Abstract
This paper shortly describes the milestones in the development of science communication in Estonia. It identifies three key events in the emergence of modern science communication: (1) the publication of the popular science magazine Horisont in 1967; (2) the foundation of the science center AHHAA in 1997; and (3) the start of annual science communication conferences in 2008 which then helped to initiate a government-funded science communication program.

Text
The first initiatives in Estonia that fall in the category of science communication are related to the initiatives of the foreign rulers to educate and enlighten the local Estonian peasants. These were often led by immigrant Lutheran ministers and private teachers who were convinced that “if peasants’ virtues were developed and proper education provided, their social circumstances would improve” (Høyer et al., 1993: 55). In 1766-67, 41 issues of the first Estonian-language magazine Lühikke öppetus (Brief Instruction) were published, giving advice in health and housekeeping matters and herbal medicine. Enlightenment ideas also guided the following magazines and newspapers, including Ma-ilm ja monda (The world and other things, 1848), a widely read popular science magazine and the first illustrated Estonian magazine (Peegel, 1994). The contribution of Tartu University (founded in 1632 by Sweden and re-opened in 1802 under Russian Czarist rule) became more important towards the end of the 19th century when students’ organizations established themselves as prominent venues to bring
science to the public. Also, University’s Natural History museum and Botanical Gardens (opened in 1802 and 1803 respectively) were both open to the public.

The national movement on the second half of the 19th century also spawned the first scholarly for the study of Estonia's history and pre-history, its language, literature and folklore. The consolidation of Estonian identity eventually led to the declaration of independent Estonia in 1918.

During the first period of independence, fundamental sciences were considered unpractical for a small nation like Estonia and the emphasis was on ‘national’ sciences (i.e. those dealing with Estonian history, culture, nature etc) or applied sciences (Kalling & Tammiksaar, 2008). Science started becoming professional and institutionalized (Estonian Academy of Sciences was founded in 1938), however, in 1940 Estonia was occupied by Soviet Union and lost much of elite, who were either arrested and deported or fled to the Western world. Science was rebuilt on Soviet standards.

As science and technology enjoyed a prominent position in the society in the 1950s and 60s, especially thanks to the space conquests by Soviet Union, the modern science communication started to emerge. In 1964 National Broadcasting radio unit started the science program Kristall (Crystal) that ran until 1980s. More influential, however, became the magazine Horisont (Horizon), first published in 1967 which inspired a new generation of scientists and science writers.

The hierarchical media system (Høyer et al., 1993) allowed magazines like Horisont more freedom whereas publications on the higher level, such as national newspapers, were under stricter ideological control. Science coverage in them usually served the purpose of celebrating the Soviet system and constructing the image of a model Soviet citizen. Rather than writing articles about actual results, the newspaper items tend to portray work in progress. Science is not explained in the articles. (Olesk, 2009).

Ideological purposes were also behind the establishment of National society Teadus (Science). The society arranged lectures and published brochures mostly on ideology-related topics but provided a venue for science communication as well.

The next major political and societal transformation – the restoration of independence in 1991 – again left little intact of the previous science popularization
system. The field suffered from lack of resources and support, and was only sustained by devoted enthusiasts.

The 1990s saw the creation of Estonian Association of Science and Environment Journalists and the science center AHHAA, both following a Finnish example. From modest beginnings, AHHAA gradually expanded and in 2011 opened a new and popular interactive science center in Tartu.

The International Year of Physics in 2005 initiated the Estonian Physics Society to launch the still-active Big Dipper science bus that visits schools and gives science shows.

Many of the activities that can be described as essential parts of modern science communication in Estonia were catalyzed by Estonia’s entry to the European Union in 2004. For example, the national contest for young scientists was launched after Estonia was approached by the European Commission to send entries for the pan-European contest. Many major projects (museums, TV programs, national science festival) have been or are still partly funded with EU money.

The period since 2005 can be described as the establishing of modern science communication in Estonia. In 2006 science popularization unit was founded at the Estonian Research Council and first national science popularization prizes awarded by the unit. In 2008 first annual science communication conference was held bringing together all actors and defining the major problems and possible solutions. As a result, the dominant discourse in Estonian science communication activities has been the aim of attracting young people to science and engineering.

Based on this, the national program TeaMe (2009-2015) was launched. Funded by European Social Fund, it included production of new study materials for science classes, production of two TV-shows, science communication training for scientists and journalists and travel grants for science communicators. As part of the program, first science communication training courses for scientists (1-2 days) was held in 2010. TV-show Rakett 69 (Rocket 69), funded by the program, was declared the best educational program in 2012 by the European Broadcasters Union.
In addition, the period of September 2011 to September 2012 was declared National Year of Science in Estonia, aiming to get more public attention to the science communication activities.

In 2013 science communication first appeared as a subject in university curricula (in Tallinn University) and the first PhD graduate in science communication is expected in 2017.

References

