TuBS

Turku Graduate School of Biomedical Sciences

TuBS Handbook 2009

www.tubs.utu.fi

Administration

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Boardmembers

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Prof. Matti Poutanen

Prof. John Eriksson

Outi Irjala, Senior Administrative Officer, Faculty of Medicine

Nina Widberg, Graduate School Secretary

Acknowledgements

The name of TuBS (Turku Graduate School of Biomedical Sciences) should appear on the title page of your thesis and in the acknowledgements as well as as an official affiliation in all the publications and posters in the same way as departments, research programmes or MediCity laboratory do. This is common practice in many graduate schools.

Index

General Information about TuBS

Turku Graduate School of Biomedical Sciences (TuBS) is a graduate programme covering various fields of biomedical research, including immunology, developmental biology, receptor research and molecular medicine. Students from other faculties of the University of Turku as well as from the Åbo Akademi University can be registered in the Graduate School. The National Institute for Health and Welfare (THL) also contributes to TuBS.

The objective of the school is to offer multidisciplinary research education in cell and molecular biology to young, talented students with a basic education in either medicine or natural sciences. Students enrolled in the program are expected to graduate with a Ph.D or Dr. Med. Sci. (MD Ph.D) degree after four years of full-time studies. The formal teaching language of the Graduate School and the language of communication in the laboratories is English.

TuBS was established in 1995 with funding provided by the Ministry of Education, the Academy of Finland, University of Turku and Åbo Akademi University. It produces professional experts with wide skills and know-how for the needs of basic research, pharmaceutical companies and new biotechnological industry as well as health and environmental care.

The Goals

1. Lowering the age of doctoral students at dissertation

2. Reducing the duration of doctoral studies

3. Creating more effective supervision practices

4. Systematisation of doctoral studies

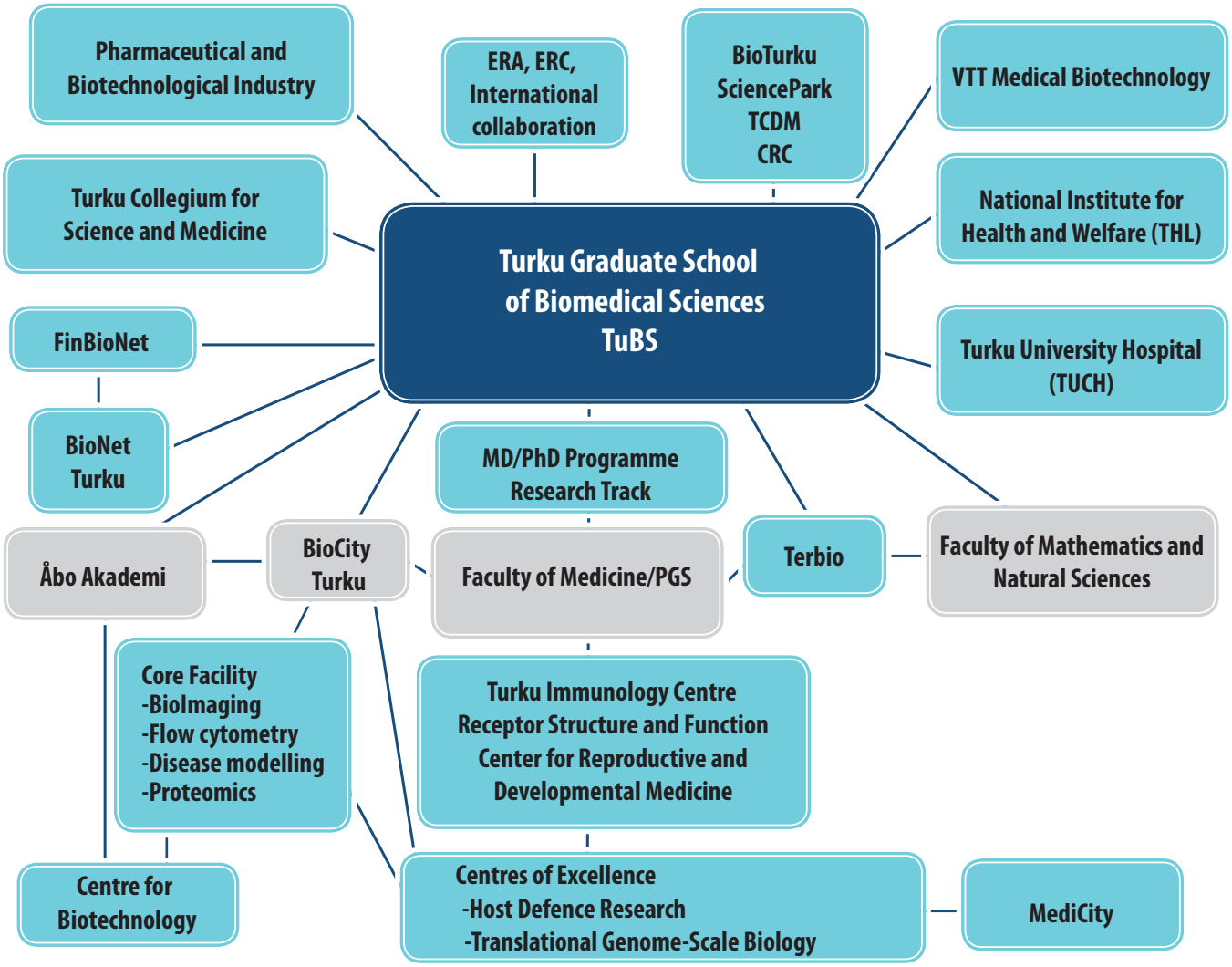
5. Internationalisation of doctoral studies

