BROEGELMANN RESEARCH LABORATORY

The Gade Institute

University of Bergen

ANNUAL REPORT

2005

Mailing address:

Broegelmann Research Laboratory
The Gade Institute
Armauer Hansen Bldg
N-5021 Bergen, Norway

Tel: +47-55974648 or 55974649
Fax: +47-55975817
E-mail: roland.jonsson@gades.uib.no or kate.froland@gades.uib.no

http://www.uib.no/Broegelmann/
http://www.uib.no/Broegelmann/brsi/index.html

1. The Year in Review

2. Administration - Personnel - Scientists

Administration
Technical and administrative personnel
Postdoctoral fellows
Visiting scientists
Trainees

3. Teaching

Postgraduate teaching
Guestlectures

4. Scientific Activity

Completed doctoral theses
Aims of research
Collaborating institutions
Major projects
Collaborating projects

Publications

5. Editorial Activities – *Scandinavian Journal of Immunology*

6. Lectures – Seminars - Other activity

1. The Year in Review

2005 has been another exciting year for the Broegelmann Research Laboratory and its staff. The Laboratory has continued to bond its place in the top league of international laboratories investigating systemic autoimmune diseases with a focus on Sjögren's syndrome. By the Faculty of Medicine, UoB, we were awarded the prestigious *"The Research Group of the Year 2004"*.

Among the exciting events during the year have been the long-term visits of scientists from Karolinska Institutet (Mathula Thangarajh), University of Moscow (Ekaterina Rodionova) and University of Coimbra (Carina Madureira). Professor Jonsson's standing in the field of Sjögren's syndrome research was recognized by invitations to give a number of key-note lectures and/or chair scientific sessions worldwide (Brisbane, Sydney, Adelaide). Laboratory members were invited to speak at other national and international meetings or author articles and/or chapters in scientific publications/books.

The Laboratory has published extensively this year in top international journals; a mean impact factor of 9.3 was reached for the top five publications. The breadth of the Laboratory's approach to study autoimmunity and mucosal immunity is reflected in the diversity of fields in which publications have appeared, including immunology, infection & immunity, genetics, nutrition, and rheumatology.

Our Editorial Office for *Scandinavian Journal of Immunology* has received continuous attention by obtaining a steady influx of manuscripts in 2005. The impact factor for *Scandinavian Journal of Immunology* is stable and work is now in progress for a launch of electronic submission and handling of manuscripts early 2006 through http://mc.manuscriptcentral.com/sji.

The Laboratory has a track record of success in obtaining international funding (EU, NATO). One major success was the competitive approval and start of a new EU Marie Curie training project (Contract No: MEST-CT-2004-514483) coordinated from Bergen. Another success was the grant support from *the Strategic Research Program at Helse Bergen*.

A major challenge will be to establish modern and up to date laboratory equipment and infra-structure. This is essential for being eligible and competitive for additional international funding. Time and energy has during the year been spent on planning the laboratory facilities in the new Laboratory Building for 2008/2009.

2005 has also been a productive year for cementing and establishing translational clinical and scientific collaborations. As an initiative to further increase the Laboratory's activity, interaction and integration, for the Research School Program at the University of Bergen *"The Bergen Research School in Inflammation (BRSI)"* was officially opened on the *National Day of Immunology*, April 29, 2005. Another major challenge was the finalization of a Centre of Excellence application at the national level and with the title *"Centre for Inflammation and Matrix Biology (CIM)"*.

The Laboratory has a number of ongoing research projects including:

- Molecular studies of autoantibodies and biomarkers in Sjögren's syndrome
- Functional genetics of the autoimmune exocrinopathy
- Characterization of animal models for Sjögren's syndrome
- Genetic basis of human and murine Sjögren's syndrome
- Influenza and mucosal immunity

Roland Jonsson
Head of Broegelmann Research Laboratory

2. Administration - personnel - scientists

The Broegelmann Research Laboratory (BRL) is an immunology research unit with a focus on *Autoimmunity and Mucosal Immunobiology* at the University of Bergen and Haukeland University Hospital. The Laboratory was initiated in 1957 after a donation to the University of Bergen and is co-localized and integrated with the Department of Microbiology and Immunology, the Gade Institute. Internationally the unit is one of the leading groups on *Experimental, Clinical and Genetic Studies of Sjögren´s syndrome* and currently holds a EU funded *Marie Curie Training Site*. A broad repertoire of molecular and cellular methods in immunology and molecular biology has been established.

