

Summer School 2019

Machine Learning for (medical) Imaging

PhD Program Biomedical Engineering, Riederalp, 16.06.2019-21.06.2019



Day One

Sunday, 16.06.2019



17:15

Check-in, registration

18:00

Welcome Apéro

18:30

Dinner

20:00 – 21:30

Poster Viewing Session:
Informal get together & Hang up Poster

Day Two

Monday, 17.06.2019 - Jintao Pu (Chair: Gaby Oser)

7:15 Breakfast

8:30 Session 1: **Overview of my research**

10:00 Coffee break

10:30 Session 2: **Computational geometry and medical image processing**
a) 1-2 classical articles for discussion

12:00 Lunch

13:45 Session 3: **Quantitative image analysis, machine learning (deep learning), and computer-aided diagnosis:**
a) several types of diseases, (i.e. lung cancer, COPD, retinal disease)
b) 1-2 topics / articles for discussion

15:00 Coffee break

15:45 – 17:00 Poster Session 1

17:00 Break

17:15 – 18:15 Poster Session 2

18:30 Dinner

20:00 - 21:30 Evening Prgm: Q&A with Faculty (Ender Konukoglu)

Day Three

Tuesday, 18.06.2019 - Ender Konukoglu (Chair: Cristina Granziera)

7:15

Breakfast

8:30

Session 1:

- Bayesian modeling in medical image analysis
- Unsupervised learning for better priors

10:00

Coffee break

10:30

Session 2: Bayesian modeling for image reconstruction and abnormality detection and / or one recent article for discussion

12:00

Lunch

13:45

Session 3: Bayesian modeling

15:15

Group Photo

15:30

Coffee break

15:45 – 17:00

Poster Session 3

17:00

Break

17:15 - 18:15

Poster Session 4

18:30

Dinner

20:00 - 21:30

Evening Prgm: Q&A with Faculty (Toby Delbrück)

Day Four

Wednesday, 19.06.2019 - Toby Delbrück (Chair: Bert Müller)

7:15 Breakfast

8:00 Session 1: **Dextra** – the possibilities of artificial Intelligence

10:00 Social event - Hike

Route 1: 1h (mit Riederhorn total 2h)

Riederalp – Riederfurka (30 min) – Riederalp (30 min) mit/ohne Rundwanderung ums Riederhorn (ca.1h, «Casselweg »)

Route 2: 4h

Riederalp –Riederfurka (30 min) - Tiefe Wald (30min) - Kalkofen - Täli - Grüensee (1h05min) - Hängebrücke 1550m (15min) (hin und zurück)– Silbersand – Riederfurka (1h 30) – Riederalp (30 min)

Route 3: 6.5 h

Moosfluh – Mariälensee- Bettmeralp-Riederalp (6.5 h)

18:30 Dinner

20:00 - 21:30 Evening Prgm: Q&A with Faculty (Benjamin Odry)

Day Five

Thursday, 20.06.2019 - Benjamin Odry (Chair: Cristina Granziera)

7:15

Breakfast

8:30

Session 1:

- Research Overview, applying SOTA DL techniques (GAN, Resnet, Densenets) to clinical applications.
- MR and Deep Learning with real world data

10:00

Coffee break

10:30

Session 2: **Uncertainty**, what is it and how to use it in a clinical workflow

12:00

Lunch

13:45

Session 3: **Application to particular case**

15:15

Coffee break

15:45

Session 4: **Machine Learning in the Clinics**: Cristina Granziera(theory) & Simon Pezold (application)

17:15

Social Life/Sports

18:30

Dinner

20:00 (- 21:30)

Evening Prgm: Q&A with Faculty (Pu Jiantao)

Day Six

Friday, 21.06.2018 – PSI and Bert Müller

7:15 Breakfast

8:30 *Session 1: Paul Scherrer Institut: Research Insights*

10:00 Coffee break

10:30 Session 2: wrap up and closing session

12:00 Lunch

13:00 Check out - Departure



Thank you

for your participation in the Summer School 2019!