

Agenda

Speaker



Lunchtime seminar
Room Vilhena–Wignacourt

23 November 2018
12:40–14:30

Artificial intelligence (AI) in epidemiology: a reality in 2018?

12:40 – 12:50 **Arrival of participants**

Please collect your lunch from outside the seminar room and join us for the talk at 12:50

12:50 – 13:00 **Welcome notes**

Dr Ines Steffens, editor-in-chief, *Eurosurveillance*

13:00 – 13:50 **Artificial intelligence (AI) in epidemiology: a reality in 2018?**

Professor Magnus Boman, Royal Institute of Technology (KTH) and Research Institutes of Sweden (RISE), Stockholm, Sweden

13:50 – 14:30 **Expert panel discussion**
Questions and answers



Professor Magnus Boman, Royal Institute of Technology (KTH) and Research Institutes of Sweden (RISE), Stockholm, Sweden

Magnus Boman is a professor in Intelligent Software Services and an expert in artificial intelligence, data science and statistical learning theory. He is currently building learning machines for analysing patient behaviour in a clinical flow of Internet-based psychiatry patients. Over the last dozen or so years, Magnus worked as a computational epidemiologist in Sweden and the United Arab Emirates, chiefly with influenza-like illnesses. He spent 4 years as a foresighter for the European Commission, where he analysed the role of information technology cross-industry and over many areas, including active healthy ageing and precision medicine.



Dr Ines Steffens, Moderator

Since April 2011, Ines has been editor-in-chief of the scientific journal *Eurosurveillance* published by the European Centre for Disease Prevention and Control (ECDC) in Stockholm, Sweden. She has been affiliated with the journal since 2003. During her tenure as managing editor from 2006 to 2011, she was responsible for the transfer of the journal from its previous publishers in London and Paris to ECDC. Building up a new editorial structure and team in Stockholm, she initiated and implemented important changes in the editorial policy and workflows. Coupled with a highly proactive approach, this led to increased visibility and acceptance of the journal and the firm placing of *Eurosurveillance* among the world's leading journals in its field.

Over 10 years, Ines was part of the Scientific Committee of the European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE). She is a member and vice-president of the European Association of Science Editors (EASE) Council and a member of the scientific committee organising the 2020 EASE conference. Dr Steffens was among the group that founded the EASE Gender Policy Committee and she was involved in establishing the Sex and Gender Equity in Research (SAGER) guidelines.

Artificial intelligence (AI) in epidemiology: a reality in 2018?

Algorithm-based machine learning that leads to the generation of new knowledge and that can be applied to autonomous decision making/problem-solving is at the core of artificial intelligence (AI). The opportunities and dangers posed by AI have fascinated humans for a long time. The beginnings of AI as science date back to the mid-1950s, and already 50 years ago Stanley Kubrick and Arthur C. Clarke's movie '2001: A Space Odyssey' featured an impressive character: the malicious HAL 9000, an AI that is programmed to flexibly oversee the spaceship and interact with its crew but that eventually gets out of control. HAL has become a symbol for the power and dangers of AI. However, this is just one part of the picture. Major advances through AI such as an early warning system for sepsis, an automated CT scan reader, and a superhuman-quality referral decision procedure for different eye diseases etc., exemplify the great potential of its application to help overcome societal and economic challenges. At the same time, a number of technological, ethical, legal and socio-economic aspects need to be considered in the use of AI and there is a need for rules and regulations.

In Europe, the European Commission has put AI high on its agenda and stressed that 'to build robust models at the core of AI-based systems, high quality data are a key factor to improve performances'. To allow for innovation and to support the development of new technologies, revised rules on public sector information, as well as research and health data have been proposed to improve data sharing and open up more data for re-use while also taking into account the interpretability and transparency which are needed to avoid AI systems becoming black boxes. The 7th *Eurosurveillance* scientific lunchtime seminar, moderated by Dr Ines Steffens, editor-in-chief of the journal, will feature a keynote lecture by Professor Magnus Boman, from the Royal Institute of Technology (KTH) and Research Institutes of Sweden (RISE), Stockholm, Sweden. Professor Boman will introduce general concepts related to AI and illustrate related opportunities and challenges. He will also present existing and possible future AI applications in communicable disease epidemiology. The lecture will be followed by a panel discussion with epidemiologists and public health microbiologists. There will be room for our audience to take an active part in the discussion by sharing their experiences and expressing views.

About us

Eurosurveillance is a European peer-reviewed scientific journal devoted to the epidemiology, surveillance, prevention and control of communicable diseases, with a focus on such topics that are of relevance to Europe. It is a weekly online journal, with 50 issues per year published on Thursdays, and features short rapid communications, longer in-depth research articles, surveillance and outbreak reports, reviews and perspective papers, as well as short news items. Timely publication of short authoritative papers on ongoing outbreaks or other relevant public health events is one of the major assets of the journal. Under special circumstances when current events need to be urgently communicated to readers for rapid public health action, e-alerts can be released outside of the regular publishing schedule. Topical compilations of selected articles and special issues are also published in print with a limited number of copies.

The entire content is open access, free of charge for both readers and authors. All articles are indexed in the PubMed/MEDLINE, PubMed Central (PMC), Scopus, EMBASE, EBSCO and Science Central databases. *Eurosurveillance* is listed in the Directory of Open Access Journals (DOAJ) as green open access. Furthermore, it is listed in the Sherpa/Romeo database as a journal that allows pre- and post-print archiving. It thus complies with the open access standards required by international and national funders such as the European Commission (FP7 and Horizon 2020), the World Health Organization, the World Bank and the Wellcome Trust.

The journal has been selected for coverage by Thomson Reuters and is indexed and abstracted in the Science Citation Index Expanded and in the Journal Citation Reports/Science Edition beginning with volume 14(1) 2009. The most recent impact factor, for the year 2017, is 7.1 (Journal Citation Reports, Thomson Reuters, 2018). This places *Eurosurveillance* at rank 5 among the 88 journals in the category Infectious Diseases. The Scopus-based SCImago Journal Rank (SJR) for 2017 ranks *Eurosurveillance* 58 of 2,863 journals in the category Medicine (miscellaneous). The journal is also in the first quarter (Q1) in the categories Epidemiology, Public Health, Environmental and Occupational Health and Virology. Google Scholar metrics in 2017 listed *Eurosurveillance* at ranks 5 and 13 among journals in the categories Epidemiology and Communicable Diseases, respectively.

Eurosurveillance was founded in 1995 when a first pilot issue was published. The journal was jointly funded until March 2007 by the European Commission, the Institut de Veille Sanitaire (InVS, now Santé publique France) in Paris, France and the Health Protection Agency (HPA, now Public Health England) in London, United Kingdom. *Eurosurveillance* is a registered trademark of the European Union (EU).

Since March 2007, *Eurosurveillance* has been published by the European Centre for Disease Prevention and Control (ECDC) in Stockholm, Sweden. ECDC funds this journal with its own resources; *Eurosurveillance* does not have any other sources of funding.

The publisher grants editorial independence to the editorial team. The views expressed in the journal are those of the authors and may not necessarily comply with ECDC policy. As a non-profit publication, the journal has no financial conflicts of interest.

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Eurosurveillance



Seventh scientific seminar
*Artificial intelligence (AI) in epidemiology:
a reality in 2018?*

ESCAIDE
Saint Julian's, Malta
23 November 2018



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