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**LFTY ONLINE TIEDOTE 4/07** <http://www.lfty.fi>  
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- 1) FM Heikki Nieminen väitteli nivelruston akustisista ominaisuuksista
- 2) FinnWell uutiset: Strategisen huippuosaamisen keskukset valmisteilla
- 3) FinnWell-ohjelma avasi uuden julkisen tutkimuksen haun
- 4) Two PhD Positions in Bioimaging/Biomechanics
- 5) Analysis and Identification of Linear and Nonlinear Systems, September 2007, University of Oulu
- 6) Usability & HCI for Medicine and Health Care, 22.11.2007, Graz, Austria
- 7) PervasiveHealth Conference, 30.1-2.2.2008, Tampere

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### 1) FM Heikki Nieminen väitteli nivelruston akustisista ominaisuuksista:

FM Heikki Niemisen väitöskirja "Acoustic Properties of Articular Cartilage: Effect of Structure, Composition and Mechanical loading" tarkastettiin 11.5.2007 Kuopion yliopistossa. Vastaväittäjänä toimi Apulaisprofessori Yongping Zheng (Hong Kong Polytechnic University) ja Kustoksena Professori Jukka Jurvelin (Kuopion yliopisto).

Kuopion yliopiston tiedote:

<http://www.uku.fi/vaitokset/2007/ISBN978-951-27-0689-1hnieminen.htm>

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### 2) FinnWell uutiset: Strategisen huippuosaamisen keskukset valmisteilla:

Suomeen perustetaan viisi strategisen huippuosaamisen keskittymää, joiden valmistelu on parhaillaan käynnissä. Yksi keskittymistä on terveys ja hyvinvointi. Sen perustamista valmistelee Tekesissä selvitysmies \*Niilo Saranummi\*.

Valmistelun tavoitteena on käydä vuoden 2007 aikana keskusteluja keskeisten toimijoiden, erityisesti yritysten kanssa. Neuvottelujen tarkoitus on selvittää toimijoiden näkemyksiä ja tarpeita keskittymän sisällöstä ja organisoinnista. Selvityksen välituloksista järjestetään keskustelutilaisuuksia ja työpajoja.

Lue lisää:

- \* Osaamiskeskittymät terveys ja hyvinvointi  
<[http://www.tekes.fi/osaamisenkeskittymat/terveys\\_ ja\\_hyvinvointi.html](http://www.tekes.fi/osaamisenkeskittymat/terveys_ ja_hyvinvointi.html)>
- \* Osaamiskeskittymät ajankohtaista  
<[http://www.tekes.fi/ajankohtaista/uutisia/uutis\\_tiedot.asp?id=5739&paluu=>](http://www.tekes.fi/ajankohtaista/uutisia/uutis_tiedot.asp?id=5739&paluu=>)
- \* Osaamiskeskittymät <<http://www.tekes.fi/osaamisenkeskittymat/>>

Lisätietoja:

- \* Selvitysmies Niilo Saranummi, puh. 010 60 55824,  
sähköposti: [etunimi.sukunimi@tekes.fi](mailto:etunimi.sukunimi@tekes.fi)
- \* Toimialajohtaja Pia Paaso, puh. 10 60 55823, sähköposti:  
[etunimi.sukunimi@tekes.fi](mailto:etunimi.sukunimi@tekes.fi) <<mailto:etunimi.sukunimi@tekes.fi>>

Kaikki Finnwell uutiset luettavissa FinnWell-ohjelman verkkosivuilla: <http://www.tekes.fi/finnwell>

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### 3) FinnWell-ohjelma avasi uuden julkisen tutkimuksen haun:

FinnWell - terveydenhuollon teknologiaohjelman julkisen tutkimuksen projektien hakuprosessi on käynnistynyt. Tutkimushaku on vuonna 2009 päättyvän ohjelman viimeinen. Tutkimushaku kohdistuu soveltavaan tutkimukseen, joka liittyy terveyden edistämiseen.