6. Increasing co-operation between universities, research institutions and industry

7. Creating innovative research and education environments

8. Promoting professional careers in research and establishing post-doc positions

Organisation



Annual Events & Activities

1. TuBS Annual Meeting*#

2. TuBS Summer School*

3. TuBS Meetings/Courses/Symposia*#

4. National Research Courses: FinBioNet

5. International Research Courses: CSHL, EMBO

6. BioCity Seminars*#

7. Annual BioCity Symposium*#

8. Journal Clubs

Mandatory participation for TuBS students* and

TuBS supervisors#TuBS supervisors#

Application & the Progress of Studies

Students of Medicine

Research track: 20 credits, 4 terms, rotations 1-3

Applying to TuBS

Application
- research plan
- personal study plan

Entrance examination
Interview

Annual Follow-up

Thesis committee
Progress report
Interviews
Feedback

Licenciate of Medicine, MD

Evaluation
1,5 years of funding

MD/PhD

MD & MSc applicants

Applying to TuBS

Application
- research plan
- personal study plan

Entrance examination
Interview

Annual Follow-up

Thesis committee
Progress report
Interviews
Feedback

MD/PhD or PhD

Responsibilities of Graduate Students

Students accepted to TuBS commit to

- full-time studies towards a PhD/MD PhD to be achieved in 4 years
- registering as a doctoral student at the University of Turku or Åbo Akademi University as well as registering their thesis project at their faculty
- following the recommended curriculum of TuBS in the theoretical and practical studies towards their doctoral degree
- forming a supervisory committee and organising its annual meeting
- reporting on their progress annually to the TuBS board

(See the attached Application form, page 27)

All TuBS graduate students must

- be registered as doctoral students at the University of Turku or the Åbo Akademi University. They must also register as attending at the university every year.
- arrange an annual meeting of their thesis committee
- report on their progress annually to the TuBS board (deadline September 30th)

Responsibilities of Research Supervisors

Research supervisors are responsible for their graduate students. They are the main influence on the direction of their research and their day-to-day research education and training. Supervisors are responsible for ensuring the continuity of funding for the graduate students accepted into the laboratory and into TuBS for the duration of their thesis project. The supervisors should plan for their graduate students to complete their PhD thesis within 4 years. Problems in maintaining this schedule should be identified as early as possible and remedied. If the problem persists, the supervisor or the student should discuss it with the director of TuBS.

It is essential that research supervisors take an active role in the graduate school and participate in the TuBS meetings and events. They must ensure that their students follow the guidelines of the graduate school. Participation in the graduate school activities is a prerequisite for the continuation of the funding for graduate students as well as research groups.

(See the attached Agreement on graduate student enrollment at TuBS form, page 28)

Thesis Committees

The thesis committees evaluate the quality and progress of the TuBS students' research projects. Each TuBS student must have a thesis committee that follows the progress of the thesis project and provides the student with guidance, advice and constructive criticism on the project.

The tasks of the thesis committees include

1. **following the progress of the graduate student**
2. **advising and assisting the graduate student in achieving research and study goals (one thesis committee members can also be collaborators in a part of the research if so agreed)**
3. **giving an annual statement on the progress of the student to the Board of TuBS**
4. **determining the time when the student is ready to proceed to the writing and the public defence of the final thesis.**

The thesis committee must have at least 3 members (the supervisor + 2 others), each with a doctoral degree. At least one of the members should be from another research group or department, preferably from another university. The thesis committee should be formed without delay when the student has been accepted to the graduate school. The student selects the committee in consultation with their supervisor. The Board of TuBS approves the composition of the thesis committee as well as any changes in it.

The thesis committee should be selected with care. The members of the committee should have substantial knowledge on the field of research in order to be able to give the student valuable insights on the subject and evaluate the progress of the project. As the annual thesis committee meetings are compulsory, please do not select members who are not likely to be able to participate.

Thesis committees should meet at least once a year. The graduate students who are in an early phase of their work may find it useful to arrange meetings more often. The student organises the thesis committee meeting and takes notes of it and writes a memo, which is then approved by the thesis committee. The memo of the meeting is to be attached to the progress report and the meeting itself is one of the prerequisites for receiving financing for the following year.

The graduate student is obliged to

- **organise the annual meeting of the thesis committee**
- **provide the committee with a written copy of a short research report in advance of the meeting**
- **give an oral summary of the research report to the committee**
- **take notes and prepare a report of the meeting which is approved by the members of the committee**
- **include the thesis committee report in the annual progress report handed to TuBS at the end of September each year**

Research Plan

A well composed research plan is a substantial and necessary part of graduate studies. A research plan should include the information required for the evaluation of the project. It should be specific, informative and without redundancies. The research plan must to cover the whole project and include the following:

1. Summary (1 page)

A clear and concise summary of the project. This is the most important part of a research plan.

2. Specific aims (1 page)

The broad, long-term objectives of the proposal. State the hypotheses to be tested. The recommended length is one page. The aims should be clearly defined and presented. The subprojects must to be linked to one another.
Important points to consider:
Are the aims original and innovative?
Does the project challenge existing paradigms or develop new methodologies or technologies?

3. Background and significance (2-3 pages)

This section is intended to introduce the reader to the field of research, including the main problems as they are presented in the literature. Briefly sketch the background leading to the present plan, critically evaluate existing knowledge, and specifically identify the gaps, which the project is intended to fill. State concisely the scientific importance of your research and also evaluate its possible relevance for applied aspects (e.g. advancing human health, health of the environment, industrial production etc.).
Details to consider:
The review has to be clear and sufficiently detailed. Identify the problems and questions that are still unanswered in your field of research. The review should not be a list of previous research but a synthesis and interpretation of the knowledge accumulated to the present date
Questions to answer:
Does your study address an important problem? If the aims of your proposed study are achieved, how will the scientific knowledge be advanced? What will be the effect of these studies on the concepts or methods that drive the field? Does the project employ novel concepts, approaches or methods? Is the work proposed appropriate to the experience level of the research group or other researchers?
Will the scientific environment in which the work is going to be done contribute to the probability of the success?

4. Current state of the project (2-3 pages)

Summarise your previous results, describe the ongoing studies including preliminary results and delineate forthcoming studies. Discuss in detail the experimental design, procedures and protocols to be used as well as the means by which the data will be analysed and interpreted. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Discuss the criteria that will be used to determine if feasibility has been demonstrated.
Questions to be answered:
Have you achieved any of the goals listed in the original aims ?
Are the conceptual framework, design, methods and analyses adequately developed, well integrated and appropriate to the aims of the study ?
Have you identified potential problem areas and considered possible alternative strategies ?
Do the performed, ongoing and planned experiments take advantage of unique features of the scientific environment or employ useful collaborative arrangements ?

5. Timetable (0.5 page)

Estimated finishing time of each specific aim and the suggested date for your thesis defence.
Question to be answered:
Is the timetable realistic?

6. References (1-1.5 pages)

Each reference must include the title, names of all authors, book or journal, volume number, page numbers, and year of publication. The references do not need to be exhaustive, they should be limited to the current relevant literature.

Progress Reports

TuBS students must hand in an annual progress report at the end of September each year. The report describes the student's progress and is a prerequisite for funding for the following year.

