#### **Session Program**

#### 28 January 2018 to 3 February 2018



# 48th Saas-Fee course: Black hole formation and growth

#### Lectures

Saas-Fee, Hotel Allalin, lectures in FerienArt hotel, welcome and concert in Steinmatte Dorfweg 1, 3906 Saas-Fee, Switzerland

## Monday 29 January

08:40	Lectures: Foundations of general relativity and black-holes
09:30	Session   Location: Conference Hall   Convener: Prof. Neil Cornish
09:30	Lectures: Primordial black holes
10:20	Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo
10:50	Lectures: How do black holes accrete, accretion yields, importance of feedback, SMBH and galaxies Session   Location: Conference Hall   Convener: Prof. Andrew King
17:20	Lectures: The physics of gravitational waves
18:10	Session   Location: Conference Hall   Convener: Prof. Neil Cornish
18:10	Lectures: BH and their role in re-ionization
19:00	Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo

## Tuesday 30 January

08:40	Lectures: Accretion discs, Eddington limit
09:30	Session   Location: Conference Hall   Convener: Prof. Andrew King
09:30	Lectures: Interferometric gravitational wave detectors, ground, space and pulsar timing Session   Location: Conference Hall   Convener: Prof. Neil Cornish
10:50	Lectures: The first quasars
11:40	Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo
17:20	Lectures: Binaries and transients
18:10	Session   Location: Conference Hall   Convener: Prof. Andrew King
18:10	Lectures: Interferometric gravitational wave detectors, ground, space and pulsar timing Session   Location: Conference Hall   Convener: Prof. Neil Cornish

## Wednesday 31 January

08:40	Lectures: The growth of the BH mass function, BH merger rates
09:30	Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo
09:30	Lectures: Spin evolution of SMBH, limits to growth
10:20	Session   Location: Conference Hall   Convener: Prof. Andrew King
10:50 11:40	Lectures: Interferometric gravitational wave detectors, ground, space and pulsar timing Session   Location: Conference Hall   Convener: Prof. Neil Cornish
17:20 18:10	Lectures: The peak of the quasar phase in galaxies, the dormant, massive BH population Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo
18:10	Lectures: Super-Eddington accretion, winds and interaction with surroundings, M - sigma relation
19:00	Session   Location: Conference Hall   Convener: Prof. Andrew King

## Thursday 1 February

08:40	Lectures: Gravitational wave signals from binary systems
09:30	Session   Location: Conference Hall   Convener: Prof. Neil Cornish
09:30	Lectures: Quasars and Cosmology/large scale structure
10:20	Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo
10:50	Lectures: Episodic nature of feedback
11:40	Session   Location: Conference Hall   Convener: Prof. Andrew King
17:20	Lectures: Quasars LEs and clustering AGN feedback and its effects on
	DM power spectrum
18:10	Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo

#### Friday 2 February

08:40	Lectures: Gravitational wave data analysis
09:30	Session   Location: Conference Hall   Convener: Prof. Neil Cornish
09:30	Lectures: Transition to energy-driven outflow, large-scale outflows
10:20	Session   Location: Conference Hall   Convener: Prof. Andrew King
10:50 11:40	Lectures: Cosmological Simulations of Structure formation: galaxies and BHs in large volumes Session   Location: Conference Hall   Convener: Prof. Tiziana Di Matteo
17:20	Lectures: Gravitational wave data analysis
18:10	Session   Location: Conference Hall   Convener: Prof. Neil Cornish
18:10	Lectures: Feedback effects on star formation, SMBH - bulge mass relation, radiation feedback
19:00	Session   Location: Conference Hall   Convener: Prof. Andrew King

#### Saturday 3 February

08:40	Lectures: Astrophysical rate and population constraints
09:30	Session   Location: Conference Hall   Convener: Prof. Neil Cornish
09:30	Lectures: Open problems
10:20	Session   Location: Conference Hall   Convener: Prof. Andrew King