Hakuprosessi toteutetaan kahdessa vaiheessa. Aiehaku on avattu 1.6.2007 ja se päättyy 13.8.2007. Aiehaussa valitaan jatkoon ne tutkimusaie-esitykset, jotka täyttävät valintakriteerit parhaiten. Tekes pyytää jatkoon valituilta esityksiltä varsinaiset hakemukset syys-lokakuun 2007 aikana.

Tavoitteena on käsitellä varsinaiset hakemukset vuoden 2007 loppuun mennessä ja tehdä rahoituspäätökset tammikuussa 2008.

Yritykset ja kolmannen sektorin toimijat edelleen voivat jättää hakemuksia jatkuvasti koko FinnWell-ohjelman aihe-alueelta.

Haun sisältöä esitellään FinnWell-ohjelman vuosiseminaarissa 8.6. Seminaarin Ohjelma sekä alueellisissa tiedotustilaisuuksissa seuraavasti:

- \* Oulu 18.6 kello 9 – 10.30
- \* Jyväskylä 18.6 kello 12 – 16
- \* Turku 19.6 kello 12 – 14
- \* Kuopio 20.6 kello 9 – 10.30
- \* Tampere 20.6 kello 14 - 16

Lisätietoja tutkimushausta verkkosivuilta: <http://www.tekes.fi/finnwell>

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#### **4) Two PhD Positions in Bioimaging/Biomechanics:**

With recent advances in genetics and molecular medicine there is a strong need for new procedures and technologies to facilitate biological quantification for structure function assessment in the life sciences, such as in skeletal research. There, a number of new microstructural imaging modalities have been put forward allowing phenotypic quantification with high precision and accuracy in humans and animals, especially in the mouse. In the Müller Group, new strategies for 3D approaches for quantitative bioimaging are investigated. Micro-computed tomography ( $\mu$ CT) is such an approach used to image and quantify bone in three dimensions (3D) providing isotropic resolutions ranging from a few millimeters down to one hundred nanometers. Recently, a synchrotron radiation (SR) based nano-tomography (nanoCT) station has been designed and implemented at the Swiss Light Source (SLS) of the Paul Scherrer Institut (PSI) allowing 3D and fully nondestructive access to the ultrastructure of biological materials.

Within our Laboratory for Structure Function and Genetics (LSFG) we currently follow three specific aims:

- 1) Develop new techniques and methods for quantitative phenotyping of bone, using microCT and nanoCT.
- 2) Develop and establish high-throughput functional phenomics for genetic linkage studies dedicated to bone ultrastructure, using nanoCT.
- 3) Develop and establish image-guided failure assessment (IGFA) for the investigation of nanoscopic failure behavior of pathologic bone, using nanoCT.

The Institute for Biomechanics at ETH Zurich is seeking to appoint two highly motivated PhD candidates pursuing research in one of these areas. The successful candidates will work within an international and interdisciplinary team of biologists, computer scientists, engineers and physicists at ETH and will have the opportunity to collaborate closely with the SLS at PSI. The applicants should have a recent master degree in Engineering or Physics. Good skills in both spoken and written English are mandatory to work in an international, young and dynamic team. Knowledge in Bioimaging, Signal Processing, Biomechanics and/or Bioengineering is an advantage, yet not a prerequisite. The position is available upon August 1st 2007 or upon mutual agreement. Salaries are highly competitive and are in line with the guidelines of the ETH.

A Curriculum Vitae, a list of two references and all university classes attended (including grades) as well as a one-page statement of your background and research interest should be sent to (preferably by email):

Prof. Ralph Müller, Ph.D.  
Institute for Biomechanics

ETH Zürich, Moussonstrasse 18, 8092 Zürich, Switzerland  
Email: ram@ethz.ch, Web: <http://www.biomech.ethz.ch>

For further information please contact Philipp Schneider, +41 44 632 45 69, [pschneider@ethz.ch](mailto:pschneider@ethz.ch).