The core financial support comes from the Broegelmann Foundation. Other major funding agencies have been EU (five contracts – four as coordinator), the Research Council of Norway ("miljøstøtte"), Helse Vest, the Foundation Health and Rehabilitation, and more recently the Strategic Research Program at Helse Bergen. Between 1962 and 2005 BRL has contributed to the finalization of 55 PhD/doctoral and 15 Master degrees. BFL has been the organizer of three international immunology meetings in Bergen 1997, 2001 and 2002. Since 1999 the unit is one of three *Editorial offices for Scandinavian Journal of Immunology* with Prof R. Jonsson as Editor-in-Chief. Currently, the major activity of the Journal is localized to Bergen.

RESEARCH AREAS:

The research activity at BRL has been devoted to the following areas: autoimmunity/chronic inflammation; molecular medicine; functional genomics; mucosal immunity; immunopathology; tumour immunology; nutrition and immunology.

HEAD OF LABORATORY (from 1991):

Roland Jonsson DMD, PhD
Professor of medicine (The Broegelmann Chair in Immunology)
Director Bergen Research School in Inflammation

TECHNICAL/ADMINISTRATIVE PERSONNEL:

Kate Frøland (100% adm [50% BFL, 30% SJI, 20% EU])
Marianne Eidsheim (80% BFL)

POSTDOCTORAL/SENIOR RESEARCH FELLOWS:

Anne Isine Bolstad DMD, PhD	(molecular biology/genetics)
Karl A. Brokstad PhD	(molecular immunology/cell biology)
Åke Davidsson MD, PhD	(ENT – mucosal immunity)
Bjørg-Tilde Svanes Fevang (02-06/05)	(rheumatology)
Silke Appel PhD (from 12/05)	(cellular/molecular immunology)
Oddmund Bakke PhD, (from 12/05) [professor II]	(cellular/molecular immunology)

VISITING SCIENTISTS:

Mathula Thangarajh	(Marie Curie Training Site PhD-student), Sweden/India
Carina Madureria	(ERASMUS Master student), Coimbra, Portugal
Ekaterina Rodionova	(PhD student), Moscow, Russia

TRAINEES:

Rheumatological immunology	**Principal supervisor(s)**
Elisabeth Sivy Nginamau MD, doctoral degree student	Brokstad
Peter Szodoray MD, doctoral degree student	Jonsson
Ketil Moen DDS, doctoral degree student	Brun/Jonsson
Tor Magne Madland MD, doctoral degree student	Brun/Jonsson
Nicolas Delaleu MSc, doctoral degree student	Jonsson
Sergio Carracedo Huroz, MSc, doctoral degree student	Gullberg/Jonsson
Carina Madureria, master degree student	Delaleu
Genetics in chronic inflammatory disease	
Trond Ove Hjelmervik MSc, doctoral degree student	Bolstad/Jonsson
Mucosal immunobiology	
Camilla Mittelholzer, MSc, doctoral degree student	Brokstad
Jens-Christian Eriksson MD, doctoral degree student	Davidsson/Brokstad

Affiliated with Broegelmann Research Laboratory (doctoral/master degree studies):

Carla Olsnes Msc, Dept of ENT, UoB	Aarstad
Pål Voltersvik MD, Dept of Medicine, UoB	Åsjö
Nancy Bletsa DDS, Dept of Physiology, UoB	Heyeraas
Malin V. Jonsson DDS, Dept of Oral Pathol, UoB	Skarstein

Medical students (e.g. special reports):

Cecilie Ellingsen (summer student fellowship)	Brokstad/Jonsson
Oddleif Tjemsland	Jonsson
Stig Jellestad	Szodoray/Jonsson

ADDITIONAL SCIENTISTS/KEY-COLLABORATORS AFFILIATED WITH THE LABORATORY AND WITH E.G. SUPERVISION FUNCTIONS PLUS JOINT PUBLICATIONS:

professor Vidar Bakken, Laboratory for Oral Microbiology
assoc prof Johan G. Brun, Div of Rheumatology, Med Dept B, Haukel Univ Hospital
professor Jan Olofsson, Department of Otolaryngology/Head & Neck Surgery, Haukeland Univ Hospital
assoc prof Kathrine Skarstein, Dept of Oral Pathology, The Gade Institute
professor Hans-Jørgen Aarstad, Department of Otolaryngology/Head & Neck Surgery, Haukeland Univ Hospital
professor Birgitta Åsjö, Center for Virology
professor Harald G. Wiker, Section for Bacteriology, the Gade Institute
professor Donald Gullberg, Dept of Physiology, Inst of Biomedicine

