Mid-term Report for the ESF/PESC Programme:
Phase Transitions and Fluctuation Phenomena for
Random Dynamics in Spatially Extended Systems
(RDSES)

1. Programme objectives. The programme centres around mathematical statistical physics. The main goal is to study random dynamics in spatially extended systems through the application of probabilistic techniques. Spatially extended systems consist of a large number of components that interact locally but that may nevertheless exhibit a long-range dependence, resulting in anomalous phenomena and phase transitions.

The programme focuses on the following research topics in equilibrium and non-equilibrium statistical physics:

(a) Gibbsian vs. non-Gibbsian spin systems.
(b) Polymers and self-interacting random processes.
(c) Interfaces and surface phenomena.
(d) Disordered media.
(e) Relaxation to equilibrium and metastability.
(f) Hydrodynamic behaviour of conservative systems.
(g) Entropy production and fluctuations far from equilibrium.
(h) Granular media and sandpile dynamics.

The aim of the programme is to bring together the core of the researchers in Europe that are active in the area of mathematical statistical physics. Researchers are widely scattered and work in small groups, but European contributions have been extensive and of high quality. The network activities help to strengthen the ties between the various national groups and to make the developments more accessible for young researchers.

13 European countries are participating in RDSES: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Netherlands, Poland, Sweden, Switzerland, United Kingdom. The participation of Italy was solicited, but without success. Slovakia expressed interest to join, but unfortunately the link proved to be too thin.

2. Results achieved to date. The main activities of the programme are:

1) *Visitor exchange*: Short scientific visits of 1-2 weeks.

2) *Workshops*: 3-5 day meetings on topics selected by the steering committee.

3) *Summer schools*: 2-4 week tutorial programmes for junior researchers.

4) *Meetings of the steering committee*.

Ad (1). A call is sent out by e-mail 4 times a year to some 120 junior and senior researchers. The first call went out in July 2002. The number of granted applications was 7 in 2002, 22 in 2003, and 10 (so far) in 2004; 2 applications were refused. Almost all applications concern visits either between junior researchers or by junior researchers to senior researchers. A subcommittee of four members of the steering committee looks at the incoming proposals and decides on the selection. Special care is taken that the call reaches young people.

All participating countries are benefiting from the visitor exchange, with the exception of Denmark and Austria, from which so far no applications were received. This will be on the agenda of the next meeting of the steering committee.

The steering committee is not keeping track systematically of the acknowledgments to RDSES that are made in the publications of the researchers that were involved in the visitor exchange. There typically is a delay of 1-2 years between completion and publication of a mathematical paper, which is too large a time-window. Samples taken by the chair of RDSES show that proper acknowledgment is taking place, although not always. All workshop organisers have acknowledged the support of RDSES in their announcements before, during and after the workshop.

Ad (2). The following workshops have been supported:

- *Constructing Non-Equilibrium Statistical Mechanics*, Department of Physics, Leuven, Belgium, 18-29 November 2002. Organiser: C. Maes. Support: 5 kE.

- *Statistical Mechanics and Probability Theory*, Centre International des Rencontres Mathematique, Marseille, France, 3-28 March 2003. Organiser: S. Shlosman. Support: 5 kE.

- *Random Walks in Random Environments*, Isaac Newton Institute, Cambridge, United Kingdom, 18-22 August 2003. Organisers: E. Bolthausen, K. Khanin, J. Norris. Support: 20 kE.

- *Random Matrix Theory*, Gregynog Hall, Wales, United Kingdom, 14-19 September 2003. Organisers: I. Davies, L. Pastur, Y. Suhov, A. Truman. Support: 10 kE.

- *Gibbs vs. non-Gibbs in Statistical Mechanics and Related Fields*, EURANDOM, Eindhoven, The Netherlands, 8-10 December 2003. Organisers: A. van Enter, A. Le Ny, F. Redig. Support: 7 kE.

- *Interacting Particle Systems: New Trends, with Application in Biology and Economy*, Institut Henri Poincaré, Paris, France, January 28, 2004. (Part of a series of workshops on *Inhomogeneous Random Systems*.) Organisers: T. Gobron, E. Saada. Support: 1.5 kE.

- *Young European Probabilists I: Conformal Invariance, Scaling Limits and Percolation*, EURANDOM, Eindhoven, The Netherlands, 29 March - April 2, 2004. Organisers: R. van der Hofstad, N. Gantert. Support: 7 kE.

- *Equilibrium and Dynamics of Spin Glasses*, Monte Verità, Ascona, Switzerland, 18-23 April, 2004. Organisers: E. Bolthausen, A. Bovier. Support: 20 kE.

- *Statistical Mechanics and Interacting Particle Systems*, Rouen, France, June 1-3, 2004. Organisers: E. Janvresse, E. Saada. Support: 1.5 kE.

