



KTH Teknikvetenskap

Protokoll

Närvarande: Leif Kari
Karin Blom
Henrik Shah Gholian
Jakob Kutteneuler
Carl Flogvall
Anna Finne Wistrand
Oscar Tjernberg

Anders Forsgren
Anna-Karin Burström

1. Mötets öppnande

Ordförande Leif Kari förklarar mötet öppnat kl. 13:00.

2. Anmälda förhinder

Mats Wallin och Katja Grillner har anmält förhinder.

3. Närvaro- och yttranderätt

Anders Forsgren och Anna-Karin Burström föreslås få närvaro- och yttranderätt under hela mötet.

Strategiska rådet beslutar

att Anders Forsgren och Anna-Karin Burström ges närvaro- och yttranderätt under hela mötet.

4. Val av justeringsperson

Anna Finne Wistrand föreslås som justerare för mötet.

Strategiska rådet beslutar

att välja Anna Finne Wistrand som justerare för strategiskt rådsmöte 2 2015.

5. Fastställande av föredragningslista [bilaga 1]

Strategiska rådet beslutar

att fastställa föredragningslistan.

6. Föregående protokoll (rådsmöte 6 mars 2014)

Strategiska rådet beslutar

att lägga protokollet från rådsmötet 6 mars 2015 till handlingarna.

7. Anmälningar [bilaga 2]

Leif Kari redovisar aktuella disputationer och licentiatseminarier enligt bilaga 2.

8. Rekryteringsärenden, fakultetsförnyelse och jämställdhet

a. Rapport av pågående ärenden [bilaga 3]

Anders Forsgren redovisar pågående rekryteringsprocesser, befodringsärenden och docentärenden.

b. Förlängning av adjungerad professor i Farkost och flyg [bilaga 4]

Anders Forsgren föredrar ärendet.

Strategiska rådet beslutar

att föreslå skolchefen att tillstyrka ärendet.

c. Affilierad fakultet i Hållfasthetlära [bilaga 5]

Anders Forsgren föredrar ärendet.

Strategiska rådet beslutar

att föreslå skolchefen att tillstyrka ärendet.

9. Övrigt

En miljörevision har gjorts på KTH i samband med ISO-certifieringen. Vår skola fick inga formella nedslag. De nedslag som gjordes gällde övergripande åtgärder på hela KTH. Med största sannolikhet kommer vi att bli certifierade.

Gunnar Landgren håller i en utredning angående eventuell flytt av delar av ICT. Det innefattar 3 stora frågeställningar, en eventuell flytt av Materialfysik till Albanova, Elektrumlabbets framtid och hur man ska göra med den IT-relaterade forskningen.. SCI-skolan är generellt positiv till en flytt av Materialfysiken men det är en del praktiska saker som platsbrist som behöver lösas. Det är också viktigt att synergieffekter tillvaratas.

Albano-området har fått tillstånd att bygga. Teoretisk fysik är intresserade av att flytta in i de nya lokalerna.

Nästa möte flyttas till den 4 juni kl. 13-15. Lokal: Freja, Teknikringen 8.

10. Mötets avslutande

Skolchefen förklarar mötet avslutat.

Vid protokollet

Anna-Karin Burström

Justeras

Leif Kari

Anna Finne Wistrand

Licentiatseminarier

7 mars - 5 maj



27

mars

[Drag reduction using plasma actuators](#)

Teknisk mekanik

Plats: Fordonslaboratoriet, Teknikringen 8, KTH, Stockholm

Licentiand: Romain Futrzynski, Farkost och Flyg

31

mars

tisdag, 14:00

[On the ECO2 multifunctional design paradigm and tools for acoustic tailoring](#)

Farkostteknik

Plats: Rum B1, 2 tr, Brinellvägen 23, KTH, Stockholm

Licentiand: Juan Pablo Parra Martinez, Farkost och Flyg

Disputationer

7 mars - 5 maj



6

mars

fredag, 10:00

[Applications of Heterogeneous Multiscale Methods for Multiscale Partial Differential Equations](#)

Tillämpad matematik och beräkningsmatematik

Plats: sal D3, Lindstedtsvägen 5, KTH, Stockholm

Respondent: Doghonay Arjmand, Matematik

6

mars

fredag, 10:00

[On the mechanical behavior of granite: Constitutive modeling and application to percussive drilling](#)

Hållfasthetslära

Plats: Sal K2, Teknikringen 28, KTH, Stockholm

Respondent: Mahdi Saadati, Hållfasthetslära

12

mars

torsdag, 10:15

[Numerical studies of turbulent flames in wall-jet flows](#)

Teknisk mekanik

Plats: sal F3, Lindstedtsvägen 26, KTH, Stockholm

Respondent: Zeinab Pouransari, Mekanik

27

mars

fredag, 10:00

[Quantification and Maximization of Performance Measures for Photon Counting Spectral Computed Tomography](#)