3. Teaching

POSTGRADUATE TEACHING

Continuously during the spring and fall semesters a *seminar series in immunology* was conducted every week with presentations from research fellows or invited speakers. On a weekly basis seminars were given related to research areas of the students/trainees (*project-meetings*). *Guest lectures* are an important part of intellectual stimulation. The scientists were teaching immunological techniques, autoimmunity, mucosal immunity and oral medicine in postgraduate courses and at other invited situations both at national and international gatherings.

Course: Immunological methods (organized by R. Jonsson & H. G. Wiker) April 13-15

GUESTLECTURES AND VISITORS AT BRL

10/1 Anna-Karin Lindquist, Lund, Sweden – Discussions on joint genetic and arthritis projects

7/3 John B. Harley, Oklahoma City, USA – Epstein Barr virus in lupus

20/5 Per Brandtzaeg, Oslo - ***The 9th Annual Broegelmann Lecture***: The gut-joint axis: clinically relevant

15/9 Kajsa Granfors, Turku, Finland – Host-microbe interaction in reactive arthritis

26/9 Zhanguo Li, Beijing, China – Impact of non-antigenic peptides in T cell activation

13/10 Xavier Mariette, Paris, France – BAFF (BLyS), a new cytokine involved in autoimmunity

4. Scientific activity

COMPLETED THESIS IN 2005 WITH CONTRIBUTIONS FROM BRL:

Moen K: **Oral implications of rheumatoid arthritis – A clinical and immunological approach;** dr odont, thesis defence Sept 16, 2005. *Principal Institute: Broegelmann Research Laboratory, The Gade Institute and Section for Rheumatology, Institute of Medicine, University of Bergen. Supervisors: Roland Jonsson and Johan G. Brun*.

Szodoray P: **The role of B-cells in the pathogenesis of systemic autoimmune diseases – impaired processes involving B-cell activating factor and apoptosis;** Philosophiae doctor (PhD), thesis defence Oct 14, 2005. *Principal Institute: Broegelmann Research Laboratory, The Gade Institute, University of Bergen. Supervisors: Roland Jonsson and Johan G. Brun*.

SPECIFIC AIMS OF THE RESEARCH AT BRL:

The laboratory targets its efforts within the fields of autoimmunity, mucosal immunity, immunopathology and tumour immunology**.** ***The work is directed towards basic immunological questions incl. genetics in rheumatological and mucosal immunity as well as clinical immunological topics.*** Furthermore, experimental autoimmune/rheumatological research is conducted in murine systems. The laboratory work is performed with immunomorphological and functional immunological techniques at both cellular and molecular levels in human and murine tissues, sera, and secretions as well as in tissue- and cell-cultures. Specific areas of interest are summarized below:

- **AUTOIMMUNITY**

Autoimmune reactions are of central importance in the etiology of many somatic diseases. Different tissues can be affected in different ways but a common denominator is a ***chronic inflammation***, which can result in tissue damage and accompaning loss of function. Our aim is to study disease mechanisms in connective tissue diseases (Sjögren's syndrome and rheumatoid arthritis) with special reference to exocrine gland and joint tissue. For this purpose we combine studies in both human and murine systems, which hopefully will help us in elucidating pathogenic mechanisms and more recently the genetic background as a basis for better diagnosis and therapy. The immunological aspect is concerned with cellular and molecular characterization of lesions, quantitation of humoral and cellular immune responses against endogenous and exogenous antigens, as well as attempts at immunomodulation. Special attention is given to programmed cell death (apoptosis) in relation to the chronic inflammatory disorders (Sjögren's syndrome, rheumatoid arthritis, adult periodontitis).

- **MUCOSAL IMMUNITY**

Mucous membranes constitute important defence mechanisms for the body and contain important humoral effector functions via the humoral immune system. A change in the regulation of immunity can however give rise to undesirable side effects which may result in tissue lesions in mucous membranes of the oral cavity, the gastro-intestine, the vagina, the lungs, the exocrine glands etc. Furthermore, the body is normally confronted with the first antigen contact/stimulation through the mucous membranes. Our aim is to study antigen presentation in mucous membranes and to characterize defence mechanisms and pathological immunological situations. Knowledge obtained within this field is of particular importance for better diagnostic and preventive/treatment measures e.g. vaccines.

