

The RAGNAR GRANIT

INSTITUTE NEWS

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Season's Greetings

The personnel of the Ragnar Granit Institute thank all their friends for good co-operation during 1998 and wish everyone a Merry Christmas and a successful New Year 1999.

2nd International Conference on Bioelectromagnetism was held in Melbourne, February 1998

The 2nd International Conference on Bioelectromagnetism (ICBEM) was held at Monash University in Melbourne, Australia 15.-19.2.1998. President of the Conference was Professor **Irena Cosic**. The Conference was organized under auspices of the International Society for Bioelectromagnetism (ISBEM) and in co-operation with IEEE-EMBS and IFMBE. Professor **Jaakko Malmivuo**, President of ISBEM served as Co-Chairman of the Scientific Committee and Member of the International Advisory Committee.

The conference was participated by about 150 participants from all over the world. About 100 scientific papers were presented at the conference.

The Plenary Talk was given by **Wilson Greatbach**, inventor of the pacemaker.



Wilson Greatbach: *"I am sure that the term Bioelectromagnetism means many different things to many different people. To me it means: The Coalescence of the Sciences"*

Please visit our WWW-page which gives more information about our research:
www.cc.tut.fi/~malmivuo/BEM/bem.htm

1st Ragnar Granit Prize for Young Scientists

At the 2nd ICBEM the 1st Ragnar Granit Prize for Young Scientists was awarded. The Prize is given by the Ragnar Granit Foundation and its value is 1000 US\$. The Prize was awarded to **Paul H. Fleischmann** from the Institute of Biomedical Engineering of the Graz University of Technology, Graz, Austria. His paper was entitled: "Computer Simulation of Bundle Branch Re-entry in a 3D Cellular Automata Model of the Heart" and co-authored by Prof. **Paul Wach**.



Paul H. Fleischmann

11th Nordic-Baltic Conference on Biomedical Engineering in Tallinn, Estonia, June 1999

The 11th Nordic-Baltic Conference on Biomedical Engineering will be organized in Tallinn, Estonia, June 1999. President of the conference will be Professor **Hiie Hinrikus** from Tallinn Technical University.

The Ragnar Granit Institute will organize a Preconference Course on Bioelectromagnetism. The Institute will also organize a Symposium on Biomedical Engineering Education. From the RGI, Professor **Jaakko Malmivuo** will serve as a member of the International Advisory Committee and Dr **Jari Hyttinen** as a member of the Scientific Committee of the conference

At the conference the 2nd Ragnar Granit Prize for Young Scientists will also be awarded.

www.cb.ttu.ee/nbc99

3rd International Conference on Bioelectromagnetism in Slovenia, October 2000

The Slovenian Society for Biomedical Engineering will organize the 3rd International Conference on Bioelectromagnetism in Slovenia, October 2000. For more information please contact Dr. **Damijan Miklavcic** of the Slovenian Society for Biomedical Engineering:

damijan@svarun.fe.uni-lj.si

or the WWW-page of the International Society for Bioelectromagnetism:

www.cc.tut.fi/~malmivuo/ISBEM/isbem.htm

6th Ragnar Granit Symposium: EEG Meets MRI

For the sixth time Ragnar Granit Institute welcomes researchers around the world to attend the next Ragnar Granit Symposium. The topic of the Symposium is "EEG Meets MRI" and it will be organized May 20-21, 1999 at Tampere. Professor **Hannu Eskola** will serve as chairman of the organizing committee.

The background of the topic is the rapid development in methods and accuracy of both EEG and MRI. Sixteen top speakers from five countries will introduce and discuss the recent methodology of both modalities, as well as techniques for combining the data. In addition to the lectures, practical realizations of 256-channel EEG recording and various software tools will be demonstrated.

The inexpensive pre-registration fee (before April 16, 1999) is FIM 500. You can find the program and detailed information at:
www.ee.tut.fi/rgi/SYMPOSIA/6TH/

International Graduate School on Bioelectromagnetism and Medical Informatics

Ragnar Granit Institute coordinates the International Graduate School on Bioelectromagnetism and Medical Informatics. In addition to collaborators at Tampere, the School has co-operating partners in different cities in Finland and abroad.