Fysik

Plats: sal D3, Lindstedtsvägen 5, KTH, Stockholm

Respondent: Moa Yveborg, Fysik

27

mars

fredag, 10:00

[Phase transitions in novel superfluids and systems with correlated disorder](#)

Fysik, Teoretisk fysik

Plats: Sal FB42, AlbaNova Universitetscentrum, Roslagstullsbacken 21, Stockholm

Respondent: Hannes Meier, Fysik

27

mars

fredag, 13:00

[Time-resolved optical properties of colloidal CdSe-CdS/ZnS core-multishell quantum dots in bioimaging](#)

Fysik, Biologisk och biomedicinsk

Plats: Seminarierum Air, SciLife Lab, Tomtebodavägen 23, Solna

Respondent: Li Li, Fysik

15

april

onsdag, 10:39

[Engineering ferroelectric domains and charge transport by proton exchange in lithium niobate](#)

Fysik, Material- och nanofysik

Plats: Sal FD5, AlbaNova Universitetscentrum, Roslagstullsbacken 21, Stockholm

Respondent: Michele Manzo, Tillämpad fysik

21

april

tisdag, 09:00

[Mechanical behaviour of a roller bearing steel: Strength differential effect, low temperature creep and propagation of short cracks](#)

Hållfasthetslära

Plats: Sal F3, Lindstedtsvägen 26, KTH, Stockholm

Respondent: Irene Linares Arregui, Hållfasthetslära

24

april

fredag, 09:30

[Multiscale modeling of radiation-enhanced diffusion phenomena in metals](#)

Fysik, Kärnteknik

Plats: sal F3, Lindstedtsvägen 26, KTH, Stockholm

Respondent: Zhongwen Chang, Fysik

24

april

fredag, 13:00

[Small-animal imaging with liquid-metal-jet x-ray sources](#)

Fysik, Biologisk och biomedicinsk

Plats: Sal FA32, AlbaNova universitetscentrum, Roslagstullsbacken 21, Stockholm

Respondent: Daniel Larsson, Tillämpad fysik

2015-04-28

Utlysta anställningar

Befattning	Ämne	Dnr	Status	Nästa steg
Biträdande lektor	Beräkningsbaserad biofysik (SFO)	S-2014-0823	TFN möte nr 2, 18/2-15	Skolan beslutade anställa Lucie Delemotte (rankad 1). Överklagandetid slut 10/4-15.
Biträdande lektor	Teoretisk fysik	S-2014-1176	Annonsering förlängd till och med 15/5-15	Förslag på sakkunniga efter ansökningstidens slut
Biträdande lektor	Matematik	S-2014-1358	Prel sakutlåt senast 22/5-15	RN möte inbokat: möte 1: tors 28/5, möte nr 2: tisd 16/6
Biträdande lektor	Numerisk analys	S-2014-1359	Prel sakutlåt senast 18/5-15	RN möte inbokat: möte 1: tors 21/5, möte nr 2: ons 17/6
Professor	Flygteknik	VL-2015-0074	AU anställningsprofil 14/4-15	Förbereda för annonsering
<u>Jenny Wiklund handlägger nedanstående</u>				
Biträdande lektor	matematik m inr mot komplexa system	S-2015-0166	Annonsering sista ansökningdag 29/5-15	Förslag på sakkunniga efter ansökningstidens slut
Biträdande lektor	experimentell röntgenvetenskap och röntgenteknologi	S-2015-0165	Annonsering sista ansökningdag 29/5-15	Förslag på sakkunniga efter ansökningstidens slut