- **TUMOUR IMMUNOLOGY**

The immune system obviously has an important role in the development of malignant tumours. Our interests within this are: role of dendritic cells, T-cells, macrophages, cytokines and apoptosis incl. regulating molecules in tumour development.

The scientific activity at BRL is concentrated much on an international profile with a vast network. Internationally BRL has kept and established contact with more than 10 foreign research institutions, mainly in Sweden, other European countries, Australia and USA. The work is characterized by "crossing" scientific fields aiming both towards clinical and basic research, laying the ground for truly translational medicine.

COLLABORATION IS ESTABLISHED WITH THE FOLLOWING LOCAL RESEARCH INSTITUTIONS:

University of Bergen – Haukeland University Hospital

A. Department of Microbiology and Immunology, Sections for immunology, bacteriology and virology, The Gade Institute
B. Section of Rheumatology, Institute of Medicine
C. Department of Otolaryngology/Head & Neck Surgery
D. Centre for Clinical Molecular Medicine/Dept of Medical Genetics
E. Centre for International Health
F. Department of Pathology and Oral Pathology, The Gade Institute
G. Laboratory for Oral Microbiology

H. In addition, collaboration (joint grants/publications and/or sharing of reagents/materials) is established with the following laboratories/institutions:

1. *Experimental rheumatic disease in murine models* (R. Holmdahl, Dept of Medical Inflammation Research, Lund Univ, Sweden)
2. *Genetic studies in Sjögren´s syndrome and Potential viral etiology of autoantibody (Ro) production* (J. Harley, Arthritis and Immunology Program, Oklahoma Medical Research Foundation, OK, USA)
3. *Anti-Ro and anti-La antibody studies* (M. Wahren, Centre for Molecular Medicine, Department of Rheumatology, Karolinska Institute, Stockholm, Sverige)
4. *Human/murine Ro and La antigens, aquaporins and muscarinic receptors* (T. Gordon, Tissue Typing and Immunogenetics, Flinders University Hospital, Adelaide, Australia)
5. *Muscarinic receptors and autoimmunity* (Ammon B. Peck, University of Gainesville, FL, USA)
6. *Clinic/Epidemiology of inflammatory rheumatic disease* (R. Omdal, Section for Clinical Immunology, Stavanger Hospital)
7. *Experimental model of Sjögren's syndrome* (Hal Scofield, Arthritis and Immunology Program, Oklahoma Medical Research Foundation, OK, USA)
8. *Integrins and matrix biology* (Donal Gullberg, Section for Physiology, Institute of Biomedicine, UoB)
9. *Mycobacterial immunity and vaccine development* (Harald G. Wiker, Section for Bacteriology, the Gade Institute, UoB)

MAJOR PROJECTS

- **Etiopathogenesis of autoimmunity with special reference to Sjögren's syndrome and rheumatoid arthritis** (part of this is PhD thesis work for Moen)

- **Apoptosis and its role in chronic inflammatory disease** (part of this is PhD thesis work for Szodoray)

- **Autoimmunity and pathogenesis of murine sialadenitis** (part of this is PhD thesis work for MV Jonsson)

- **The genetics of Sjögren´s syndrome; identification of susceptibility genes and global gene expression studies** (part of this is PhD thesis work for Hjelmervik)

- **Influenza and mucosal immunobiology group (FLUMID)** (PhD thesis work for Eriksson and Mittelholzer, post doc project Davidsson)

- **Immunology and oligonucleotides**
  (Postdoc project for Holen, medical student project Bjørge)

OTHER COLLABORATIVE PROJECTS:

- **Clinical evaluation and symptoms of the upper respiratory tract in patients with Sjögren's syndrome** (Hultén)

- **Relations between immune functions/cytokines, psychological status and cancer development** (Heimdal/Aarstad)

- **B-cell activity (anti-p24 and anti-gp120) in tonsils and peripheral blood from humans with HIV infection** (Voltersvik)

PUBLICATIONS from the LABORATORY in 2005

Mean (tentative) impactfactor (2004) for the top 5 publications = 9.33

Abebe F, Mustafa T, Nerland AH, Bjune G. Cytokine profile during latent and slowly progressive primary tuberculosis: a possible role for interleukin-15 in mediating clinical disease. Clin Exp Immunol 143:180-192, 2005.