The progress report should include:

1) Updated version of your research plan

2) Progress report appendix

3) Updated study plan (koulutus/opintosuunnitelma)

4) Memo of a thesis committee meeting

The length of the progress report is up to 10 pages including references. It should be written under the guidance of the supervisor and thesis committee, who should also approve the progress report. **The deadline for handing in the progress reports is September 30th each year.**

Progress Report Appendix

The progress report appendix contains information about your scientific activities (posters, presentation, courses, grants etc.) and should be attached to your annual report. The following appendix form can also be found on the TuBS www-page ***(www.utu.fi/tubs)***.

Name:
Degree (if BM also give the number of your course):
Supervisor and thesis committee:

1. Publications of your thesis work:

1. Published and accepted for publication:
2. Submitted for publication
3. Manuscripts under preparation:

2. Other publications:

3. Oral presentations and seminars:

1. International meetings
2. National meetings
3. Local meetings

4. Poster presentations:

5. Working abroad:

6. Research training courses:

1. International method courses:
2. National research training courses:
3. Other courses:

7. Local seminar series:

8. TuBS summer school

9. Journal clubs:

10. Teaching experience:

Undergraduate/research education/other

11. Grant applications

1. Have you personally applied for a research grant/scholarship?
2. Have you received a grant?

12. Estimate how many % of your thesis project is completed:

13. Evaluation of your thesis committee:

14. Estimate of the month and year of completion of your thesis project:

Theoretical Studies
(University of Turku, Faculty of Medicine)

INSTRUCTIONS FOR COMPILING THE THEORETICAL STUDIES FOR A Ph.D IN MEDICINE OR DENTISTRY

Total 20 credits / 40 ECTS credits
(20 hours = 1 credit = 2 ECTS credits)

GENERAL STUDIES (10 ECTS credits)

1. General methods in scientific research (2 ECTS)´
Obligatory
Lääketieteen tieteenteoria (2 ECTS)

2. Electives (8 ECTS)
e.g. Practical statistics for medical scientists
Biostatistics for Clinicians
Medical Writing
Oral presentation skills
Vivisection/Laboratory animal course

SPECIALIST TRAINING (30 ECTS)

Specialist training comprises two components:

1. Coursework in research methodology (6 ECTS)

e.g. TuBS Symposia, seminars, Summer Schools, Summer Meeting
TIC seminars
CREDE seminars
BioCity seminars and symposia
Turku Infection Meetings
Courses on your own field of research

2. Electives (24 ECTS)

e.g. TuBS exam (9 ECTS)
Postgraduate courses at the University of Turku
National and international postgraduate courses
Research seminars, journal clubs etc. at the departments (max 6 ECTS)
Personal supervision (recommended max 4,5 ECTS)
Congresses (oral presentation/poster 1,5 ECTS) (recommended max 6 ECTS)
Literature examinations (recommended max 9 ECTS)
Working abroad

In order to receive credits, you must present proof of attendance (i.e. course certificate, statement from your supervisor or head of department). Some courses are entered into the study register based on the list of attendants (e.g. TuBS and PGS courses)

Only some examples of the applicable courses are mentioned. For more information about the courses available, please refer to the TuBS calendar, Turku BioNet seminar calendar ***http://www.biocity.turku.fi/index.php?id=860*** and the postgraduate study guide as well as notice boards

INSTRUCTIONS FOR COMPILING THE THEORETICAL STUDIES FOR A Ph.D at the Faculty of Medicine

Total 40 credits/60 ECTS credits

(20 hours = 1 credit = 2 ECTS credits)

1. **Postgraduate seminars**
   attendance presentation (2 ECTS)

2. **International and national scientific activities**
   national meeting: poster 1 ECTS, oral presentation 2 ECTS
   international meeting: poster 2 ECTS, oral presentation 4 ECTS

3. **Scientific work in a national/international university/research institution**
   2-24 ECTS based on the evaluation of the supervisor

4. **Writing a scientific publication**
   a published article not included in the thesis work (2-8 ECTS)

5. **National and international specialised courses**
   credits based on attendance

6. **Scientific postgraduate courses, pedagogical studies and language studies**
   credits based on attendance

The theoretical studies must form an entity which fulfils the requirements of the PhD degree. When you have compiled your studies, your supervisor will recommend their acceptance. The final decision about the acceptance of the studies is made by the faculty.

Salary

Some TuBS students receive their funding as salary from the graduate school. If you are on the payroll of TuBS, you will receive a Commencement of Employment (Työsuhteeseen ottaminen) form stating the dates of your employment and the amount of your salary. The commission is usually written for a relatively short period of time and renewed after the TuBS board has reviewed your progress. The maximum period of time you can receive salary from TuBS is 4 years. TuBS does not pay salary to students for more than 2 months after their dissertation date.

If you want to make any changes to the period of time you are hired by TuBS (due to other work, scholarships, military service, maternity leave etc.) you must fill in a 'virkavapaushakemus' form and hand it in to the TuBS office. If you will be taking maternity leave, you should notify TuBS as early as possible.

Students of Medicine – funding after the completion of medical studies

After the completion of their medical studies, the students work full-time in the research group to finish their thesis. Funding for this period will be granted providing that the student has passed Progress Evaluation.

The Progress Evaluation is done in two parts. The student is interviewed by the TuBS board, that will discuss the arrangements following the completion of medical studies. The student's thesis committee will also assess the student's progress. Passing this Progress Evaluation is required for subsequent funding from TuBS. If the student's progress is found acceptable, potential funding sources will be discussed with the supervisor.

Thesis

Information about the thesis requirements and the practicalities involved in handing in your thesis can be found on the www-page of the Faculty of Medicine (***www.utu.fi/med/tdk***, opinto-oppaat -> tieteellisen jatkokoulutuksen opinto-opas).

When handing in your thesis, you must be registered as a graduate student. There are certain deadlines for handing in you thesis, which determine your dissertation date (***www.utu.fi/med/tdk/tdkneuv.html***).

Advice for Doctoral Candidates

The University of Turku PR and Press office has put together guidelines for doctoral candidates, which include practical advice for your big day. ***http://www.utu.fi/viestinta/ohjeita/doctoral_candidate_guideline/index.html***

TuBS Travel Grants

The TuBS students are encouraged to work abroad in another laboratory or in a scientific collaboration project in order to learn new techniques. TuBS offers travel grants for this purpose as well as for attending high quality laboratory courses abroad. The travel grants are also available for national research courses organised by various graduate schools in Finland.