Docentärenden

Sökande	Ansökan skola	Överlämn. UF	Ledamöter exkl. ordf. A Forsgren	Doktorandrepresentant	Intervju (kommitten träffas 30 min innan)	Yttrande inskickat datum	Beslutsdatum	Föreläsning
Anders Rosen	2014-05-13	2014-08-21	L Brandt, G Efraimsson	Axel Ringh	2 dec kl 10.30 i rum 3424	2014-12-09	2015-02-06	2015-04-14 (Hugin)
Chong Qi	2014-06-22	2014-08-25	L Brandt, K Gallo	Sara Pålsson	3 dec kl 10.30 i rum 3424	2014-12-17	2015-02-12	2015-03-31 (FB52 Albanova)
Egor Babaev	2014-06-30	2014-08-25	M Dahl, G Efraimsson	Mohammad M Davari	10 dec kl 9.00 i rum 3424	2014-12-19	2015-01-30	Ej aktuellt
Josefin Larsson	2014-06-13	2014-08-25	B Cederwall, L G-Farewik	Gustav Sædén Ståhl	18 nov kl 10.30 i rum 3424	2014-12-05	2015-01-16	2015-03-17 (FDS Albanova)
Lisa Prahll Wittberg	2014-05-22	2014-08-25	B Cederwall, L G-Farewik	Karl Sellin	19 nov kl 10.00 i rum 3424	2014-12-08	2014-12-18	Föräldraledig
Stefan Wennmalm	2014-05-26	2014-08-25	B Djehiche, K Gallo	Sara Asiyeh Changiziom				
Jonas Strandberg	2014-09-29	2014-10-20	M Dahl, L G-Farewik	Niclas Berg	16 dec kl. 10.30 i rum 3424	2014-12-18	2015-02-12	2015-03-31 (FB52 AlbaNova)
Ramis Örlu	2014-10-29	2014-11-20	B Djehiche, K Gallo	Björn Ahlgren	3 mars kl. 10.30 i rum 3424	2015-03-06	2015-03-11	2015-04-14 (Hugin)
David Rydh	2014-10-31	2014-11-20	B Cederwall, C Canalias	Sara Asiyeh Changiziom	19 mars kl 10.30 i rum 3424	2015-03-27	2015-04-13	2015-05-26 (Hugin)
Jan Dufek	2014-12-15	2015-01-22	C Canalias, B Djehiche	Björn Ahlgren	28 april kl 13.30 i rum 3424			
Jonatan Lenells	2014-12-15	2015-02-12						
Egor Babaev	2015-02-06	2015-02-06	M Dahl, G Efraimsson	Mohammad M Davari	15 april kl 10.00 i rum 3533	2015-04-16	2015-04-20	2015-05-12 (FB52 AlbaNova)
Linda Lundström	2015-02-16	2015-03-23						
Susann Boij								
Elias Jarlebring								
Mikael Nybacka								

Ärendet vilande

DATE 2012-12-17

Dean/Rector KTH

DEALT WITH BY
Henrik TengstrandYOUR REF.
Leif Kari

DOC. NO.

COPY TO
Siv Leth

To Dean/Rector regarding adjunct professor in Technical Acoustics at KTH MWL laboratory.

Bombardier is the world's only manufacturer of both planes and trains with a total of 70,000 employees and the global leader in the rail industry with 62 production and engineering sites in 25 countries. The installed base of rolling stock exceeds 100,000 rail cars and locomotives. Acoustics and Vibration is a key technology area for Bombardier worldwide.

The main interest for Bombardier to seek close cooperation with MWL is to be able to cross connect industry and academia in a creative development. Access to the excellent competence at MWL is of great value for Bombardier to assure future competitiveness in this important area and to share experiences in education and R&D projects at MWL KTH, as well as assuring future recruiting of highly competent personnel.

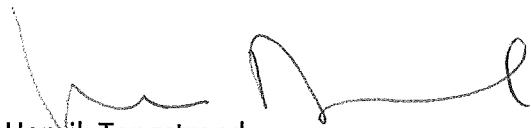
Bombardier has over the years built up a strong in-house competence in Acoustics & Vibration. An important group of highly qualified and experienced acoustic experts are today involved in all major vehicle projects on a global basis. The acoustic experts at different sites and countries at Bombardier are all sharing experiences and working together in a Network. This Network is lead by the Centre of Competence for Acoustics and Vibration headed by Siv Leth, based at Bombardier Transportation in Västerås, Sweden. The acoustic experts in Germany, France and Sweden are all reporting to Siv Leth.

Bombardier is very active in cooperation and development projects in acoustics with many of the most important European research institutes, universities, customers and associated organizations. It is today of interest to further intensify and extend the already close cooperation with the MWL laboratory at KTH, Stockholm. Cooperation includes VINNOVA KTH ECO 2, several EU projects, MSc students and from Sept 2012 a new doctoral student Eva Lundberg from Bombardier as part of ECO 2. A proposal for funding from VINNOVA, for continued development in the railway sector of the Green Train (Gröna Tåget), phase 2, will also include parts on Acoustics. This proposal will be submitted in 2013. Before that Siv Leth

will lead our new Bombardier financed R&D project Quiet Train where a demonstrator for adaptive sound zones will be built at the MWL lab.

Siv Leth is our Director for the global Center of Competence for Acoustics and Vibration at Bombardier. I strongly support that Siv Leth takes on the position as an adjunct professor since it is of great interest to Bombardier business to strengthen our links to KTH/MWL. She is available to take on her new task at KTH/MWL for 20 % of her time as soon as possible. Her salary will be fully covered by Bombardier as a part of her present position with us, as well as KTH office and overhead costs of 120 kSEK/year.

Västerås December 17, 2012



Henrik Tengstrand
Director MLM Vehicle Performance Engineering (VPE)
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MAINLINE & METRO DIVISION
Bombardier Transportation
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DATUM 2012-12-17

Dean/Rector KTH

VÅR HANDLÄGGARE

Siv Leth

ER REF.

Leif Kari

DOK. NR.

KOPIA TILL

Henrik Tengstrand

To Dean/Rector regarding adjunct professor in Technical Acoustics at KTH MWL laboratory.

I have gained a considerable experience in the field of technical acoustics working in the industry for almost 30 years. My task has been designing, and later leading the design work for developing different types of quiet vehicles; ships, cars, airplanes and trains.