Bolstad AI, Jonsson R. Gene therapeutics in Sjögren's syndrome. Expert Opin Biol Ther 5: 763-772, 2005.

Davidsson Å, Eriksson JC, Rudblad S, Brokstad KA. Influenza specific serum IgE is present in non-allergic subjects (Letter to the Editor). Scand J Immunol 62:560-561, 2005.

Delaleu N, Jonsson R, Koller MM. Sjögren's syndrome. Eur J Oral Sci 113:101-113, 2005.

Entersarian M, Matsson H, Klar J, Bergendahl B, Olson L, Arakaki R, Hayashi Y, Ohuchi H, Falahat B, Bolstad AI, Jonsson R, Wahren-Herlenius M, Dahl N. Mutations in the fibroblast growth factor 10 gene are associated with aplasia of lacrimal- and salivary glands. **Nat Genet** 37:125-127, 2005. Jan 16; [Epub ahead of print] (IF=24.695)

Garberg H, Jonsson R, Brokstad K. The serological pattern of autoantibodies to the Sjögren's syndrome autoantigens Ro52, Ro60 and La48 in Sjögren's syndrome patients and healthy controls. Scand J Rheumatol 34:49-55, 2005.

Harangi M, Kaminski WE, Fleck M, Orsó E, Zeher M, Kiss E, Szekanecz Z, Zilahi E, Marienhagen J, Aslanidis C, Paragh G, Bolstad AI, Jonsson R, Schmitz G. Homozygosity for the 168His variant of the minor histocompatibility antigen HA-1 is associated with reduced risk of primary Sjögren's syndrome. **Eur J Immunol** 35: 305-317, 2005. (IF=5.005)

Hjelmervik TOR, Petersen K, Jonassen I, Jonsson R, Bolstad AI. Gene expression profiling of minor salivary glands in primary Sjögren's syndrome clearly groups patients and healthy subjects. **Arthritis Rheum** 52:1534-1544, 2005. (IF=7.414)

Holen E, Bjørge O, Jonsson R. Dietary nucleotides and human immune cells. II. Modulation of growth and cytokine secretion. Nutrition 21:1003-1009, 2005.

Jonsson MV, Salomonsson S, Øijordsbakken G, Skarstein K. Elevated serum levels of soluble E-cadherin in patients with primary Sjögren's syndrome. Scand J Immunol 62:352-359, 2005.

Jonsson MV, Szodoray P, Jellestad S, Jonsson R, Skarstein K. Association between circulating levels of the novel TNF family members APRIL and BAFF and lymphoid organization in primary Sjögren's syndrome. J Clin Immunol 25: 189-201, 2005. (IF=2.361)

Jonsson R. A new scoring system for Sjögren's syndrome? Nature Clin Pract Rheum

1:78-79, 2005.

Jonsson R. The Nobel prize in physiology or medicine 2005 (Editorial). Scand J Immunol 62:497, 2005.

Jonsson R, Bowman S, Gordon TP. Sjögren's syndrome. In: *Arthritis and Allied Conditions - A Textbook of Rheumatology*, Koopman WJ & Moreland LW, eds. 15th Edit. Lippincott Williams & Wilkins, Philadelphia, 2005, pp: 1681-1705.

Kurien BT, Asfa S, LiC, Dorri Y, Jonsson R, Scofield RH. Induction of oral tolerance in experimental Sjögren's syndrome autoimmunity. Scand J Immunol 61: 418-425, 2005.

Lindqvist A-KB, Nakken B, Sundler M, Kjellén P, Jonsson R, Holmdal R, Skarstein K. Influence on spontaneous tissue inflammation by the major histocompatibility complex region in the NOD mouse. Scand J Immunol 61:119-127, 2005.

Moen K. Oral implications of rheumatoid arthritis – a clinical and immunological approach. Doctoral thesis. Univ of Bergen, 2005. ISBN: 82-308-0028-6.

Moen K, Bertelsen LT, Hellem S, Jonsson R, Brun JG. Salivary gland and temporomandibular joint involvement in rheumatoid arthritis: relation to disease activity. Oral Dis 11: 27-34, 2005.

Moen K, Brun JG, Eribe ERK, Olsen I, Jonsson R. Oral bacterial DNA in the synovial fluid from arthritis patients. Micr Ecol Health Dis 17:2-8, 2005.