In order to receive a travel grant, you must write an informal application via e-mail to the director of TuBS and to the secretary of TuBS. The application should include the dates of your travel and the reason for it (name of the meeting/congress or laboratory) as well as an estimation of your travel expenses. You should also mention which part of the expenses will be covered by your supervisor and which you would like TuBS to cover. TuBS usually covers flights expenses. In special cases, such as laboratory visits and special laboratory courses, additional support can be provided.

More detailed information how to use the Personec Travel Management System (University of Turku) will be coming soon.

After your trip, you should write a travel report, including the name of the meeting/congress you attended or the site of the laboratory you visited as well as the dates of your travel. The travel report should also include the main advantages you feel you gained from your trip. The travel report should be e-mailed to the TuBS director and coordinator.

Highly Recommended Laboratory Courses and Meetings

Cold Spring Harbor Laboratory Meetings and Courses ***http://meetings.cshl.org/***

EMBO Courses ***http://www.embo.org/***

EMBL Conferences and Courses ***http://www.embl-heidelberg.de/***

Keystone Symposia ***http://www.keystonesymposia.org/DefaultYF.cfm***

TMR Programme - Scientific Meetings ***http://www.cordis.lu/tmr/src/summer1.htm***

FASEB Conferences and Courses ***http://www.faseb.org***

Gordon Research Conferences ***http://www.grc.uri.edu/***

Other Funds for Researcher Training and Education

The University of Turku Research Services maintains a research funding database (TURA) which includes Finnish funds and foundations, the Finnish Academy, Tekes and other public and private funding sources as well as Nordic, European and other international funding sources.

Based on this database, an information booklet, 'Apurahatiedote', is published four times a year. This can be accessed electronically from computers that are connected to the University of Turku network (***www.utu.fi/tutkimuspalvelut.html***).

More information about the TURA database and research funding in general can be obtained from the Research Services unit (tutkimuspalvelut@utu.fi, tel. 333 6165 or 333 6054).

The Turku University Foundation (Yliopistosäätiö) gives grants to young scientists.

More information can be found at ***http://org.utu.fi/ys/apurahat.html***.

University of Turku Medical Faculty Travel Grants

University of Turku Medical Faculty also offers grants for travels expenses. These grants are available for graduate students twice a year (autumn and spring). The application forms and more information about applying is available at the faculty office and www-site (***www.utu.fi/med/tdk***).

The Turku University Foundation (Yliopistosäätiö) also gives travel grants

(***http://org.utu.fi/ys/apurahat.html***)

Useful www-sites

TuBS ***www.tubs.utu.fi***

BioCity Turku ***http://www.biocity.turku.fi/***

National Research Training Courses, FinBioNet ***www.biocenter.helsinki.fi/finbionet/***

Faculty of Medicine, University of Turku ***www.utu.fi/med/tdk/***

Courses organised by Turku Postgraduate School of Heath Sciences ***www.utu.fi/med/tdk/PGSorganisaatio.html***

University of Turku, Guidelines for doctoral candidates

www.utu.fi/viestinta/ohjeita/doctoral_candidate_guideline/index.html

TuBS Supervisors

Laura Airas
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Marko Salmi
Mikko Savontaus
Mika Scheinin
Lea Sistonen
Stina Syrjänen
Anna-Marja Säämänen
Jorma Tenovuo
Jorma Toppari
Kid Törnquist
Matti Viljanen
Jukka Westermarck
Eero Vuorio
Kalervo Väänänen

Graduate student projects

Name of student	Research Project
Johanna Ahlskog	The role of post-translational modifications in regulation of HSF2
Jukka Alinikula	Regulation of B-cell receptor signalling by Ikaros
Julius Anckar	Specificity determinants and cofactors in SUMO-mediated regulation of heat shock factors
Antti Arjonen	Regulation of integrin trafficking in cancer
Tomoko Asaoka	Caspase -10 and c-FLIP isoforms in cell survival and death
Kaisa Auvinen	Endothelial adhesion molecules in inflammation
Nina Bergelin	Sphingosine 1-phosphate and vascular endothelial growth factor as modulators of thyroid cells
Johanna Björk	Interaction between HSF1 and HSF2 and the role of SUMO modification in the heat shock response
Susann Björk	Cell model systems to study α2-adrenergic receptor expression, regulation and signaling
Henri Blomster	Characterisation of novel interaction partners and their functions in the regulation of HSF1 and HSF2
Alexandra Elsing	Regulation of the heat shock factor HSF2 during mitosis and the interplay between HSF1 and HSF2
Susanna Grönberg-Vähä-Koskela	Role of immune cells in experimental autoimmune encephalomyelitis of the BALB/c mouse
Pauliina Hartiala	Borrelia and innate immunity-borrelial evasion mechanisms of the first line defence
Outi Heikkilä	Mechanisms of coxsackievirus A9 internalization: integrin interactions, entry routes and associated signalling events
Pekka Heikkinen	Hypoxic regulation of TGF- signalling
Mirkka Hirvonen	Osteoclast-specific Rab proteins
Maija Hollmén	ErbB receptors as potential drug development targets in cancer
Suvi Huttunen	T-cell reactivity to enterovirus coxsackie B4 proteins in the pathogenesis of Type 1 diabetes
Claire Hyder	The role of intermediate filaments in cell migration
Terhi Jokilehto	Novel hydroxylases in oxygen regulated cell metabolism
Eeva-Mari Jouhilahti	Schwann cell differentiation during development and tumorigenesis: NF-1 tumor suppressor gene deficient Schwann cells as a model
Juho Joutsa	The role of regulation of metalloproteinases in invasion of human squamous cell carcinomas
Juha Järvelä	Mechanims of glutamate-receptor mediated neuronal cell death in the developing hippocampus
Henna Järvenpää	The role of three phosphatases T helper cell signalling and differentiation
Teemu Kallonen	Molecular characterisation of Bordetella pertussis using integrated genomic approaches
Marika Karikoski	Mechanisms of leukocyte recirculation
Aura Kaunisto	Post-translational modifications of c-FLIP in modulation of death receptor responses