As an adjunct Professor I would like to on one hand share my experiences with students and researchers at KTH/MWL and act as supervisor. On the other hand, I would like to gain new knowledge from recent research results that are of value for my company Bombardier Transportation.

To efficiently link Academia and Industry is not an easy task. However, when done in a good way the results are very rewarding. One recent excellent example is the Green Train (Gröna Tåget) development where among others KTH and Bombardier are participating. Another example is the VINNOVA KTH ECO 2 co-operation.

I would like to challenge the task of further successfully connect academia with industry along new creative lines. One way to do this is by initializing further cooperation between Bombardier and KTH MWL in European research projects.

More specifically I have recently started up a research project at MWL on Adaptive Sound Zones for passenger compartments onboard trains. This new research project, funded 100 % from Bombardier internal R&D budgets, will continue for 2013 and into 2014. The main content is shortly described below:

To optimize the perception of sound onboard vehicles several investigations in the field of sound quality has been performed in recent years. This R&D project is related to enhanced comfort by introducing an adaptive acoustics environment for the passenger onboard a train. The acoustic environment should be able to adapt in relation to the different task of and wishes of the passenger. The plan is to build up a demonstrator consisting of 4 seats

from a passenger compartment and gradually develop models and full demo of adaptive sound zone. This demonstrator is placed at the MWL semi-anechoic chamber and the development will include participation from student and other personnel at MWL.

Västerås December 17, 2012



Siv Leth

Director Centre of Competence & MLM Acoustics & Vibration

Vehicle Performance Engineering

MAINLINE AND METROS DIVISION

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CV SIV LETH

Director Center of Competence Acoustics and Vibration, Bombardier
Transportation



Short Summary of Professional Experience and Education

Industrial experience of vehicle noise control from naval, mining, aerospace, automotive and railway industry for over 30 years.

Presently holding a position as Director for the global Center of Competence Acoustics and Vibration at Bombardier Transportation and certified Bombardier Fellow Expert.

International R&D related assignments: Chairing UNIFE (European Rail Industry) Noise Expert Group. Independent Advisor to the European Commission in the Transport Advisory Group, advising on European Research strategies in FP (Frame Program) 7. Member in Steering Committees and WP leader in a number of European Research projects in FP7 and FP6 (ACOUTRAIN, RIVAS, SILENCE and InMAR).

Publications and patents: Author of numerous papers published in international journals and conferences on acoustics of trains and aircraft and holder of patents in the area of active noise control.

Education: Doctoral Candidate Degree (*Teknologie Licentiatexamen*) in Acoustics, Department of Fluid Mechanics, Luleå Technical University, 1989. M.Sc., Naval Architecture and Marine Engineering, Chalmers Technical University, 1978.

Personal data

Siv Leth

Female, Born September 13 1954 in Blekinge Sweden

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Mobile phone: + 46 (0) 70 628 17 86

Siv.Leth@se.transport.bombardier.com (work)

leth.arholma@gmail.com (private)

2 sons 21 and 26 years old, husband Björn Leifler

Present position

- Director for the Global Center of Competence of Acoustics and Vibration at Bombardier Transportation.
- Department Director for Acoustic Specialists in Vehicle Division in France, Germany and Sweden at Bombardier.
- Bombardier Principal/Fellow Expert since 2006.

Former work experiences

Saab Aerospace, Future Products and Technology, Linköping, Sweden

- Project Manager (1998-2000) Managed development and demonstration of prototype active noise control system for SAAB Automobile/GM car.

Saab Aircraft AB, Linköping, Sweden

- Project Leader (1995-1998) Managed development and reliability program for production active noise control systems in commercial aircraft and new optimization procedure for transducers. Responsible for development of propeller noise control measures.
- Project Engineer (1989-1995) Participated in development of world's first production active noise control system for commercial aircraft. Responsible for optimization of transducer locations for active systems and propeller noise predictions.

Luleå Technical University, Luleå, Sweden

- Doctoral Researcher (1986-1989) Conducted research in aeroacoustics, thesis on noise from jet nozzles. "Noise from jet nozzles used in steel cutting", Licentiate thesis/Luleå University of Technology, 1989:16, ISSN 0280-8242
- Research Engineer (1982-1986) Research and consulting on noise control for steel and mining industries, lecturing on acoustics.

Swedish Administration of Shipping and Navigation, Norrköping, SE

- Lead Inspector (1978-1982) Responsible for noise control on ships.. Performed research at Det Norske Veritas, Oslo, on simultaneous influence of sound and vibration.

Education

- Doctoral Candidate Degree (*Teknologie Licentiatexamen*) in Acoustics, Department of Fluid Mechanics, Luleå Technical University, 1989.
- M.Sc., Naval Architecture and Marine Engineering, Chalmers Technical University, 1978.

