

CURRICULUM VITAE: Roger Lundén

Professor in Railway Mechanics
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Personal data

Date of birth: December 6, 1949. Married, two children.
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1. Higher education degrees

M Sc in Mechanical Engineering, 1972, Chalmers.

2. Doctoral degree

Ph D in Solid Mechanics, 1981, within the School of Mechanical Engineering at Chalmers.
Thesis: Damping of vibrating continuous mechanical systems – mathematical modelling, numerical analysis, and experimental verification for optimal design of beam structures.
Supervisor: Professor Bengt Åkesson.

3. Docent level

Docent in Solid Mechanics, 1993, within the School of Mechanical and Vehicular Engineering at Chalmers.

4. Present position

Professor with a chair since 2007, time for research around 40%.

5. Previous positions at Chalmers

At Department of Solid Mechanics, from 2002 Department of Applied Mechanics:
1974 – 1981 Doctoral student.
1987 – 1993 Research associate.
1993 – 1995 University lecturer.
1995 – 1998 Docent.
1997 – 2012 Director of CHARMEC.
1998 – 2007 Professor (in Swedish: biträdande professor).

6. Other employment

1981 – 1987 Design Manager, Sales Manager and Project Leader within an industrial development project in Nepal.

7. Military service

Training as non-commissioned staff officer (stabsunderofficer) at the Air Defence Regiments Lv6 and Lv4, 2 months 1969 and 10 months 1972 – 1973.

8. Supervision

Principal supervisor of graduate students (forskarstuderande): Four PhDs (Mikael Fermér, 1993; Johan Jergéus, 1998; Anders Ekberg, 2000 and Tore Vernersson 2006) and three Licentiates (Martin Petersson, 1999; Carl Fredrik Hartung, 2002 and Shahab Teimourimanesh 2012). Assistant supervisor and examiner for one PhD (Anders Johansson, 2005) and examiner for one Licentiate (Eka Lansler, 2005). At present principal supervisor of two graduate students: Shahab Teimourimanesh and Gaël Le Gigan and examiner for one Licentiate (Björn Pålsson).

Supervision of research staff at Chalmers Solid Mechanics / Chalmers Applied Mechanics relating to the work in the Competence Centre CHARMEC.

Research interests, publications

Theoretical and solid mechanics and specifically in the subfields dynamics, vibrations, material fatigue, thermal stresses, noise-related problems, contact mechanics and tribology. Related applications concern brakes for trains and trucks, railway wheelsets and wheel-rail interface problems. Author of about 25 papers in international peer reviewed journals, many conference papers and technical reports. *h*-index:??.

Teaching experience

Have given courses in mechanics, vibrations and strength of materials on all academic levels. Have supervised 24 master theses and undergraduate project works.

Selected academic services

Member of 12 Ph D examination committees. Opponent at three Ph D dissertations (Sweden and the Netherlands) and discussion leader at two licentiate seminars (in Sweden). External expert at several promotions to university lecturers in Sweden, the UK and Australia. Reviewer of many scientific papers for several international journals and conferences. Member of the editorial boards of: FFEMS (Fatigue & Fracture of Engineering Materials & Structures) and IMechE Journal of Rail and Rapid Transit. Guest editor of special issues in FFEMS, IMechE: Journal of Rail and Rapid Transit and Wear. Member (1992–) of the working group CEN/TC256/SC2/WG11 for developing new European standards for railway wheels and axles. Member (2001–) of the Technical Committee of ERWA (European Railway Wheels Association). Member (1999–) of the Scientific Committee of the International Conferences on Contact Mechanics and Wear in Rail/Wheel Systems. Chairman of the Advisory Group of the Scientific Committee (2003–2006). Organiser of the 6th International Conference on Contact Mechanics and Wear in Rail/Wheel Systems in Gothenburg, June 2003. Member of the Organising Committee of IWRN11 (International Workshop on Railway Noise) which will be hosted by Chalmers/CHARMEC on 9–13 september 2013. Member (2009–) of Advisory Board at Campus Varberg for a two-year training programme delivered for students aiming for a vocational career as engineers working with projecting in the railway sector.

External projects and funding

Chalmers scientist-in-charge of a railway noise project at ABB Corporate Research and the Swedish National Testing and Research Institute in 1995–1996. The project was supported by the Swedish National Board for Technical Development (NUTEK).

Chalmers scientist-in-charge of seven EU-projects in the Fourth, Fifth and Sixth Framework Programmes: EuroSABOT, EuroBALT II, HIPERWHEEL, INFRASTAR, ERS, EURNEX and INNOTRACK. The projects involve numerous contacts with European universities, institutes, administrations, consultancies and industries.

Miscellaneous projects and consultant works, many of them for the wheelset manufacturer Lucchini Sweden.

Joint project 2010–2015 “Improved performance of brake discs” between Chalmers and Scania CV which is co-financed by the government agency VINNOVA in the area Vehicle Development of the FFI Programme.

Major research funding 1995–2015 through the Competence center CHARMEC (about MSEK 450).

Co-operation and contacts

Close co-operation with industries, administrations, institutes, universities and consultancies, especially in railway related research activities, within the Centre of excellence CHARMEC (CHAlmers Railway MEchanics): VINNOVA (the Swedish Agency for Innovation Systems), Abetong, Bombardier Transportation Sweden, Faiveley Transport, Green Cargo, Lucchini Sweden, Interfleet Technology, Lucchini Sweden, SJ, SL, Swemaint, voestalpine Bahnsysteme, SP Swedish National Testing and Research Institute, the Railway Group at the Royal Institute of Technology (KTH), JVTC – Luleå Railway Research Center at Luleå Technical University and several departments/divisions at Chalmers University of Technology.

Contacts and co-operation with companies and organizations in Sweden and Europe: SKF, LKAB/ MTAB, Scania, Virtual Vehicle Research Center (Graz, Austria) and many other through EU-projects, see CHARMEC Triennial Reports (available as pdf:s at www.chalmers.se/charmec).

International contacts (outside Europe), especially through the railway mechanics projects, such as with Association of American Railroads in Pueblo, Colorado, National Research Council in Vancouver and Ottawa, Railway Technical Research Institute in Tokyo, Southwest Jiaotong University in Chengdu and Spoornet in Pretoria.