Moen K, Kvalvik AG, Hellem, S, Jonsson R, Brun JG. The long-term effect of anti TNF-alpha treatment on temporomandibular joints, oral mucosa, and salivary flow in patients with active rheumatoid arthritis: A pilot study. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2005 Oct;100(4):433-440.

Omdal R, Brokstad KA, Waterloo K, Koldingsnes W, Jonsson R, Mellgren SI. Neuropsychiatric disturbances in SLE are associated with antibodies against NMDA receptors. Eur J Neurol 12:392-398, 2005. (IF=2.000)

Scofield RH, Asfa S, Obeso D, Jonsson R, Kurien BT. Immunization with short peptides from the 60 kD Ro antigen recapitulates the serological and pathological findings as well as the salivary dysfunction of Sjögren's syndrome. **J Immunol** 175:1409-1414, 2005. (IF=6.486)

Szodoray P. The role of B-cells in the pathogenesis of systemic autoimmune diseases – impaired processes involving B-cell activating factor and apoptosis. Doctoral thesis. Univ of Bergen, 2005. ISBN: 82-308-0041-3.

Szodoray P, Alex P, Jonsson MV, Knowlton N, Dozmorov I, Delaleu N, Jonsson R, Centola M. Distinct profiles of Sjögren's syndrome patients with ectopic salivary gland germinal centers revealed by serum cytokines and BAFF. Clin Immunol 117:168-176, 2005. (IF=3.034)

Szodoray P, Jonsson R. The BAFF/APRIL system in systemic autoimmune diseases with a special emphasis on Sjögren's syndrome. Scand J Immunol 62: 421-428, 2005.

5. EDITORIAL ACTIVITIES – *Scandinavian Journal of Immunology*

Since 1999 BRL has been serving as the central Editorial Office for ***Scandinavian Journal of Immunology.*** This activity means a number of international contacts in addition to the reviewing of scientific immunology papers. K. Frøland is part-time employed as Editorial Assistant with responsibilities for contacts with the publisher Blackwell Science, address lists for subscribers, economy etc.
Jonsson - Editor-in-Chief (shared responsibility): Scandinavian Journal of Immunology (1999 - present)
Jonsson - Editorial Board Member/Advisory Editor: Scandinavian Journal of Immunology (1995 - 1999); European Journal of Oral Sciences (1999 - 2005); Scandinavian Journal of Rheumatology (2000 – present); Arthritis & Rheumatism (2000 – 2004); Current Rheumatology Reviews (2004 – present); Up-to-date Rheumatology (2005 – present).

Referee: Annals of the Rheumatic Diseases, Arthritis Research, Arthritis & Rheumatism, Clinical and Experimental Rheumatology, Journal of Oral Pathology & Medicine, Journal of Rheumatology, Rheumatology, Scandinavian Journal of Immunology, Scandinavian Journal of Rheumatology, European Archives of Oto-rhino-laryngology.

6. LECTURES – SEMINARS - OTHER ACTIVITY

Roland Jonsson - 2005

Course master: Basic Course in Medical and Health Related Research, Faculty of Medicine, UoB (weeks 3+5, 35+36)

Invited speaker:
"Sjögren's syndrome – can we expect new molecular markers in the diagnosis", Ron Clarke Visiting Lecturer, and seminar "Animal models of Sjögren's syndrome – experience and opportunities", University of Queensland, Brisbane, Australia
"Oral manifestations of connective tissues disease", "Sjögren's syndrome – clinics and research", "The role of ectopic germinal centres in Sjögren's syndrome", "Animal models of Sjögren's syndrome – experience and opportunities", University of Sydney, Sydney, Australia
"Sjögren's syndrome – can we expect new molecular markers in the diagnosis", Flinders University Medical School, Adelaide, Australia

Evaluation of dr thesis – opponent: Uppsala 4/2, Göteborg 4/5, Oslo 23/11

Evaluation of research grant proposals:
The Academy of Finland – International Expert Evaluator 2005
The Danish Research Agency – International Expert Evaluator 2005

During this year R. Jonsson has been involved in organizing the following International Scientific Meeting(s): The Scientific Committee of "The 8th World Congress of Inflammation", Copenhagen 2007.

Appointed vice-chairman, the Gade Institute, with main responsibility for teaching, from 2005.