- *Stochastic-Geometric and Combinatorial Ideas in Statistical Mechanics*, Göteborg, Sweden, June 21-25, 2004. Organisers: O. Häggström, J. Steif. Support: 20 kE.

Special care is taken that young researchers are invited to attend the workshops and to deliver lectures.

Proceedings will appear for the workshops on Gibbs vs. non-Gibbs, respectively, Spin Glasses.

Ad (3). The following summer school has been supported:

- *Mathematical Statistical Mechanics*, Prague, Czech Republic, June 30 - July 18, 2003. Organiser: R. Kotecký. Support: 20 kE.

The attendance ranged from 20 to 30 students per week.

Ad (4). During the year, the steering committee corresponds and makes decisions about the programme via e-mail. Once a year the steering committee meets during a workshop. Meetings so far:

   # ESF, Strasbourg, France, 20-21 April, 2002 (start-up meeting).

   # Isaac Newton Institute, Cambridge, United Kingdom, 19 August, 2003.

   # Chalmers University, Gothenburg, Sweden, June 23, 2004.

3. European 'added value' and visibility of the Programme achieved to-date. Mathematical statistical physics is an ecclectic research area, with researchers working in small groups, scattered over Europe. RDSES is an excellent means to bring these groups together. European contributions have been extensive and of high quality in each of the eight research topics listed in section 1. Through the visitor exchange, and the workshops and summer schools, RDSES is making a substantial contribution to the enhancement of interaction between junior and senior researchers that are active in the field. In addition, RDSES acts as a forum for the development of ideas and actions, as witnessed by the start-up of a number of bilateral collaborations that grew out of the RDSES activities.

   RDSES includes Czech Republic, Hungary and Poland, which each have a strong tradition in mathematics, but are currently struggling with research and travelling funds, especially for young people. These countries are actively participating in RDSES and are clearly benefitting from the intensive interaction.

   Mathematical statistical physics is an interdisciplinary research area, with interfaces towards a wide variety of disciplines (such as the life sciences, economics and telecommunication). RDSES provides training in the analysis and modelling of complex dynamical processes through the propagation of a common language.

4. Programme finances and management. It was agreed at the start-up meeting at ESF that 30 percent of the budget will be reserved for the visitor exchange, 60 percent for the workshops and the summer schools, 5 percent for the meetings of the steering committee, and 5 percent for ESF overhead. (The ESF overhead has gone up to 7.5 percent.)

The programme operates on a budget of about 90 kE per year. In 2002 only a small part (24.5 kE) of the budget was used, due to a late start. In 2003 spending went up to 86 kE, while for 2004 spending is currently at 80.5 kE. Thus, the programme is close to exhausting its annual budget, but the reserve from 2002 keeps on being added on. For 2005 and 2006, 60 kE respectively 50 kE have already been allocated.

In 2005 the summer school in Les Houches, France (see section 6) will cost 50 kE. This wil be a major event, with a very high international profile, for which the steering committee has agreed to spend half of the 2005 budget.

Applications for workshops keep on getting in at an increased rate. The steering committee is happy with this development, because the workshops are a core activity through which the younger generation can be reached and trained. The visitor exchange seems to be stable, with 4-6 applications per call. The impression is that this level serves the community sufficiently well.

5. Publicity. RDSES maintains a homepage (www.esf.org/rdses) at the ESF website. This homepage describes the goals and the scientific background of the programme, shows the various activities that are being undertaken, mentions the open call for visitor exchange as well as the possibility to suggest workshop topics to the steering committee, lists the participating countries (13) and organisations (15), and lists the members of the steering committee.

In March 2003, an ESF-brochure for RDSES was printed, which has been widely distributed. This brochure describes details of the key topics (a-h) that are listed in section 1, as well as the main activities and contacts.

The original plan to have a newsletter has not yet been realised. The impression is that RDSES is well known to most European researchers in the field, due to the frequently sent out call for visitor exchange applications (4 times a year), and that therefore no additional publicity is necessary. The call mentions the homepage, which contains all the relevant information. The option of sending out a newsletter will be on the agenda of the next meeting of the steering committee.

6. Forward look. Apparently, activities (1), (2) and (3) in section 2 are very successful. They represent an implementation of the main goal that was set by the programme: to bring together researchers in mathematical statistical physics from all over Europe.

Through the meetings of the steering committee, various national activities can be tuned. The steering committee is also a vehicle for exchange of thoughts and ideas about the development of mathematical physics and its various interfaces in Europe from a more political and strategic angle. Plans are being discussed for developing RDSES into a EUROCORES programme.

Future activities include:

1. Two follow-up workshops as part of the series on *Inhomogeneous Random Systems*: January 25-26, 2005 and January 24-25, 2006. These will be supported by RDSES, though no decision has yet been made on the amount.