International Expert Assignments

- Chairing Noise Expert Group of the rail manufactures in Europe (UNIFE) (2008-ongoing) UNIFE is the Association of the European Rail Industry.
- Representing the railway sector via UNIFE in the Working Party setting up new European noise legislation at ERA (European Rail Agency) (2008- ongoing)
- Advisor to the European Commission in the Transport Advisory Group for FP7 (ec.europa.eu/research/transport/news/items/new_transport_advisory_group_for_fp7_en.htm) 2006-2012

Scientific skills – International R&D projects

- EU FP7 R&D project Railway Induced Vibration Abatement Solutions RIVAS (www.rivas-project.eu) 2011-2013, Total budget 8,2 Mio Euro, 18 partners , lead Deutsche Bahn AG. Member of Steering Committee and leader of work package on mitigation measures on vehicles.
- EU FP7 R&D project ACOUTRAIN ([www.acoutrain xxx.eu](http://www.acoutrain.xxx.eu)) 2012-2014, Total budget 3,2 Mio Euro, 15 partners, leader of WP on vehicle noise sources.

- EU FP6 R&D project Intelligent Materials for Active noise Reduction - InMAR (www.inmar.info) 2004-2008, Total budget 34 Mio Euro, 42 partners from 13 countries, lead Fraunhofer LBF. Member of Steering Committee and leader of sub-project and work packages on active control for rolling stock.
- EU FP6 R&D project SILENCE on Reducing Transport Noise in Urban Areas (www.silence-ip.org) 2006-2008, Total budget 16 Mio Euro, 42 partners, lead AVI List GMBH austria. Member of Steering Committee and leader of sub-project E on vehicle noise control eg cooling fans.

Scientific skills- International conferences and publications

- Chairing *key note session on industrial applications* NOVEM 2012, Italy
- A Frid U. Orrenius, T. Kohrs and S. Leth, *BRAINS - the concepts behind a quick and efficient tool for prediction of exterior and interior railway vehicle noise* Acoustics 2012 Nantes, April 24-27
- NN, Bracciali, A., Leth, S., Michelet, L. & Firpo, P. *Noise from High Speed Trains: Harmonization of national and European legislation*. CC2011. The Thirteenth International Conference on Civil, Structural and Environmental Engineering Computing. Special Session CC11-S03: Railway Research: Vehicle Track Dynamic Analysis and Related Environmental Problems Chania. Crete. Greece. 2011.
- S. Leth, A. Frid, A. Mirza, *Sound design studios for setting noise requirements on new rolling stock – a future scenario*, Proceedings WCRR 2011, May22-26, Lille, France.
- Leth, S. *Silent trains for the future – An industrial approach for low-noise design*. Key note at ISMA, Löwen, 2010-09- 20-22.
- Frid, A. & Leth. S. *Track quality extrapolation for railway vehicle pass-by noise*. 16th ICSV. Krakau, 05.- 09.07.
- Thoss, E., Leth, S. & Stegemann, B. *Acoustics customer requirements – Guarantee for low noise trains?*, Proceedings Internoise. Shanghai. Oct 26-29 2008.
- Färm, J., Leth, S. & Rüst, P. *Ground Vibration Requirements in Vehicle Projects*. Acoustics 08. 29/06-04/07, Paris, France.
- Orrenius, U., Frid, A. & Leth, S. *Noise reduction at urban hot-spots by vehicle noise control*. in Schulte- Werning, B. et al. Publishers. Noise and Vibration Mitigation for Rail Transport Systems. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, Vol. 97. Springer. ISBN 978-3-540-74892-2.2008.

- Leth, S. *The role of vehicle manufacturers in reducing noise and the impact of the TSIs*. CAETS Workshop on Transport Noise in Europe ‘The design of low-noise vehicles for air, road, and rail transportation’. Southampton. 2008-06-04.
- Leth, S. *Acoustics for railway vehicles*. Cantor Advisory Board Meeting. CRF, FIAT, Tornino Italy. 2007-06-14.
- Leth, S. & B. Stegemann. Acoustic performance management in the development of new railway vehicles. Euronoise. Tampere. 2006- 30/05-01/06.
- Frid, A., Leth, S., Högström, C. & Färm, J. *Noise control design of railway vehicles – Impact of new legislation*. Journal of Sound and Vibration. 2000:Vol. 293(Issue 3 – 5): p 910 – 920.
- Leth, S. *Train Noise Reduction Scenarios for Compliance with Future Noise Legislation*. Journal of Sound and Vibration. 2003: Vol. 267(Issue 3): p 675 – 687
- S. Leth, W. Halvorsen, Optimization methods for actuator and sensor positions in ANC systems for aircraft, Proceedings Inter-Noise 99, Florida, USA.
- S. Leth, F. Samuelsson, S. Meijer, *Propeller noise generation and its reduction on the Saab 2000 high speed turboprop*, American Institute of Aeronautics and Astronautics, AIAA, Aeroacoustics Conference 1998, Toulouse, France.
- S. Leth et al., *Active and passive noise control in practice on the Saab 2000 high speed turboprop*, AIAA, Aeroacoustics Conference 1998, Toulouse, France.