Johannes Keuschnigg	Leukocyte transendothelial migration: role of PV-1
Teija Kilpeläinen	Semicarbazide sensitive amine oxidase (SSAO) / VAP-1 in Bacteria
Katri Kivinen	Nuclear Matrix in Apoptotic Cell Death and Cell Proliferation - The Role of NuMA in Focus
Pekka Kohonen	Function of the Helios gene
Taina Korpela	The role of Ezrin in cancer progression
Ilpo Koskivirta	Heart and TIMP-4 Knockout mouse
Tiina Kuusinen	Identification of cellular regulators of viral replication and mode of cell death in semliki forest virus infection
Matti Lahti	The regulation and mechanism of integrin activation and it´s physiological role
Juha Laurila	Gene- and stem cell-therapy in tissue recovery
Juha Latva-Hirvelä	Studies on pathogenesis of experimental myocarditis
Johanna Lempainen	Congenital and perinatal virus infections and Type 1 Diabetes associated autoimmunity
Christoffer Löf	Regulation of intracellular calcium stores by sphingosine kinases
Oliver Meikar	Control of male germ cell differentiation by small regulatory RNA-s
Laura Mustonen	Molecular function of the transcription factor Pax5
Juho-Antti Mäkelä	Signaling mechanisms in testicular development and function
Jemiina Neuvonen	Borrelia-decorin interaction based anti-adhesion therapy for antibiotic treatment resistant lyme borreliosis
Jonna Nevo	Protein complexes involved in cell regulation – integrins and fatty acid-binding proteins (FABPs) in cancer cell signaling
Minna Niemelä	Role of novel MEK1-interacting protein complex in cancer progression
Mirja Nurmio	Effects of tyrosine kinase inhibitor imatinib mesylate on development of the rat testis
Michaela Nygårdas	Novel Herpes Simplex Virus vectors for gene therapy of EAE
Elisa Närvä	Identification of novel genes involved in maintaining pluripotency of human embryonic stem cells
Ilkka Paatero	Erbb receptors and tumor hypoxia
Hanna-Mari Pallari	The role of intermediate filaments in cell signaling – Nestin as a modulator and target in signal transduction
Jenni Paviala	Pre-receptor regulation of nuclear receptor signalling: role of hydroxysteroid (17-beta) dehydrogenases 2 and 9
Teijo Pellinen	Alpha2 integrin mediated signalling pathways: Identification of alpha2 integrin-associated cytoplasmis proteins and their role in cancer biology
Juha Peltonen	Cell models to study alpha-2-adrenoceptor activation
Riikka Riihonen	The role of membrane-bound carbonic anhydrases in osteoclasts
Anna-Leena Salmela	Screening for new mitotic regulators by using high-throughput RNAi in mammalian cells
Taija Saloniemi	Gonadal and non-gonadal effects of human hydroxysteroid (17-beta) dehydrogenase 1
Anton Sandqvist	Cooperativity between heat shock transcription factors 1 and 2

Hanna Taipaleenmäki	Chondrogenic differentiation of mesenchymal stem cells. Optimization of in vitro differentiation assay and evaluation of novel chondrogenic factors
Kati Tarkkonen	FGF-8 target genes in breast and prostate cancer cells
Minna Toivonen	The complete structure of the lysinuric protein intolerance (LPI) gene and the disease-associated aminoacid tranport defects in cells and tissues
Raine Toivonen	Targeted gene therapy for cancer and vascular disease
Mervi Toriseva	Matrix Metalloproteinases in Wound Repair
Soile Tuomela	Novel pathways regulating Th2 differentiation and pathogenetic characteristics of Th2 cells
Saara Tuomi	Alfa 5 beeta 1 in metastatic cancers
Heikki Turunen	Genetically modified mice for studying post-testicular sperm maturation and development of the epididymis
Ville Veikkolainen	Specific gene regulation by ErbB4 receptor isoforms
Anniina Vihervaara	Heat shock factors as regulators of spermatogenesis and immune responses
Karoliina Vuoriluoto	Integrins and their co-receptors in regulating cell adhesion and motility
Mariaana Vuoriluoto	Aurora B and Plk1 kinase pathways in cell division
Malin Åkerfelt	Analysis of direct target genes for HSF1 in development

TuBS Hall of Fame

1996			
1.	Kenth Henriksen	Regulation of Apoptosis during Spermatogenesis	Martti Parvinen
2.	Tapani Vihinen	Mouse Syndecan-1 Gene. Characterization of the Genomic Structure, the Entire Nucleotide Sequence and the Transcriptional Regulation	Markku Jalkanen
1997			
3.	Pia Isomäki	The Function and Phenotype of Synovial Mononuclear Cells in Rheumatoid Arthritis: Regulation by Cytokines	Juha Punnonen and Paavo Toivanen
4.	Jukka Westermarck	Transcriptional Regulation of Fibroblast Collagenase (MMP-1) Gene Expression	Veli-Matti Kähäri
1998			
5.	Tiina Santonen	Genotoxicity in Male Germ Cells. Effects of Mutagens on Spermatid Micronuclei, DNA Synthesis, p53 Expression and Apoptosis in Rat Testis	Jaana Lähdetie
6.	Maria Grazia Santagati	Virulence Determinants of Semliki Forest Virus	Aimo Salmi and Ari Hinkkanen
7.	Anna-Maija Kujari	Expression and Regulation of Adhesion Molecules in Inflammation	Sirpa Jalkanen
8.	Miia Lampisuo	Embryonic Development of Avian Lymphocyte Progenitors	Olli Lassila
9.	Jorma Määttä	Experimental Autoimmune Encephalomyelitis of the BALB/c Mouse	Ari Hinkkanen
10.	Varpu Kainulainen	Syndecans in Tissue Injury	Markku Jalkanen
11.	Petri Bono	Lymphocyte-Endothelial Cell Interactions: Molecular Analysis of Vascular Adhesion Protein 1 (VAP-1)	Sirpa Jalkanen
12.	Nina Johansson	Human Collagenase-3 (MMP-13) in Development and Malignant Transformation	Veli-Matti Kähäri
13.	Terhi Lehtinen	Integrin Type Collagen Receptors as Regulators of Matrix Related Alterations in Cell Behavior and Gene Expression	Jyrki Heino
14.	Eriika Savontaus	Anti-Obesity Effects of Adrenergic Drugs Activating Thermogenesis in Brown Adipose Tissue	Risto Huupponen and Markku Koulu
1999			
15.	Pasi Huttunen	Molecular Pathogenesis of Echovirus 1 Infection	Timo Hyypiä
16.	Tiina Pohjalainen	Variability in Striatal Dopamine D2 Receptor Binding Characteristics In Vivo: Role of Age, Sex and Genetic Factors	Jarmo Hietala and Erkka Syvälahti
17.	Sergei Nejentsev	Dissection of HLA-linked Type 1 Diabetes - Associated Genes and Use of HLA Markers for Type 1 Diabetes Prediction	Jorma Ilonen
18.	Kaisa Katevuo	ChT1 and T Cell Development	Olli Vainio
19.	Esa-Pekka Pälvimäki	Interactions of Antidepressant Drugs with Serotonin 5-HT2c Receptors	Jarmo Hietala

