Curriculum vitae

| BASIC INFORMATION | Rolf <u>Isaac</u> Skog | *Voice:* +46 708186805 |
| | Date of birth: 1981-06-15 | *E-mail:* skog@kth.se |

CURRENT POSITIONS

KTH Royal Institute of Technology

Associate Professor   May. 2024 to present
- Associate Professor in Communication Systems at KTH Royal Institute of Technology.

S3 Research AB

Founder   Jan. 2019 to present
- R&D within signal processing and machine learning.

FOI, Swedish Defense Research Agency

Adjunct Senior Researcher   Jan. 2019 to present
- Signal processing research for underwater surveillance.

Nordic Institute of Navigation

Board member   Mar. 2017 to present
- Non-profit organisation for professionals working within the field of navigation.

EDUCATION

KTH, Royal Institute of Technology, Stockholm, Sweden

Docent, Signal Processing (2015)

Ph.D., Signal Processing (2010)

INTERNATIONAL EXPERIENCE

WUSTL, Washington University in St. Louis

Visiting Scholar   Aug. 2014 & Aug. 2015
- Guest researcher at the Integrated Signal Processing in Research and Education Lab, Dept. Electrical & System Engineering, Washington University

IISc, Indian Institute of Science

Visiting Scholar   Sept. 2011 to Jan. 2012
- Guest researcher at the Statistical Signal Processing Lab, Dept. of Electrical Communication Engineering, Indian Institute of Science

UoC, University of Calgary

Visiting Scholar   Feb. 2009 to Jul. 2009
- Guest researcher at the Mobile Multi-Sensor Systems Research Team at the University of Calgary

RESEARCH PROJECTS

Ongoing research projects
- *Tensor-field based localization*, Founded by Swedish Research Council (VR), 2021 – onward. (PI)
- *Joint Sensing, Localization, and Communication for Next Generation Autonomous Underwater Systems*, Founded by WASP, 2022 – onward. (PI)
- *Complex Acoustic Surveillance and Tracking (COAST)*, conducted together with FOI Swedish Defense Research Agency. Founded by CENIIT, 2019 – onward. (PI)

- *Distributed Learning of Augmented State-Space Models*, Founded by WASP, 2024 – onward. (Co-PI)
- *Cooperative Autonomous Air and Surface System for Underwater Surveillance in Complex Ocean Environments*, Founded by WASP, 2024 – onward. (Co-PI)
- *Integrated Sensing and Acoustic Communication (ISAAC)*, Founded by KTH, 2024 – onward. (PI)

PhD students

Current and previous PhD students

- Ashwani Koul, LiU, main supervisor, ongoing.
- Chuan Huang, LiU, main supervisor, ongoing.
- Daniel Bossér, LiU, main supervisor, ongoing.
- Sebastian Karlsson, LiU, co-supervisor, ongoing.
- Anton Kullberg, Ph.D. Automatic Control, co-supervisor, LiU, 2024.
- Magnus Malmström, Ph.D. Automatic Control, co-supervisor, LiU, 2023.
- Håkan Carlsson, Ph.D. Signal Processing, co-supervisor, KTH, 2022
- Johan Walhström, Ph.D. Signal Processing, co-supervisor, KTH, 2017.

Publications and patents

Publications and patents

Summary of publication output:

- 35 journal publications
- 51 international conference papers
- 4 patents
- 5272 citations (h-index 33)

Awards

Scientific awards and token of excellence

- Listed among the top 2% most cited scientists in the world according to Elsevier RV and Stanford University[1].
- Editor for the IEEE Journal on *Indoor and Seamless Positioning and Navigation*.
- Best Survey Papers Award[2] (2000–2009), IEEE Transactions on Intelligent Transportation Systems, 2013.
- 2nd Best Paper Award. A. Kullberg, I. Skog and G. Hendeby, *Iterated Filters for Nonlinear Transition Models*, 26th Int. Conf. on Information Fusion, 2023.
- 2nd Best Paper Award. D. Bossér, G. Hendeby, M. L. Nordenvaad and I. Skog, *A Statistically Motivated Likelihood for Track-Before-Detect*, Int. Conf. on Multisensor Fusion and Integration for Intelligent Systems, 2022.
- Co-creator and developer of the OpenShoe foot-mounted inertial navigation platform, used by researchers and companies in more than 20 countries. Retailed by GT Silicon, India, with +400 units sold.
- Co-creator and developer of the tactical locator (TOR) system, a full scale demonstration system for infrastructure-free positioning and tracking of fire fighters inside buildings. Awarded the best demonstration award at the IEEE Indoor Positioning and Indoor Navigation (IPIN) conference, Busan, Korea 2014.
- Developer of the signal processing and machine learning algorithms for SafeLine Sweden AB IoT system for predictive maintenance of elevator systems[3].

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[1]See database at https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/5
[2]The Top and the Best: Toward Excellence in ITS Research and Development, *IEEE Trans. on Intell. Transp. Syst.*, vol. 14, no. 3, Sep. 2013.
[3]https://www.safeline-group.com/sv/produkter/safeline-orion/safeline-orion/safeline-orion