2. Two follow-up workshops as part of the series *Young European Probabilists*:

   - *II: Self-Similar Random Structures, Haussdorf Dimensions and Branching*. Organisers: A. Klenke, P. Mörters.
   - *III: Large Deviations, Random Media, and Random Matrices*. Organisers: P. Eichelsbacher, M. Löwe.

   These are planned for the Spring of 2005 and 2006, and each have been granted support of 7 kE.

3. A summer school on *Mathematical Statistical Physics*, Les Houches, France, July 2005. Organisers: A. Bovier, F. Dunlop, A. van Enter, F. den Hollander. Support: 50 kE.

4. A follow-up Summer School on *Mathematical Statistical Mechanics*. Prague, Czech Republic, Summer of 2006. Organiser: R. Kotecky. Support: 20 kE.

5. A workshop on *Fluctuations and Hydrodynamics of Interacting Particle Systems*, Budapest, Hungary, August 2005. Organisers: J. Fritz, C. Landim, B. Tóth, B. Valko.

The summer school in Les Houches is an ambitious project. There will be lectures on 15 "hot topics" by top researchers from Europe and from North- and South-America. These topics are a road-map for mathematical physics in the next decade. We are expecting 60 students and 20 lecturers. Additional support is being solicited from the European Union, the CNRS in France, and the NSF in the USA. The total cost is estimated at 100 kE.

Various other workshop topics are on the agenda: metastability and relaxation to equilibrium, ageing in disordered media, polymers, econophysics.

The chair of RDSES has been invited by the chair of the organising committee of the 4th European Congress of Mathematics (to be held in Stockholm, Sweden, 27 June - 3 July, 2004) to deliver a 1-hour presentation on RDSES.

7. Appendices. See attachments.

The ESF Administrative Assistant for RDSES is Catherine Werner.

Professor Frank den Hollander (chair of RDSES)
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May 15, 2004

Phase Transitions and Fluctuation Phenomena for Random Dynamics in Spatially Extended Systems (RDSES)

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ESF/PESC Programme

Phase Transitions and Fluctuation Phenomena for Random Dynamics in Spatially Extended Systems (RDSES) 2002-2006

Contributing countries

Austria	Austrian Science Research Fund
	Austrian Academy of Sciences
Belgium	Fonds voor Wetenschappelijk Onderzoek – Vlaanderen (FWO)
Czech Republic	Academy of Sciences of the Czech Republic (ASCR)
	Grant Agency of the Czech Republic (GACR)
Denmark	Natural Science Research Council
Finland	Research Council for Natural Sciences and Engineering
France	Centre National de la Recherche Scientifique (CNRS)
Germany	Deutsche Forschungsgemeinschaft (DFG)
Hungary	Hungarian Scientific Research Fund (OTKA)
Netherlands	Netherlands Organisation for Scientific Research (NWO)
Poland	Polish Academy of Sciences
Sweden	Swedish Research Council
Switzerland	Swiss National Science Foundation
United Kingdom	Engineering and Physical Sciences Research Council (EPSRC)

Expenditures

RANDOM DYNAMICS IN SPATIALLY EXTENDED SYSTEMS   (2002 - 2006)

2002

In Euro

N°	Designation	Budget	Commit.	Expend.	Available
2	**COMMITTEE MEETINGS**	**7,000.00**	**0.00**	**4,345.93**	**2,654.07**
2.1	Strasbourg, 20 April 2002	7,000.00	0.00	4,345.93	2,654.07
4	**GRANTS**	**14,900.00**	**4,300.00**	**8,910.31**	**1,689.69**
4.1	Research visits	9,900.00	4,300.00	4,645.73	954.27
4.1.01	M. Löwe (02/01) NL - SE	*1,000.00*	*1,000.00*	*0.00*	*0.00*
4.1.02	V. Gayrard (02/02) CH - DE	*1,300.00*	*0.00*	*1,298.77*	*1.23*
4.1.03	Y. Suhov (02/03) UK - FIN - RU - LT	*1,300.00*	*1,300.00*	*0.00*	*0.00*
4.1.04	B. Gentz (02/04) DE - FR	*1,300.00*	*0.00*	*985.23*	*314.77*
4.1.05	N. Gantert (02/05) DE - SE	*1,000.00*	*1,000.00*	*0.00*	*0.00*
4.1.06	T. Platkowski (02/06) PL - DE	*1,000.00*	*1,000.00*	*0.00*	*0.00*
4.1.07	G. Giacomin (02/07) FR - HU	*1,000.00*	*0.00*	*589.69*	*410.31*
4.1.08	E. Scoppola (02/08) IT - NL	*1,000.00*	*0.00*	*762.90*	*237.10*
4.1.09	M. Loebel (02/09) CZ - FR	*1,000.00*	*0.00*	*1,009.14*	*-9.14*
4.2	Research "kitchens"	5,000.00	0.00	4,264.58	735.42
4.2.01	C. Maes, Leuven, 18-20 November 2002	*5,000.00*	*0.00*	*4,264.58*	*735.42*
5	**PUBLICATION & PUBLICITY**	**1,500.00**	**1,500.00**	**0.00**	**0.00**
5.1	ESF brochure	1,500.00	1,500.00	0.00	0.00
9	**ESF ADMINISTRATIVE COSTS**	**5,325.00**	**0.00**	**5,325.00**	**0.00**
10	**MISCELLANEOUS**	**0.00**	**0.00**	**113.19**	**-113.19**
14	**UNALLOCATED FUNDS**	**77,775.00**	**0.00**	**0.00**	**77,775.00**
	TOTAL :	**106,500.00**	**5,800.00**	**18,694.43**	**82,005.57**