Advisory Assignements

- Member of International Expert Mirror Group for Dutch Innovation Program Noise 2006-2007
- Advisory board EU coordination project CANTOR Coordinating Noise Transportation Research and Engineering Solutions (ec.europa.eu/research/transport/projects/items/cantor_en.htm) 2006-2007
- Representative in the European Commission WG 6 advisory group on Railway Noise 2002-2005.

Award

- John Large Award for Outstanding Paper, *Train Noise Reduction Scenarios for Compliance with Future Noise Legislation*, 7th IWRN (International Workshop on Railway Noise), Portland, Maine, USA, 2001

Patent

- Inventor, US patent application 2001, Swedish Patent No. SE 50678 - 1998, PCT application 1999, A Method and a Device for Actively Reducing the Sound Level in a Region of Space.

Pedagogical skills

During my years at Luleå University (1982-1989), as a research engineer and later doctoral research student, I did regularly lecture in courses on technical acoustics for M.Sc. students.

In my role at Bombardier I have throughout the years supported my team members to supervise a number of M.Sc. and PhD projects at KTH, Chalmers and TU Berlin

International Lecturer inside and outside Bombardier, approximately 50 hours a year for the last 10 years.

- Developed and performed training packages on *Railway Acoustics and Vibration* for different sites and countries of Bombardier. Lecturing for senior specialist in Canada, US, France, Germany, UK, China and Sweden.
- *Future noise control on trains*, KTH MWL Wednesday seminars 2011
- *Silent trains for the future- an industrial approach for a low noise design*. Acoustical Society of China. 1st China-Europe Forum on Transportation Noise Research. Beijing. 2010-10-25.
- *Case Study – Interior Noise Control on Trains*. CANTOR Advanced Course on NVH in Transportation Industry. CRF Torino. 2009-04-20/24.

Leadership skills

Director Acoustics and Vibration at Bombardier Transportation. Head of Center of Competence for Acoustics and Vibration leading a global Bombardier network of approx. 40 acoustic specialist. Line management of a team of approx 20 acoustic specialists in Germany, Sweden, France and UK.

Leader of several internal R&D projects at BT such as development of low noise designs, components and methodology for new very high speed train for Italy (360km/h), China (world's fastest train with operational speed 380km/h), new generation quiet regional and metro trains for Asia, Africa and Europe.

Leader of Independent Peer Reviews for key performance areas in all large Bombardier vehicle projects for Europe and Asia (Aerodynamics, Vehicle Dynamics, Acoustics, Environmental Design, Thermodynamics)

Initiating and Starting up the Female Engineering Network (FEN) at Bombardier in 2008
This network today has 140 women as members in 20 different sites
(csr.bombardier.com/en/employees/diversity)

Leadership training

Participation in number of leadership trainings throughout the years. Latest program at Bombardier was Making Great Leaders (MGL) from Hay Group.
(www.haygroup.com/ww/services/index.aspx?ID=1605) in 2009 and 2011 and Executive Leadership Program from YSC (www.ysc.com) in 2012.

Inside the BT MGL program from Hay Group I have been appointed as mentor and coach. Hay Group is a global management consulting firm with 2,600 employees working in 48 countries with clients from the private, public and not-for-profit sectors, across all major industries.



**KTH Aeronautical
and Vehicle Engineering**

Till vice-skolchef Anders Forsgren

Institutionen för Farkost och Flyg, avdelningen för Ljud och Vibrationer (MWL), anhåller härmed om förlängning av Siv Leth's adjungerade professur.

SivL har sedan hon tillträdde denna befattning startat upp flera nya projekt som bland annat lett till två nya industridoktorander hos MWL. Vidare har SivL arbetat aktivt för att skapa nya akustikprojekt inom ramen för ett planerat större EU-projekt kring tåg - Shift2Rail. En förstudie till detta projekt Roll2Rail har redan beviljats och inom ramen för detta har MWL i samarbete med ECO2 centret, samt Bombardier (SivL) en ny post-doc.

Sammantaget har Siv Leth under sin första period lyckats mycket väl med att uppfylla de mål som vi satt upp för detta samarbete. För att kunna fortsätta utveckla detta framgångsrika samarbete anhåller vi nu om en förlängning av Siv Leth adjungerade professur med 3 år.

KTH 2015-03-12

.....
Dan Zenkert
Professor, Dekanus Farkost o Flyg

.....
Mats Åbom
Professor, Chef MWL

DATUM 2015-02-25

Dean/Rector KTH

TRANSPORTATION

Bombardier Transportation Sweden
AB
Östra Ringvägen 2
SE-721 73 Västerås, Sverige
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Reg. nr. 556101-9356

VÅR HANDLÄGGARE

Siv Leth

ER REF.

Mats Åbom
KTH MWL

DOK. NR.