20.	Juho Rantakokko	Murine Cathepsin K: cDNA and Genomic Cloning and Role in Development of Experimental Osteoporosis	Eero Vuorio and Hannu Aro
2000			
21.	Sirpa Juhela	Type 1 Diabetes and Cellular Immune Response to Enteroviruses	Jorma Ilonen
22.	Johanna Ivaska	Cellular Collagen Receptors - Characterization of Specific Ligand Recognition and Signal Transduction Mechanisms / "Mandatum Biotech Prize 2000"	Jyrki Heino
23.	Kimmo Jaakkola	Vascular Adhesion Protein-1 as a Target for Anti-Adhesive Therapy and Inflammation Diagnostics	Sirpa Jalkanen
24.	Laura Ravanti	Regulation of the Expression of Human Collagenase-3 (MMP-13) - Implications for Wound Repair and Dermal Fibrosis	Veli-Matti Kähäri
25.	Jari Jalava	Molecular Detection and Identification of Bacteria Based on PCR and rRNA Phylogeny	Paavo Toivanen
26.	Janne Komi	The Effect of Antiestrogens on Antigen Presenting Cells and T Cells	Olli Lassila
27.	Marjo Pihlavisto	Characterization of Alpha-2-Adrenoceptor Activation - Functional Assays Based on Transfected Cells	Mika Scheinin
28.	Tim Holmström	The role of mitogen activated protein kinase p44/42 in FAS-mediated apoptosis	John Eriksson
29.	Lila Pirkkala	Differential Functions of Heat Shock Transcription Factors 1 and 2	Lea Sistonen
30.	Virve Luukkaa	The role of reproductive hormones in the regulation of the ob gene and leptin	Risto Huupponen
31.	Markus Halminen	Cytokine Messages Detected and Analysed in Type 1 Diabetes	Jorma Ilonen
32.	Matti Karvonen	Leucine 7 to Proline 7 Polymorphism in the Preproneuropeptide Y Identification of a Novel Genetic Marker for Cardiovascular Disease Risk	Markku Koulu
33.	Carina Holmberg	Phosphorylation-mediated Regulation of Heat Shock Transcription Factor 1	Lea Sistonen
34.	Christel Nilsson	A Common Genetic Variant of Luteinizing Hormone	Ilpo Huhtaniemi and Kim Petterson
35.	Heli Salminen	A Transgenic Mouse Model for Osteoarthritis	Eero Vuorio
36.	Niina Reunanen	Mitogen-activated protein kinases and extracellular matrix formation. Studies on the regulation of type I collagen, decorin and matrix metalloproteinases-1, -3 and -19 expression in human dermal fibroblasts	Veli-Matti Kähäri
2001			
37.	Hannele Uusitalo	Induction of Bone Repair by Bone Morphogenetic Protein-2 Using Adenovirus-Mediated Gene Transfer	Eero Vuorio and Hannu Aro
38.	Jussi Liippo	Ikaros and Aiolos transcription factors in early lymphopoiesis	Olli Lassila

39.	Johanna Ruohola	Angiogenic Growth Factors in the Hormone Regulation of Breast Cancer Growth	Pirkko Härkönen
40.	Tero-Pekka Alastalo	Cross-Talk Between Heat Shock Transcription Factors 1 and 2 Suggests A Novel Control Mechanism in The Cellular Stress Respons	Lea Sistonen
41.	Egle Simelyte	What Factors Determine Arthritogenicity of Bacterial Cell Wall? Experimental Study With Eubacterium and Lactobacillus Species	Paavo Toivanen
42.	Mirva Söderström	Human Chondrosarcoma. A Molecular Biologic, Immunohistologic and Epidemiologic Study on Finnish Patients	Eero Vuorio and Hannu Aro
43.	Sami Tohka	Leukocyte Adhesion to Endothelium In Vitro and In Vivo. Role of Vascular Adhesion Protein-1 (VAP-1)	Sirpa Jalkanen
44.	Anne West	Expression of pRb and the p53-Inducible Genes p21, Gadd45, mdm2 and Cyclin G During Spermatogenesis - With Special Reference to the DNA Damage Checkpoint in G1 Phase of Spermatocytes	Jaana Lähdetie
45.	Kati Härkönen	Genetic Aspects in Andrology – Studies on Sperm Chromosomes, Y Choromosome Microdeletions and Androgen Receptor Polymorphism	Jaana Lähdetie
46.	Oleg Anichtchik	Histaminergic regulation of the nigrostriatal system in the Parkinson's disease and the rat model of parkinsonism	Pertti Panula
47.	Tiina Henttinen	Role of Soluble Mediators in Leukocyte Activation and Adhesion to the Endothelium: Special Emphasis on Cytokine and Purine Mediated Pathways	Sirpa Jalkanen
48.	Maria Pajunen	Molecular Analysis of Yersinia Enterocolitica Serotype O:3 –Specific Bacteriophage fYeO3-12	Mikael Skurnik
49.	Cecilia Sahlgren	Phosphorylation-Mediated Regulation of the Intermediate Filament Protein Nestin	John Eriksson
2002			
50.	Jukka Kero	Gonadal and Extragonadal Actions of Chronically Elevated Luteinizing Hormone Secretion in Transgenic Mice	Ilpo Huhtaniemi
51.	Tommi Paukku	Gene Transfer Studies in Transgenic Mouse Gonadal and Adrenocortical Tumor Cells	Ilpo Huhtaniemi
52.	Risto Ala-aho	Human Collagenase-3 (MMP-13) in Tumor Growth and Invasion	Veli-Matti Kähäri
53.	Juha-Pekka Pursiheimo	Protein Kinase A: Regulator of Growth Factor-Induced Responses	Markku Jalkanen
54.	Matti Ahonen	Characterization of Tumor Suppressor Effect of Tissue Inhibitor of Metalloproteinases-3 (TIMP-3)	Veli-Matti Kähäri
55.	Heikki Irjala	An Immunotherapeutic Approach to Cancer of the Head and Neck	Sirpa Jalkanen and Reidar Grenman
56.	Tina Lozada	Brain Histamine in the Regulation of Mammalian Hibernation	Pertti Panula