Bank :	**70,816.04**	**on 24/12/2002**
Securities :	**0.00**	
Carried Over :	**0.00**	
Provision :	**0.00**	
Expected Contributions :	**17,500.00**	
Requested Contributions :	**106,500.00**	
Interest :	**0.00**	

Expenditures

RANDOM DYNAMICS IN SPATIALLY EXTENDED SYSTEMS

(2002 - 2006)

2003

In Euro

N°	Designation	Budget	Commit.	Expend.	Available
2	**COMMITTEE MEETINGS**	**7,000.00**	**7,000.00**	**0.00**	**0.00**
2.1	Steering Committee	7,000.00	7,000.00	0.00	0.00
2.1.01	Cambridge, August 2003	*7,000.00*	*7,000.00*	*0.00*	*0.00*
3	**WORKSHOPS,CONFERENCES,SYMPOSIA**	**55,000.00**	**27,323.87**	**26,676.13**	**1,000.00**
3.1	Workshops	35,000.00	21,984.44	12,015.56	1,000.00
3.1.01	Luminy, 3-28 March 2003	*5,000.00*	*0.00*	*4,000.00*	*1,000.00*
3.1.02	Cambridge workshop, 18-22 August 2003	*20,000.00*	*20,000.00*	*0.00*	*0.00*
3.1.03	Random Matrices, Gregynog, 15 September 2003	*10,000.00*	*1,984.44*	*8,015.56*	*0.00*
3.2	Summer School	20,000.00	5,339.43	14,660.57	0.00
3.2.01	Prague, 30 June - 18 July 2003	*20,000.00*	*5,339.43*	*14,660.57*	*0.00*
4	**GRANTS**	**21,020.00**	**4,812.53**	**13,808.28**	**2,399.19**
4.1	Research visits 2003	16,720.00	4,812.53	10,530.78	1,376.69
4.1.01	T. Komorowski (PL - FR)	*1,000.00*	*0.00*	*818.14*	*181.86*
4.1.02	M. Fradon (FR - DE)	*1,000.00*	*0.00*	*561.40*	*438.60*
4.1.03	J. Fritz (HU - FR)	*1,300.00*	*0.00*	*1,267.00*	*33.00*
4.1.04	M. Campanino (IT - FR)	*1,300.00*	*312.10*	*987.90*	*0.00*
4.1.05	D. Dereudre (FR - DE)	*1,300.00*	*0.00*	*875.70*	*424.30*
4.1.06	N. Guillotin-Plantard (FR - NL)	*1,300.00*	*0.00*	*1,300.00*	*0.00*
4.1.07	N. Gantert (DE - FR)	*1,000.00*	*0.00*	*687.59*	*312.41*
4.1.08	T. Schreiber (PL - NL)	*820.00*	*200.43*	*619.57*	*0.00*
4.1.09	I. Goldsheid (UK - CH)	*1,300.00*	*0.00*	*1,315.33*	*-15.33*
4.1.10	F. Toninelli (NL - FR)	*800.00*	*0.00*	*787.92*	*12.08*
4.1.11	S. Poghosyan (IT - DE)	*1,300.00*	*0.00*	*1,310.23*	*-10.23*
4.1.12	F. Nardi (IT - NL)	*1,300.00*	*1,300.00*	*0.00*	*0.00*
4.1.13	N. Gantert (DE - SE)	*1,000.00*	*1,000.00*	*0.00*	*0.00*
4.1.14	M. Löwe (NL - SE)	*1,000.00*	*1,000.00*	*0.00*	*0.00*
4.1.15	T. Komorowski (PL - FR)	*1,000.00*	*1,000.00*	*0.00*	*0.00*
4.2	Research visits 2002	4,300.00	0.00	3,277.50	1,022.50
4.2.01	M. Löwe (02/01) NL-SE	*1,000.00*	*0.00*	*911.61*	*88.39*
4.2.02	Y. Suhov (02/03) UK - RU - FI-LT	*1,300.00*	*0.00*	*990.53*	*309.47*
4.2.03	N. Gantert (02/05) DE - SE	*1,000.00*	*0.00*	*861.02*	*138.98*
4.2.04	T. Platkowski (02/06)	*1,000.00*	*0.00*	*614.57*	*385.43*
4.2.05	E. Scoppola (IT - NL)	*0.00*	*0.00*	*-100.23*	*100.23*
5	**PUBLICATION & PUBLICITY**	**1,500.00**	**0.00**	**911.52**	**588.48**
5.1	ESF brochure	1,500.00	0.00	911.52	588.48
9	**ESF ADMINISTRATIVE COSTS**	**5,325.00**	**5,325.00**	**0.00**	**0.00**
10	**MISCELLANEOUS**	**0.00**	**0.00**	**68.69**	**-68.69**
14	**UNALLOCATED FUNDS**	**104,460.57**	**0.00**	**0.00**	**104,460.57**
	TOTAL :	**194,305.57**	**44,461.40**	**41,464.62**	**108,379.55**