KOPIA TILL

Henrik Tengstrand
Bombardier

To Dean/Rector regarding prolongation as adjunct professor in Technical Acoustics at KTH MWL laboratory.

I have worked as adjunct Professor at KTH MWL since mid 2013 for 20 % of my working time at Bombardier Transportation

European Research Projects:

I have been very active involving properly both the KTH department of Vehicle Engineering and Bombardier Transportation in new R&D projects in Horizon 2020. The Shift2Rail Joint Undertaking (S2R JU) is a new public-private partnership in the rail sector, providing a platform for cooperation that will drive innovation in the years to come and was approved by the European Parliament in April 2014. This new Programme for Rail R&D has a total budget of 920 million Euros in the period 2016 – 2021. As a start up project for Shift2Rail , two projects named Roll2rail and In2Rail were accepted by the EU and the research work will start in May 2015. KTH Vehicle Engineering including Acoustics has a budget of 24-36 PMs over the coming 24 months in these 2 projects.

Doctoral students:

I'm supervising 2 doctoral students Hanna Amlinger and Fredrik Botling. They are partly industrial students financed by Bombardier and partly financed by the Railway Research Group.

The research work focuses on methods to reduce the electromagnetic noise from traction motors: 1) Improve control strategies to reduce the excitation of electromagnetic noise 2) Reduce the electromagnetic and acoustic response and radiation for the components

Student support

I have supported a number of other doctoral students as well as M. Sc students in aero - acoustics as well as vehicle acoustics with guidance and experience feedback as well as giving access to Bombardier data and contacts with Bombardier expert networks.

Seminars/lectures

I have given lectures at MWL on: " *Silent Trains of the Future*" and in the frame of Odkvist Laboratory on experimental work "BOMBARDIER TRANSPORTATION AT ODQVIST LABORATORY "

Adjunct Faculty:

I have been active in the Adjunct Faculty arrangements and facilitated a start up of new strategic cooperation between KTH and Bombardier Transportation.

Personal development

I have successfully completed the KTH training for supervisors, 3 p ,spring 2014.

Publications.

Additional publications after last CV provided with my initial application as adjunct Professor in 2013

S. Leth et al, *Application of European Noise Legislation in Rolling Stock Projects*, Euronoise 2015.

T. Thron, S. Leth, B. Stegemann, *On separation of vehicle noise for limit setting in future legislation*, Notes on Numerical Fluid Mechanics, and Multidisciplinary design (Springer), Noise and Vibration Mitigation for Rail Transportation Systems, Volume 126, 2015,pp 31-38

E Andersson, U. Carlsson, P. Lukaszewicz and S. Leth, *On the environmental performance of a high- speed train*. International Journal of Rail Transportation,2:1,p 59-66, 20 Feb 2014.

Västerås February 26, 2014

Siv Leth

Director Centre of Competence Acoustics & Vibration

Specialist Engineering, Chief Technical Office and

RS Central & Eastern Europe CEE , Bombardier Transportation

adjunct Professor Technical Acoustics, KTH - Royal Institute of Technology , Stockholm

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Siv.Leth@se.transport.bombardier.com

Anhållan om att Dr. Mahdi Saadati (Atlas Copco Rock Drills AB) utnämns till Affilierad fakultet vid KTH, Skolan för Teknikvetenskap, Institutionen för hållfasthetslära

Innehållsbeskrivning

Den affilierade fakulteten ska bedriva forskning inom ämnet Hållfasthetslära av sådan karaktär att svensk gruvindustri kan tänkas vara avnämare, samt delta i undervisningen inom ämnet för att möta industriella utmaningar, t.ex. genom handledning av examens- och projektarbeten. Uppdraget innefattar alltså både forskning och utbildning.

Omfattningen på uppdraget föreslås vara 40 % under en period av 1 år med utvärdering därefter.

Förväntad nytta för KTH

Den akademiska miljön på KTH stärks av att en person med industriell erfarenhet deltar i forskningen, och det gagnar utbildningen att studenterna får möta lärare från industrin. Mahdi bedöms ha goda möjligheter både att meritera sig akademiskt och vetenskapligt genom publikationer och positivt bidra till utvecklingen och genomförandet av undervisningen.

Vidare är Atlas Copco Rock Drills AB en viktig samarbetspartner för KTH och för Skolan för Teknikvetenskap med många gemensamma intressen inom forsknings och utbildning.

Förväntad nytta för aktuell arbetsgivare

Den affilierade fakulteten bidrar till att öka teknikhöjden i utvecklingsarbetet och förenklar implementering av nya forskningsresultat i verksamheten. Mahdi bedöms ha goda möjligheter både att identifiera intressanta forskningsresultat och påverka utvecklingsarbetet. Den affilierade fakulteten förväntas även bidra till att öka studenternas intresse för industrin som arbetsgivare och till att forma ingenjörer som kan lösa industrins utmaningar.