2003			
57.	Sami Ventelä	Regulation of Spermatogenesis: Differentation of GFP-labeled Stem Cells and the Function of Cytoplasmic Bridges	Martti Parvinen
58.	Ilkka Jaakkola	Lymphocyte Traffic and Adhesion Receptors in the Pancreas and the Gut: Special Emphasis on Autoimmune Diabetes	Sirpa Jalkanen and Arno Hänninen
59.	Kimmo Salminen	Enteroviruses and type 1 Diabetes. Evaluation in Finnish Prospective Series	Heikki Hyöty
60.	Riikka Ihalin	Horseradish Peroxidase – Iodide System; a Potential Antibacterial Agent against Periodontal Pathogens in Human Saliva	Jorma Tenovuo
61.	Tuire Olli-Lähdesmäki	Cellular Regulation of Human a2-Adrenoceptors; Studies on Receptor Targeting, Trafficking and Signalling	Mika Scheinin
62.	Eeva-Marja Rainio	Role and Regulation of Pim Kinases in Lymphocytes	Päivi Koskinen
63.	Petra Sipilä	Generation and Use of Transgenic Mice and Mouse Epididymal Epithelial Cell Lines in Studying the Role of Epididymis in Sperm Maturation	Matti Poutanen and Ilpo Huhtaniemi
64.	Stefanie Tran	Modulation of death receptor-mediated apoptosis by mitogen and stress-induced signalling	John Eriksson
65.	Maija-Liisa Kalliomäki	Expression and regulation of two RFamide peptide genes in the rat	Pertti Panula
66.	Johanna Mäkinen	Molecular characterization and evolution of Bordetella Pertussis and Bordetella Parapertussis, with special reference to pertactin and pertussis toxin antigens	Matti Viljanen, Jussi Mertsola and Qiushui He
67.	Kimmo Koskela	Molecular and functional chracterization of avian gamma delta T cells and B cells	Olli Lassila
68.	Heli Harvala	Molecular Pathogenesis of Coxsackievirus Infections. The Specific Role of the RGD Motif in the CAV	Timo Hyypiä
69.	Minna Tuittila	The role of the replicase proteins in Semliki Forest virus neurovirulence	Ari Hinkkanen
70.	Jenni Heikkinen	Immune regulation in the human decidua	Olli Lassila and Anna Alanen
71.	Ville Hietakangas	Posttranslational regulation involved in HSF1 – and HSF2 -mediated transcription	Lea Sistonen
72.	Sanna-Mari Maula	Adhesion molecules in the dissemination and the prognosis of cancer: special reference to CD44, VAP-1 and LYVE-1	Sirpa Jalkanen and Raija Ristamäki
73.	Tao He	Post-Translational Modifications of Intermediate Filament Proteins - Implications for Cell Signaling	John Eriksson
2004			
74.	Eeva Broberg	Herpes Simplex Virus Type 1 (HSV-1) Infection and HSV-Based Vectors in Treatment of Experimental Autoimmune Encephalomyelitis in BALB/c Mice	Veijo Hukkanen
75.	Otto Rahkonen	Extracellular matrix and its Turnover in Murine Cardiovascular System in Normal and Transgenic Mice	Eero Jokinen and Eero Vuorio
76.	Pekka Koistinen	AlphaV integrins in cancer	Jyrki Heino

77.	Riikka Lund	Identification of novel genes involved in the early differentiation of th1 and th2 cells	Riitta Lahesmaa
78.	Milja Möttönen	Functional regulation of antigen-presenting cells and T cells in rheumatoid arthritis	Olli Lassila
79.	Hannu Turpeinen	Contribution of immunoregulatory genes to genetic susceptibility to type 1 diapetes – association and linkage studies	Jorma Ilonen
80.	Sanna Oksjoki	Connective tissue turnover in normal and polycystic ovaries	Leena Anttila & Eero Vuorio
81.	Katriina Peltola	Signaling in cancer: Pim-1 kinase and its partners	Päivi Koskinen
82.	Pia Nieminen	Differentiation of hematopoietic stem cells into B lymphocytes	Olli Lassila
83.	Saku Sinkkonen	Imaging and properties of extrasynaptic GABA(A) receptors in the brain	Esa Korpi
84.	Pasi Koskimies	The Function and Regulation of the Insulin-like 3 (Insl3) Gene	Matti Poutanen
85.	Vilhelmiina Parikka	Regulation of bone cell function by 17beta-estradiol and SERMs	Kalervo Väänänen
86.	Riku Kiviranta	The role of cathepsin K in bone remodeling. Generation of transgenic, knockout and conditional knockout mouse models	Eero Vuorio
87.	Petra Furu	The Pathogenesis of Experimental Autoimmune Encephalomyelitis of the Balb/c Mouse: Role of lymphokines and matrix metalloproteinases	Ari Hinkkanen
88.	Marko Kaleva	Congenital cryptochidism. Studies on prevalence, etiology and treatment of cryptochidism	Jorma Toppari
89.	Pekka Taimen	Nuclear mitotic apparatus protein in cell proliferation and programmed cell death	Markku Kallajoki
90.	Marina Merne	Effects of smokeless tobacco on oral mucosa in vitro and in vivo	Stina Syrjänen
2005			
91.	Ville Kytö	Fatal myocarditis with special reference to viral etiology and cardiomyocyte apoptosis	Liisa-Maria Voipio-Pulkki
92.	Jori Ruuskanen	Comparative molecular and functional analysis of human and zebrafish alpha2-adrenoceptors	Mika Scheinin
93.	Minna Poukkula	Staying Alive. Modulation of TRAIL-induced Apoptosis by Ubiquitination and Phosphorylation	John Eriksson
94.	Kaisa Ivaska	Osteocalcin. Novel insights into the use of osteocalcin as a determinant of bone metabolism	Kalervo Väänänen
95.	Kirsi Joronen	Studies on the role of matrix metalloproteinases and their inhibitors in inflammatory arthritides in the mouse	Eero Vuorio
96.	Tommi Ahonen	Characterization of signal transducer and activator of transcription 5 (STAT5) -dependent survival of prostate cancer cells	Pirkko Härkönen & Marja T. Nevalainen