The School finances one graduate student position at the RGI. On 1st of August 1998 Lic.Tech **Jari Viik** was appointed to this position. His studies are focused to characteristics of standard ECG leads in the detection of the coronary artery disease. Characteristics of individual leads and different lead sets will be studied by the ST and ST/HR variables. The study includes over 1500 patients from different Finnish hospitals.

Within this Graduate School, in addition to other graduate courses, two large international graduate courses will be organized: 6th Ragnar Granit Symposium EEG meets MRI, and Preconference Course on Bioelectromagnetism, 4.-5.6.1999, Tallinn. *www.tut.fi/bemgs/*

Rami Lehtinen Appointed Postdoctoral Researcher of the Academy of Finland

Dr.Tech. **Rami Lehtinen** was appointed as Postdoctoral Researcher (tutkijatohtori) of the Academy of Finland for 1.8.1998-31.7.2001. The position was given by the Research Council for Health. This is an important recognition of the interdisciplinary nature of our research.

Rami Lehtinen continues the development and evaluation of the ST/HR hysteresis in a multicenter study. The results obtained in a clinical population of 347 patients at Tampere University Hospital suggest that by the ST/HR hysteresis the diagnostic accuracy of exercise ECG analysis can be improved from the present 75% near to 90%. The objective of the multicenter approach is to validate this improvement, to develop the ST/HR hysteresis further and evaluate its prognostic value, and to clinically implement the ST/HR hysteresis.

alpha.cc.tut.fi/~rami/sthr.htm

Discussion Group in BEM

To inform about conferences, new publications etc., ISBEM and the RGI have established a discussion group in the field of Bioelectromagnetism at *bem@cc.tut.fi*. You may join this group by sending an e-mail to the address *majordomo@cc.tut.fi* with the contents: "subscribe bem [your_e-mail_address]"

Katariina Lahti Completed her Doctoral Thesis at Worcester Polytechnic Institute

Ms. **Katariina Lahti**, student of the RGI, visited Worcester Polytechnic Institute, Worcester, Maryland, U.S.A. for 1993-1998. During that time she prepared her Ph.D. Thesis on the subject "Novel Functional Magnetic Resonance Imaging and Spectroscopic Imaging Techniques in Pre-clinical Modeling" under the supervision of Professor **Robert Peura**.

It is interesting to learn that Professor Peura's family originates from Tampere, Finland.

Jaakko Malmivuo Appointed Member of the IEEE EMBS Administrative Committee

Professor **Jaakko Malmivuo** was elected Member at Large of the Institute of Electrical and Electronics Engineers (IEEE), Engineering and Medicine Society (EMBS) Administrative Committee. Members of the Administrative Committee usually represent certain geographical regions of the world. The so called members at large do not represent any region and thus balance the committee. The term lasts until the year 2000. www.ewh.ieee.org/soc/embs/

Survey of Persons having Studied Biomedical Engineering at the RGI since 1976

We have finished the survey of those persons who have studied Biomedical Engineering at the RGI since 1976. Their total number was 290 and over 75% gave a response. The research work for the survey was made by Lic. Tech **Jari Viik**.

According to the survey:

- 90% have found a job within 3 months of their graduation
- correspondence between work and education improved in recent years
- every other's first job description related to Biomedical Engineering
- every third employed in a managerial position

- every other still in Tampere
- a lot of interest in establishing a company
- language skills form the most significant area of expertise
- more project and teamwork desired
- education provided by the Institute was deemed to be good, interesting and distinguished.

The final report is available as a printed booklet in Finnish and in English. If you want to have a copy of the booklet please contact the Institute Secretary, Ms. **Soile Lönnqvist** at lonnqvist@adm.tut.fi.

The report is also available at the Web in the address: www.ee.tut.fi/rgi/BME-SURVEY/

Nobel Laureate Edwin Neher Visited the RGI

Professor **Edwin Neher** from the Max Planck Institute, Göttingen, Germany, visited Ragnar Granit Institute on 27th August, 1998. Professor Neher won the Nobel Prize in Physiology or Medicine in 1991 together with Professor **Bert Sakmann** for their discoveries concerning the function of single ion channels in cells. They developed the patch-clamp technique which allows measuring the ionic currents in individual ionic channels of the cell membrane. This technique is essential in examining the bioelectric behavior of the excitable cells. It also has wide applications in other fields of science like in pharmaceutical research.

www.nobel.se/laureates/medicine-1991.html



Professor Edwin Neher