Bank :	**48,340.95** on **24/06/2003**	
Securities :	**0.00**	
Carried Over :	**82,005.57**	
Provision :	**5,800.00**	
Expected Contributions :	**81,000.00**	
Requested Contributions :	**106,500.00**	
Interest :	**0.00**	

Expenditures

RANDOM DYNAMICS IN SPATIALLY EXTENDED SYSTEMS   (2002 - 2006)

2004

In Euro

N°	Designation	Budget	Commit.	Expend.	Available
2	**COMMITTEE MEETINGS**	**7,000.00**	**3,155.03**	**3,844.97**	**0.00**
2.1	Steering Committee	7,000.00	3,155.03	3,844.97	0.00
2.1.01	Göteborg, 23 June 2004	*7,000.00*	*3,155.03*	*3,844.97*	*0.00*
3	**SCIENCE MEETINGS**	**50,000.00**	**15,000.00**	**35,000.00**	**0.00**
3.1	Workshops	50,000.00	15,000.00	35,000.00	0.00
3.1.01	Göteborg, 21-25 June 2004	*20,000.00*	*4,000.00*	*16,000.00*	*0.00*
3.1.02	Spin Glasses, Monte Verita, 18-23 April 2004	*20,000.00*	*4,000.00*	*16,000.00*	*0.00*
3.1.03	Inhomogeneous Random Systems, Paris, 28 Jan.	*1,500.00*	*0.00*	*1,500.00*	*0.00*
3.1.04	YEP / Conformal invariance,.. EURANDOM, 29/3	*7,000.00*	*7,000.00*	*0.00*	*0.00*
3.1.05	Rencontres de Probabilités, Rouen, 1-3 June 200	*1,500.00*	*0.00*	*1,500.00*	*0.00*
4	**GRANTS**	**17,170.00**	**6,412.80**	**9,714.57**	**1,042.63**
4.1	Research visits 2004	15,870.00	5,112.80	9,714.57	1,042.63
4.1.01	Reserve fund	*0.00*	*0.00*	*0.00*	*0.00*
4.1.02	P. van der Wal (NL - SE)	*1,000.00*	*0.00*	*1,006.81*	*-6.81*
4.1.03	M. Campanino (IT - NL)	*1,000.00*	*0.00*	*1,012.90*	*-12.90*
4.1.04	D. Ioffe (UK - FR)	*1,000.00*	*0.00*	*983.72*	*16.28*
4.1.05	Y. Velenik (FR - UK)	*1,000.00*	*0.00*	*810.10*	*189.90*
4.1.06	J. Fritz (HU - FR)	*1,300.00*	*0.00*	*1,300.00*	*0.00*
4.1.07	R. Kotecky (CZ - UK)	*1,000.00*	*0.00*	*452.34*	*547.66*
4.1.08	N. Gantert (DE - FR)	*1,000.00*	*0.00*	*784.83*	*215.17*
4.1.09	S. Shlosman (FR - NL)	*1,250.00*	*0.00*	*1,348.10*	*-98.10*
4.1.10	E. Andjel (FR - CH)	*1,390.00*	*297.80*	*1,092.20*	*0.00*
4.1.11	M. Loebl (CZ - FR)	*1,115.00*	*0.00*	*923.57*	*191.43*
4.1.12	I. Goldsheid (UK - FR)	*1,690.00*	*1,690.00*	*0.00*	*0.00*
4.1.13	T. Komorowski (PL - FR)	*1,690.00*	*1,690.00*	*0.00*	*0.00*
4.1.14	T. Arponen (FIN - UK)	*1,435.00*	*1,435.00*	*0.00*	*0.00*
4.2	Research visits 2003	1,300.00	1,300.00	0.00	0.00
4.2.01	M. Zahradnik (CZ - DE)	*1,300.00*	*1,300.00*	*0.00*	*0.00*
9	**ESF ADMINISTRATIVE COSTS**	**7,987.50**	**7,987.50**	**0.00**	**0.00**
10	**MISCELLANEOUS**	**200.00**	**81.31**	**118.69**	**0.00**
14	**UNALLOCATED FUNDS**	**126,882.32**	**0.00**	**0.00**	**126,882.32**
	TOTAL :	**209,239.82**	**32,636.64**	**48,678.23**	**127,924.95**