97.	Teija Aho	Pim kinases in regulation of hematopoietic cell fate	Päivi Koskinen
98.	Teemu Junttila	Signaling Mechanisms and Prognostic Significance of ErbB4 Isoforms in Cancer	Klaus Elenius
99.	Terhi Heino	Osteocytes as Regulators of Bone Resorption and Bone Formation	Kalervo Väänänen
2006			
100.	Suvi-Katri Leivonen	The Role of Smad and Mitogen-Activated Protein Kinase Signaling in Transforming Growth Factor-beta-Induced Extracellular Matrix Remodeling	Veli-Matti Kähäri
101.	Tuomas Mirtti	Tissue Markers and Molecular Mechanisms in Pathogenesis and Clinical Progression of Prostate Cancer	Kalle Alanen, Markku Kallajoki, Jyrki Heino
102.	Melissa Junttila	Regulation of mitogen-activated protein kinase pathways in cancer	Veli-Matti Kähäri
103.	Jussi Niemelä	Control of Inflammation, Leukocyte Trafficking and Endothelial Barrier Function by CD73	Laura Airas, Sirpa Jalkanen
104.	Mikael Maksimow	Dendritic Cell Vaccination in the Induction of Immunity or Tolerance	Arno Hänninen
105.	Jutta Peltoniemi	Immunomodulative treatment and experimental virus infections of the central nervous system	Veijo Hukkanen, Juha-Pekka Erälinna
106.	Emmi Ylikoski	Novel Mechanisms involved in Human T Helper 1 Cell Differentiation	Riitta Lahesmaa
107.	Anu Puomila	Genetics of Monosymptomatic Hereditary Optic Neuropathies	Kirsi Huoponen, Eeva Nikoskelainen
108.	Jenni Jalkanen	Discovery and characterization of novel genes expressed in the mouse epididymis	Matti Poutanen, Ilpo Huhtaniemi
109.	Arto Pulliainen	Bacterial H2O2 resistance in the absence of catalase: from gene identification to structure-functional understanding in streptococci	Jukka Finné
110.	Päivi Östling	Characterization of heat shock factor 2 as a transcriptional regulator	Lea Sistonen
111.	Tomas Blom	Sphingolipid-mediated regulation of cellular calcium signaling and survival	Kid Törnquist
112.	Kalle-Pekka Nera	Regulation of B cell function by Pax5 and Ikaros	Olli Lassila
2007			
113.	Elli Narvi	Aiolos and B Cells	Olli Lassila
114.	Markus Vähä-Koskela	Construction and characterization of a replication-competent expression vector based on avirulent Semliki Forest virus	Ari Hinkkanen

115.	Annika Meinander	Regulation of Death Receptor Responses by Hyperthermia	John Eriksson
116.	Maritta Löytömäki	Immunopathogenesis of Asthma and Atopic Diseases – Specific role of a selected panel of genes in human T helper cell differentiation	Riitta Lahesmaa
117.	Kirsi Rautajoki	Regulatory mechanisms involved in Th2 cell differentiation. A proteomics approach	Riitta Lahesmaa
118.	Maria Sundvall	Signaling of ErbB4 Isoforms in Cancer	Klaus Elenius
2008			
119.	Erika Iivanainen	ErbB Ligands in Angiogenesis	Klaus Elenius
120.	Maija Valta	Fibroblast growth factor 8 in the progression of hormonal cancer, bone metastasis and cancer-associated bone formation	Pirkko Härkönen
121.	Anu Kallio	The effects of Selective Estrogen Receptor Modulators on the death of breast cancer cells and osteoblastic cells	Pirkko Härkönen
122.	Aino Rönnblad	Transgenic mouse models for studying the abnormal regulation and endocrine functions of prolactin and progesterone	Matti Poutanen
123.	Thomas Söderström	Regulation of Death Receptor-Mediated Apoptosis in T-cells	John Eriksson
124.	Petteri Ahtiainen	Regulating Mechanisms of Gonadal and Pituitary Tumorigenesis in Mice Producing Human Chorionic Gonadotropin	Ilpo Huhtaniemi
125.	Leena Ahonen	Mitotic Regulation by Polo-Like Kinase 1 and the Chromosomal Passenger Complex	Marko Kallio
126.	Nina Westerlund	Cytoskeletar effectors of JNK in regulating nerve cell architecture and migration	Eleanor Coffey

Application

Name

Address

E-mail

Phone

Date and Place of Birth

Student ID Number	Registered as a Doctoral Student Yes No
Nationality	Sex Female Male

Degrees (M.Sci., M.D., or a corresponding degree; year, university)

Department, University and Faculty of Doctoral Study

Start of research for doctoral studies (month/year)	Number of credits already accomplished in doctoral studies

Supervisor(s) (name, position, affiliation)

Title of Research Plan

As TuBS student I will

- Register as a doctoral student at the University of Turku or Åbo Akademi
- follow the recommended curriculum of TuBS in the theoretical and practical studies towards my degree
- organise an annual meeting of my thesis committee
- report annually to the TuBS board on my progress
- commit to full-time studies towards a PhD/MD PhD to be achieved in 4 years

Date and Signature

Attachments

- Application letter in free form (1 page)
- Curriculum Vitae (including publications)
- Research Plan (see www.tubs.utu.fi/students/downloads.html for guidelines)
- Study Plan
- Agreement on graduate student enrollment at TuBS

Agreement on graduate student enrollment at Turku Graduate School of Biomedical Sciences

This is an agreement that the named student is enrolled in Turku Graduate School of Biomedical Sciences

(TuBS) between 1.1.2009-31.12.2012 or until graduation. The graduate school position is for a maximum of four years, but graduation is expected as soon as the student has completed the curriculum. Progress of the student is monitored by annual thesis committee meetings. Passing the annual meeting is a prerequisite for continuing funding.

Name of the Applicant

Title of Research Plan

Supervisor (Name, Position, Affiliation)

Contact (address, phone, e-mail)

This agreement confirms that the supervisor is affiliated with TuBS and thereby participates in maintaining and developing the school curriculum.

This agreement also confirms equal sharing of total labor costs of the student for the named period. The salary of the student is paid by Turku Graduate School of Biomedical Sciences (TuBS), and the University of Turku is the employer. TuBS charges 50% of labor costs from the supervisor in every six months.

Date

Signature of the Supervisor

Olli Lassila

Vice Dean, Faculty of Medicine

Director, Turku Graduate School of Biomedical Sciences