

Workshop on  
“Systematic approaches to deep learning methods for audio”  
September 11 – 15, 2017

organized by

Monika Dörfler (NUHAG, U Vienna) and Arthur Flexer (OFAI, Vienna)

• **Monday, September 11, 2017**

09:00 – 09:30 **Registration & Opening**

09:30 – 10:40 **Jan Schlüter**

*Deep learning as an engineer: The nuts and bolts and dirty tricks*

10:45 – 11:15 *Coffee / Tea Break*

11:15 – 12:15 **Philipp Grohs**

*Deep learning as a mathematician: Conjectures, proofs and open questions*

12:45 – 14:30 *Lunch Break*

14:30 – 15:15 **Fabio Anselmi**

*Invariant and selective and representations with applications to Deep learning*

15:20 – 16:15 **Emmanuel Vincent**

*When mismatched training data outperform matched data*

16:15 – 16:45 *Wrap-up*

17:00 – 19:00 **Welcome-Gathering**

• **Tuesday, September 12, 2017**

09:30 – 10:20 **Irene Waldspurger**

*Inversion of the wavelet transform modulus*

10:30 – 11:00 *Coffee / Tea Break*

11:00 – 11:35 **Joakim Andén**

*Joint Time-Frequency Scattering Networks*

11:45 – 12:20 **Vincent Lostanlen**

*The spiral and the snowball: deeper enhancements to time-frequency scattering*

12:45 – 14:45 *Lunch Break*

14:45 – 15:15 **Roswitha Bammer**

*Invariance and Stability of Gabor Scattering for Music Signals*

15:30 – 16:05 **Antoine Deleforge**

*Reversed Mixture-of-Experts Networks for High- to Low-Dimensional Mapping*

16:15 – 16:45 *Wrap-up*

• **Wednesday, September 13, 2017**

09:30 – 10:15 **Simon Durand**

*Automatic downbeat tracking of music audio signals*

10:15 – 10:40 **Stefan Balke**

*Literature Review: Deep Neural Networks in MIR*

10:45 – 11:15 *Coffee / Tea Break*

11:25 – 11:55 **Pavol Harar**

*Voice Pathology Detection Using Deep Learning: a Preliminary Study*

12:00 – 12:35 **Aggelos Gkiokas**

*Causal Time Series Processing with Convolutional Neural Networks. An application to Real Time Beat Tracking*

12:45 – 14:30 *Lunch Break*

14:30 – 15:15 **Karen Ullrich**

*Bayesian Neural Networks: Techniques and Applications*

15:15 – 15:50 **Andre Holzapfel**

*Bayesian meter tracking on learned signal representations*

16:15 – 16:45 *Wrap-up*

• **Thursday, September 14, 2017**

09:30 – 10:15 **Guido Montufar**

*Exponential advantages of deep and distributed representations*

10:15 – 10:45 *Coffee / Tea Break*

10:45 – 11:30 **Grégoire Montavon**

*Explaining the Predictions of Deep Neural Networks*

12:00 – 12:35 **Hendrik Vincent Koops**

*Learning Shared Chord Representations for Annotator Subjectivity*

12:45 – 14:30 *Lunch Break*

14:30 – 15:05 **Sebastian Stober**

*Automatic Speech Recognition (on a Budget) - Transfer Learning and Introspection*

15:10 – 15:40 **Olga Slizovskaia**

*Correspondence between audio and visual deep models for musical instrument detection in video recordings*

15:40 – 16:15 **Mishra Saumitra**

*Interpretable machine learning for music content analysis*

16:15 – 16:45 *Wrap-up*

19:00 - 22:00 **Workshop Dinner**

- **Friday, September 15, 2017**

09:30 – 10:10 **Matthias Dorfer**

*Learning Correspondences between Audio and Sheet-Music Images*

10:10 – 10:50 **Oriol Nieto**

*Cold-Start Music Recommendation Using Multimodal Deep Architectures*

10:50 – 11:30 *Coffee / Tea Break*

11:30– 12:25 **Sander Dieleman**

*Deep learning for music recommendation and generation*

12:30 – 13:30 *Wrap-up and Closing*

**All talks take place at the ESI, Boltzmann Lecture Hall.**