Information about BIOMCH-L: <http://www.Biomch-L.org>  
Archives: <http://listserv.surfnet.nl/archives/Biomch-L.html>  
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## **5) Analysis and Identification of Linear and Nonlinear Systems, September 2007, University of Oulu:**

Analysis and Identification of Linear and Nonlinear Systems, Autumn 2007, University of Oulu

8 credits (4 study weeks in the old system)

A graduate course organized by Dept. of Physical Sciences, Biophysics, at University of Oulu, the Finnish Graduate School of Neuroscience (FGSN) and the International Graduate School in Biomedical Engineering and Medical Physics (iBioMEP).

Timetable: contact teaching during the third week of September (15-22). Self-study and projects during Autumn 2007.

Teachers: prof. A.S. French, Dept. of Physiology and Biophysics, Dalhousie University, Halifax, Canada; prof. Matti Weckström, University of Oulu, Dept. of Physical Sciences, Division of Biophysics.

### Material:

- The course-book is Marmarelis, V.Z., Nonlinear Dynamic Modelling of Physiological Systems, Wiley, 2004. Its older version by two Marmarelis' ("Analysis of Physiological Systems: The white noise approach", 1978) is also useful but necessarily outdated.
- Lectures will be available as ppt-pdf:s.
- Analysis software for non-linear analysis will be made available
- All material will be downloadable from a web-site (announced later)

Teaching: A series of lectures by prof. French and prof. Weckström will be given (densely) during two-three days (depending on the participants' wishes). Some material will be required for self-guided studies, but tutoring will be offered on request.

Topics covered (partial): Input-output systems, Stationarity and ergodicity, linearity, time-invariance, power-spectrum and cross-spectrum, transfer function and its determination, coherence, dead-time systems, Volterra and Wiener kernels, non-linear analysing methods, dynamic and static non-linearities, Bendat's method, Korenberg's parallel cascade method, orthogonal polynomial methods, examples of analysing problems and their solutions.

Passing and grading: There is no traditional examination, but instead the students are given two sets of data, which they have to analyse as directed. The final grading (1-5) will be based on the average of the two reports on the analyses.

Inquiries and enrolment:

Matti Weckstrom MD PhD  
professor of biophysics  
Department of Physical Sciences  
Division of Biophysics  
University of Oulu PO Box 3000  
90014 Oulun yliopisto, Finland  
phone (office) +358-8-553 1125  
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**6) Usability & HCI for Medicine and Health Care, 22.11.2007, Graz, Austria:**

USAB 2007 - Usability & HCI for Medicine and Health Care, 3rd Symposium of the Austrian Computer Society, WG HCI&UE, NOVEMBER 22, 2007, Graz, Austria.

**Important Dates:**

Deadline for submissions of long papers: Monday, 9th July 2007

Deadline for submissions of short papers and posters: Wednesday, 1st August 2007

Camera-ready due: Monday, 17th September 2007

Symposium homepage: <http://www.meduni-graz.at/imi/usab-symposium>

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**7) PervasiveHealth Conference, 30.1-2.2.2008, Tampere:**

After the successful first year of the conference, the Organizing Committee is pleased to announce the Second International Conference on Pervasive Computing Technologies for Healthcare.

Pervasive healthcare is an emerging research discipline, focusing on the development and application of pervasive and ubiquitous computing technology for healthcare and wellness. Pervasive healthcare seeks to respond to pressures towards healthcare system, arising from a number of factors, including the increased incidence of life-style related and chronic diseases, emerging consumerism in healthcare, need for empowering patients and relatives for self-care and management of their health, and need to provide seamless access for health care services, independent of time and place.

**Important Dates**

Paper Submission Deadline: September 14th, 2007

Notification to Authors: November 2nd, 2007

Camera Ready: November 16th, 2007

Conference home page: <http://www.pervasivehealth.org>

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Hauskaa viikonloppua

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