

## ***Trickle down and grow - implanting research issues onto student practices***

The presentation will focus on how artistic research projects at our home institution engages with the wider teaching activities, permeating student activities and art practice in a variety of contexts and on many levels of the music education. The specific teaching environment for this permeation of practices spans music technology, jazz performance, and fine arts. For the lower levels (first year students) this relates to introduction of tools and concepts, and a general awareness of the issues currently being researched. For higher levels (third and fourth year students) it includes hands-on sessions, practical assignments, and more in-depth study of tools and techniques. Many of the students as a consequence also choose a related topic as their specialization in the master project. As an example, studio sessions of practical exploration integral to the artistic research have been done in the context of ensemble teaching for the jazz department. The gains of this approach have been manifold: for the students to explore hitherto uncharted performance territory, the meeting point between novel practices and established traditions, iteratively meeting these challenges at different points in their studies, for the researchers to get feedback on practical, artistic and reflexive issues from a variety of performers, and so on. When focus areas for new research projects have been under planning, it has not been uncommon that students have started active exploration before the institutional formal and economic framework for a proper project has been established. The *trickling down and grow* strategy, in our view, enriches the education, informs the research, and makes the turnaround time for exploring new initiatives shorter.

The strategy has been explored in two artistic research projects (2013 and 2018) for the larger research environment around music technology at NTNU. Each of the authors also has done their doctorate studies as research fellows in the Norwegian Programme for Artistic Research (2008 and 2012).

(2008, Brandtsegg) *New creative possibilities through improvisational use of compositional techniques, - a new computer instrument for the performing musician*

(2012, Engum) *Beat the Distance - music technological strategies for Composition and production*

(2013) *T-EMP: Trondheim Electroacoustic Music Performance. Communication and interplay in an electronically based ensemble.* 2013.

(2018) *Cross-adaptive audio processing as musical intervention*

Our artistic research projects have explored new modes of music performance and new modes of musical interplay. Thus, an integral part of the work has naturally been practical exploration, *playing*, and *playing around* with the methods under investigation. The teaching activities e.g. in ensemble sessions has fed directly back to the research project both as research data, empirical investigation and reflexive input. The performative concepts under investigation have been used to nourish the teaching, and provide a contemporary and acute perspective on subjects for the courses taught. This bilateral exchange between research and teaching has in our experience proved very fruitful. The student's input has been extremely valuable as research data. The assumed gain for the students has been both in the form of being exposed to radical performance methods, but also to be exposed to a playful context where teaching and research are closely integrated.

## Øyvind Brandtsegg and Trond Engum, Norwegian University of Science and Technology

[oyvind.brandtsegg@ntnu.no](mailto:oyvind.brandtsegg@ntnu.no)



**Øyvind Brandtsegg** is a professor of music technology at NTNU, Trondheim, Norway. He also works as a composer and performer in the fields of algorithmic improvisation, live processing, and sound installations. One of his custom instruments is the Hadron Particle Synthesizer, an extremely flexible realtime granular synthesizer. Hadron is widely used within experimental sound design with over 200.000 downloads of the VST/AU version. Brandtsegg has collaborated with well-known artists like Motorpsycho, Maja Ratkje, Arne Nordheim, Christian Eggen, and he runs the ensemble Trondheim Electroacoustic Performance (T-EMP). Currently he is doing research into cross-adaptive processing for live performance, collaborating with an international team of researchers from the UK, USA, Holland and Norway. Recent writings include Csound: A Sound and Music Computing System (Springer, 2016, with J. Ffitch, S. Yi, J. Heintz, O. Brandtsegg, and I. McCurdy).

[trond.engum@ntnu.no](mailto:trond.engum@ntnu.no)



**Trond Engum** is a professor of music technology at NTNU, Norway. He also works as a composer and performer within the field of music technology. His main instrument is guitar and electronics. Engum has a background from bands like The 3rd and The Mortal and The Soundbyte, and have released numerous international recognized albums, played concerts and festivals since the mid 90`s. He has composed music for several theatrical performances and television programs. Engum is also a part of the ensemble Trondheim Electroacoustic Performance (T-EMP).