Stockholm 2015-04-01

KTH Teknikvetenskap
Institutionen för Hållfasthetslära
Sören Östlund – prefekt

Atlas Copco Rock Drills AB

During the past five years, I have been performing research about rock fragmentation for Atlas Copco. This research has been performed within the framework of an industrial PhD project at KTH Engineering Sciences, Department of Solid Mechanics under supervision of Prof. Per-Lennart Larsson, in cooperation with Prof. Francois Hild at LMT Cachan and Prof. Pascal Forquin at Grenoble-Alpes University. The title of this work is “On the mechanical behavior of granite, constitutive modeling and application to percussive drilling”. Not only a constitutive model is adopted for this investigation, but it is also calibrated and verified based on experiments.

At this stage, applying the outcome of this research to the real application needs more experimental work and validation steps. From one side, continuing this cooperation makes a framework for me to perform more experimental and theoretical investigations. On the other hand, I have earned an extensive experience working in such a challenging and intact field and this cooperation would likely lead to more academic contribution and publications.

Therefore, I am confident that continuing this cooperation with KTH in the form of being an affiliated faculty gives me the opportunity to keep the bridge between the company and the academia. It also paves the way for performing further industrial PhD programs in the future to extend the borders of this investigation from percussive drilling, as one type of loading, and granite, as one type of material, to the other types of loadings and materials. Then I can be involved in the supervision over the students performing such studies supplying them with theoretical knowledge as well as practical implications from my industrial experience.

Mahdi Saadati, Stockholm 2015-03-24

EDUCATION

- Ph.D. in Solid Mechanics** **Mar. 2015**
[KTH Royal Institute of Technology](#), Stockholm, Sweden
- M.Sc. in Engineering Mechanics** **Sept. 2010**
[KTH Royal Institute of Technology](#), Stockholm, Sweden
- B.Sc. in Applied Mechanics** **Sept. 2004**
[Sharif University of Technology](#), Tehran, Iran

ACADEMIC BACKGROUND

- Fragmentation of brittle material due to dynamic loading
- Rock mechanics
- Damage and fracture mechanics
- Material mechanics
- Contact mechanics
- FEM modeling and stress analysis

PUBLICATIONS

- M. Saadati, P. Forquin, K. Weddfelt, P. L. Larsson, and F. Hild, “Granite rock fragmentation at percussive drilling - experimental and numerical investigation,” *Int. J. Numer. Anal. Methods Geomech.*, vol. 38, no. 8, pp. 828–843, 2014.
- M. Saadati, P. Forquin, K. Weddfelt, P.-L. Larsson, and F. Hild, “A numerical study of the influence from pre-existing cracks on granite rock fragmentation at percussive drilling,” *Int. J. Numer. Anal. Methods Geomech.*, 2014.
- M. Saadati, P. Forquin, K. Weddfelt, P. L. Larsson, and F. Hild, “On the mechanical behavior of granite material with particular emphasis on the influence from pre-existing cracks and defects,” Report, Department of Solid Mechanics, KTH Royal Institute of Technology, Stockholm, Sweden, 2013. Submitted for international publication.
- M. Saadati, P. Forquin, K. Weddfelt, and P.-L. Larsson, “On the tensile strength of granite at high strain-rates considering the influence from pre-existing cracks,” Report, Department of Solid Mechanics, KTH Royal Institute of Technology, Stockholm, Sweden, 2014. Submitted for international publication.
- M. Saadati, P. Forquin, K. Weddfelt, P.L. Larsson, “Granite rock fragmentation at percussive drilling,” Presented at International Conference on Rock Dynamics and Applications, Lausanne 2013.
- M. Saadati, P. Forquin, K. Weddfelt, P.L. Larsson, “Granite rock fragmentation at percussive drilling,” J. Zhao and J. Li, Eds., *Rock Dynamics and Applications - State of the Art*. CRS Press, 2013.
- M. Saadati, K. Weddfelt, P.L. Larsson, “Granite rock fragmentation at percussive drilling,” Presented at Svenska Mekanikdaggar, Lund 2013 .
- M. Saadati, P. Forquin, K. Weddfelt, P.L. Larsson, “Effect of pre-existing cracks on the fracture pattern of granite,” Presented at International Conference on Experimental Mechanics, Cambridge 2014.

INDUSTRIAL EXPERIENCE

Atlas Copco Rock Drills AB (Örebro, Sweden)

Nov. 2010 -Present

Applied Mechanics Group

- Specialist in rock fracture and fragmentation

SLT Engineering Comp. (Tehran, Iran)

Oct. 2007-Aug.2008

Mechanical Department

- Senior design engineer of pressure vessels in multiple oil and gas projects

Sazeh Consultants Engineering & Construction (Tehran, Iran)

Sep. 2004-Sep. 2007

Stationary Equipment Department

- Design engineer of pressure vessels in multiple petrochemical projects

LANGUAGE SKILLS

- English (Fluent)
- Persian (Native Language)
- Swedish (Intermediate)