Bank :	**110,561.59 on 27/07/2004**	
Securities :	**0.00**	
Carried Over :	**97,578.83**	
Provision :	**5,160.99**	
Expected Contributions :	**50,000.00**	
Requested Contributions :	**106,500.00**	
Interest :	**0.00**	

List of Grants
(by year and by alphabetical order)

ESF Programme: *RDSES*

Name		*Origin*	*Host*	*From-To*	*Year*
Gantert	**Nina**	Institut für Mathematische Stochastik Universität Karlsruhe Karlsruhe Germany	**Dr. Jeffrey Steif** Department of Mathematics Chalmers University of Technology Göteborg Sweden	**Germany** To **Sweden**	2002
Gayrard	**Veronique**	Section of Mathematics - FSB Bernoulli Institute EPFL Lausanne Switzerland	**Professor Anton Bovier** Weierstrass Institut für Angewandte Analysis und Stochastik Berlin Germany	**Switzerland** To **Germany**	2002
Gentz	**Barbara**	Weierstrass Institute for Applied Analysis and Stochastics Berlin Germany	**Dr. Nils Berglund** CPT - CNRS Campus de Luminy Marseille France	**Germany** To **France**	2002
Giacomin	**Giambattista**	Université Paris 7 - Denis Diderot Paris France	**Professor Balint Toth** Institute of Mathematics Budapest Hungary	**France** To **Hungary**	2002
Loebl	**Martin**	Department of Applied Mathematics Faculty of Mathematics and Physics Charles University Praha Czech Republic	**Dr. Werner Krauth** Laboratoire de Physique Statistique Ecole Normale Supérieure Paris France	**Czech Republic** To **France**	2002
Platkowski	**Tadeusz**	Institute of Applied Mathematics and Mechanics University of Warsaw Warsaw Poland	**Professor Dirk Helbing** Institute for Economics and Traffic Dresden University of Technology Dresden Germany	**Poland** To **Germany**	2002

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(by year and by alphabetical order)

ESF Programme: *RDSES*

Name		Origin	Host	From-To	Year
Scoppola	**Elisabetta**	Dipartimento di Mathematica Universita di Roma Tre Roma Italy	**Professor Frank den Hollander** EURANDOM Eindhoven Netherlands	**Italy** To **Netherlands**	2002
Suhov	**Yuri**	Statistical Laboratory, DPMMS University of Cambridge Cambridge United Kingdom	**Professor Antti Kupiainen** Department of Mathematics University of Helsinki Helsinki Finland	**United Kingdom** To **Finland**	2002
Campanino	**Massimo**	Dipartimento di Matematica Bologna Italy	**Professor Dimitri Petritis** University of Rennes Rennes France	**Italy** To **France**	2003
Dereudre	**David**	Centre de Mathématiques Appliquées Ecole Polytechnique Palaiseau France	**Professor Sylvie Roelly** Institut für Mathematik Universität Potsdam Potsdam Germany	**France** To **Germany**	2003
Fradon	**Myriam**	Laboratoire de Mathématiques Appliquées Université des Sciences et Technologies de Lille Villeneuve d'Ascq France	**Professor Sylvie Roelly** Institut für Mathematik Universität Potsdam Potsdam Germany	**France** To **Germany**	2003
Fritz	**Jozsef**	Institute of Mathematics, H-42 Budapest University of Technology and Economics Budapest Hungary	**Professor Stefano Olla** CEREMADE, UMR CNRS 7534 B. 620 Université de Paris-Dauphine Paris France	**Hungary** To **France**	2003

