nottingham a new node of this network. Besançon is willing to split its network finances, and it may be that some of the finances from Regensburg can be transferred to Nottingham.

The network therefore proposes a contract amendment containing these suggestions. All network partners already have agreed by writing to this change.

The network therefore proposes a contract amendment. All network partners already have agreed by writing to this change.

The Updated Database Report

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