<u>**List of Grants**</u>
<u>**(by year and by alphabetical order)**</u>

ESF Programme: *RDSES*

Name		*Origin*	*Host*	*From-To*	*Year*
Gantert	**Nina**	Institut für Mathematische Stochastik Universität Karlsruhe Karlsruhe Germany	**Dr. Zhan Shi** Laboratoire des Probabilités UMR 7599 Université Paris VI Paris France	**Germany** To **France**	2003
Gantert	**Nina**	Institut für Mathematische Stochastik Universität Karlsruhe Karlsruhe Germany	**Dr. Jeffrey Steif** Department of Mathematics Chalmers University of Technology Göteborg Sweden	**Germany** To **Sweden**	2003
Goldsheid	**Ilya**	School of Mathematical Sciences Queen Mary & Westfield College London United Kingdom	**Professor Erwin Bolthausen** Institut für Mathematik Universität Zurich Zurich Switzerland	**United Kingdom** To **Switzerland**	2003
Guillotin-Plantard	**Nadine**	LaPCS (E.A. 2032) Université Claude Bernard Lyon I Lyon France	**Professor Arnaud Le Ny** Eurandom TU Eindhoven Eindhoven Netherlands	**France** To **Netherlands**	2003
Klenke	**Achim**	Mathematisches Institut Universität zu Köln Köln Germany	**Professor Peter Mörters** Department of Mathematical Sciences University of Bath Bath United Kingdom	**Germany** To **United Kingdom**	2003
Komorowski	**Tomasz**	Institute of Mathematics, UMCS Lublin Poland	**Professor Stefano Olla** CEREMADE, UMR CNRS 7534 B. 620 Université de Paris-Dauphine Paris France	**Poland** To **France**	2003

List of Grants
(by year and by alphabetical order)

ESF Programme: *RDSES*

Name		Origin	Host	From-To	Year
Löwe	**Matthias**	Subfaculteit Wiskunde KUN Nijmegen Netherlands	**Dr. Jeffrey Steif** Department of Mathematics Chalmers University of Technology Göteborg Sweden	**Netherlands** To **Sweden**	2003
Nardi	**Francesca**	University "La Sapienza" Roma Italy	**Professor Frank den Hollander** EURANDOM Eindhoven Netherlands	**Italy** To **Netherlands**	2003
Netocny	**Karel**	Instituut voor Theoretische Natuurkunde R.U. Groningen Groningen Netherlands	**Professor Christian Maes** Departement Natuurkunde Instituut voor Theoretische Fysica K.U. Leuven Leuven Belgium	**Netherlands** To **Belgium**	2003
Poghosyan	**Suren**	Dipartimento di Matematica e Informatica Università di Camerino Camerino (MC) Italy	**Professor Hans Zessin** Department of Mathematics University of Bielefeld Bielefeld Germany	**Italy** To **Germany**	2003
Schreiber	**Tomasz**	Faculty of Mathematics and Computer Science Nicolaus Copernicus University Torun Poland	**Mr. Frank Redig** EURANDOM Technical University Eindhoven Eindhoven Netherlands	**Poland** To **Netherlands**	2003
Simon	**Karoly**	Dept. of Stochastics Institute of Mathematics Technical University of Budapest Budapest Hungary	**Professor Ai-Hua Fan** Université de Picardie Jules Verne Amiens France	**Hungary** To **France**	2003

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(by year and by alphabetical order)

ESF Programme: *RDSES*

Name		Origin	Host	From-To	Year
Toninelli	**Fabio Lucio**	EURANDOM Eindhoven Netherlands	**Professor Andrea Montanari** Laboratoire de Physique Theorique ENS Paris France	**Netherlands** To **France**	2003
Toninelli	**Fabio Lucio**	EURANDOM Eindhoven Netherlands	**Dr. Francesco Guerra** Department of Physics University of Rome "La Sapienza" Rome Italy	**Netherlands** To **Italy**	2003
Toth	**Balint**	Institute of Mathematics Budapest Hungary	**Dr. Angela Stevens** MPI for Mathematics in the Science Leipzig Germany	**Hungary** To **Germany**	2003
Toth	**Balint**	Institute of Mathematics Budapest Hungary	**Professor Erwin Bolthausen** Institut für Mathematik Universität Zurich Zurich Switzerland	**Hungary** To **Switzerland**	2003
Valko	**Benedek**	Institute of Mathematics Technical University Budapest Budapest Hungary	**Professor Herbert Spohn** Zentrum Mathematik, Bereich M5 Technische Universität München München Germany	**Hungary** To **Germany**	2003
Andjel	**Enrique D.**	CMI Université de Provence Marseille France	**Mr. Thomas Mountford** Lausanne Switzerland	**France** To **Switzerland**	2004

<u>**List of Grants**</u>
<u>**(by year and by alphabetical order)**</u>

ESF Programme: *RDSES*

Name		*Origin*	*Host*	*From-To*	*Year*
Campanino	**Massimo**	Dipartimento di Matematica Bologna Italy	**Professor Aernout Van Enter** Instituut voor Theoretische Natuurkunde University of Groningen Groningen Netherlands	**Italy** To **Netherlands**	2004
Fritz	**Jozsef**	Institute of Mathematics, H-42 Budapest University of Technology and Economics Budapest Hungary	**Professor Stefano Olla** CEREMADE, UMR CNRS 7534 B. 620 Université de Paris-Dauphine Paris France	**Hungary** To **France**	2004
Gantert	**Nina**	Institut für Mathematische Stochastik Universität Karlsruhe Karlsruhe Germany	**Dr. Zhan Shi** Laboratoire des Probabilités UMR 7599 Université Paris VI Paris France	**Germany** To **France**	2004
Ioffe	**Dmitry**	Statistical Laboratory Centre for Mathematical Sciences University of Cambridge Cambridge United Kingdom	**Professor Roberto Fernandez** UPRES-A CNRS 6085 Laboratoire de Mathématiques Raphael Salem Université de Rouen Mont Saint Aignan France	**United Kingdom** To **France**	2004
Kotecky	**Roman**	ASCR and Charles University Centre for Theoretical Study Prague Czech Republic	**Dr. Ostap Hryniv** Statistical Laboratory Centre for Mathematical Sciences University of Cambridge Cambridge United Kingdom	**Czech Republic** To **United Kingdom**	2004
Loebl	**Martin**	Department of Applied Mathematics Faculty of Mathematics and Physics Charles University Praha Czech Republic	**Dr. Werner Krauth** Laboratoire de Physique Statistique Ecole Normale Supérieure Paris France	**Czech Republic** To **France**	2004

List of Grants
(by year and by alphabetical order)

Name		Origin	Host	From-To	Year
Shlosman	**Semen**	Centre de Physique, CNRS Marseille France	**Professor Aernout Van Enter** Instituut voor Theoretische Natuurkunde University of Groningen Groningen Netherlands	**France** To **Netherlands**	2004
van der Wal	**Peter**	EURANDOM Eindhoven Netherlands	**Dr. Jeffrey Steif** Department of Mathematics Chalmers University of Technology Göteborg Sweden	**Netherlands** To **Sweden**	2004
Velenik	**Yvan**	Laboratoire de Mathématiques Raphaël Salem UMR CNRS 6085 Université de Rouen Mont Saint Aignan France	**Dr. Ostap Hryniv** Statistical Laboratory Centre for Mathematical Sciences University of Cambridge Cambridge United Kingdom	**France** To **United Kingdom**	2004

Benedek Valko:

Though the following paper was not the result of collaboration with my hosts, I made significant progress on it during my stay at TU Munich (13/10/2003-17/10/2003).

B. Valko: Hydrodynamic limit for perturbation of a hyperbolic equilibrium point in two-component systems, submitted preprint, http://arxiv.org/abs/math.PR/0402017

Balint Toth

two short visits of mine were supported by RDSES:
- Zurich, 9-15 June 2003
- Leipzig, 24-28 November 2003

No joint publication emerged from these visits, but they were very useful in the sense that in both cases I made serious progress with my work on the paper

B. Toth, B. Valko:
Perturbation of singular equilibria of hyperbolic two-component
systems: a universal hydrodynamic limit. http://www.arXiv.org/abs/math.PR/0312256

Senya Shlosman

My visit to Professor van Enter happened only last month, so our paper will be written hopefully in a foreseeable future, but it is not ready yet. We have a tentative title for it, which is "Pirogov-Sinai theory for systems with continuous symmetry".

Tomasz Komorowski

As a result of my visits at Universite Paris IX (CEREMADE) which were partly supported by a RDSES grant I, together with Professor Stephano Olla (CEREMADE), have prepared two publications:

1. "On mobility and Einstein relation for tracers in time-mixing random environments."
This publication is after an initial review in Journal of Statistical Physics. The revision has been submitted and it awaits the final acceptance.

2. "Einstein relation for random walks in random environments".
This publication has been submitted and is under reviewing process in Stoch. Proc. and Applications.

Support by RDSES shall be acknowledged in the two papers:

Jozsef Fritz

J. Fritz, K. Nagy, S. Olla: Equilibrium fluctuations for a system of harmonic oscillators in thermal noise.

J. Fritz, K. Nagy: On uniqueness of the Euler limit of one-component lattice gas models.

The manuscript of the first one is almost finished; the second one ought to be completed in June.

Barbara Gentz

During my visit at Eurandom, I have written a paper with A. Le Ny entitled:

" Transient random walks on 2d-oriented lattices.   "

This paper has been submitted to a journal.

The following publication resulted from work supported by the RDSES programme:

Nils Berglund and Barbara Gentz
On the noise-induced passage through an unstable periodic orbit I: Two-level model J. Statist.
Phys. 114, No. 5/6, 1577-1618 (2004).

Tadeusz Platkowski

The result of my 1-week stay in Dresden in the frame of RDSES is the manuscript
"Physics, Stability and Dynamics of Supply Networks", joint paper of D. Helbing, S. Lamer, T.
Seidler, P. Seba and T. Platkowski,
which has been recently submitted to Physical Review Letters.