Program

LION Summer School: Modern physics at all scales
Sunday July 22 - Wednesday August 1, 2018

Sunday, July 22

Arrival at hotel (dinner is not included)

Monday July 23

09:00-10:00	***Prof. Dirk Bouwmeester:*** *Welcome to LION (Including review of Dutch traffic rules for bicyclists)*
10:00-11:00	***Dr. Dorothea Samtleben:*** *Introduction to neutrino astronomy*
11:00-11:30	break
11:30-12:30	***Dr. Yashar Akrami:*** *The Big Bang and the Cosmic Microwave Background*
12:30-13:30	lunch (with speakers of the day)
13:30-14:30	***Dr. John van Noort:*** *the Physics of DNA organization*
14:30-15:00	break
15:00-16:00	***Dr. Philippe Sabella-Garnier:*** *The Anti de Sitter-Conformal Field Theory (AdS/CFT) correspondence*
16:30-18:00	***Get bicycles!!***
18:30	Welcome dinner

Tuesday July 24

09:00-10:00	***Dr. Dorothea Samtleben:*** *neutrino oscillations*
10:00-11:00	***Dr. Yashar Akrami:*** *The Big Bang and the Cosmic Microwave Background*
11:00-11:30	break
11:30-12:30	***Prof. Thomas Schmidt:*** *Introduction cell biology*
12:30-13:30	lunch (with speakers of the day)
13:30-14:30	***Prof. Carlo Beenakker:*** *Quantum computers*
14:30-15:00	break
15:00-16:00	***Dr. Jaap Kautz:*** *Introduction to Low Energy Electron Microscopy (LEEM)*
16:00-17:00	***Dr. Jaap Kautz:*** *Experiments with the LEEM*
20:00	Pub quiz, Café “Storm”

Wednesday July 25

09:00-10:00	***Prof. Carlo Beenakker:*** *Quantum computers*
10:00-11:00	***Dr. John van Noort:*** *the Physics of DNA organization*
11:00-11:30	break
11:30-12:30	***Prof. Thomas Schmidt:*** *Introduction cell biology*
12:30-13:30	lunch (with speakers of the day)
13:30-17:00	**Hands on Lab visit 1:** Cell Observatory (setups: *Schmidt / Semrau / van Noort,...)*
17:30:	Evening program (boat Leiden).

Thursday July 26

09:00-10:00	***Prof. Dirk Bouwmeester:*** *The collapse of the quantum wave function*
10:00-11:00	***Jorgos Papadomanolakis:*** *Introduction to cosmology*
11:00-11:30	break
11:30-12:30	***Prof. Martin van Hecke:*** *Mechanics of metamaterials*
12:30-13:30	lunch (with speakers of the day)
13:30-14:30	***Prof. Jan van Ruitenbeek:*** *Electronic transport through single molecules*
14:30-17:00	**Hands on Lab visit 2:** Kamerlingh Onnes Laboratory (Organizer Jaap Kautz)

Free evening

Friday July 27

09:00-10:00 ***Jorgos Papadomanolakis*****:** *General Relativity and its extensions*.
10:00-11:00 ***Dr. Alexey Boyarsky:*** *Why do we believe that the Standard Model is incomplete?*
11:00-11:30 break
11:30-12:30 ***Dr. Alexey Boyarsky:*** *Why do we believe that the Standard Model is incomplete?*
12:30-13:30 lunch (with speakers of the day)
13:30-14:30 ***Dr. Wolfgang Löffler:*** *Solid-state cavity QED*
14:30-15:30 ***Prof. Martin van Hecke:*** *Mechanics of metamaterials (introduction lab)*
15:30-16:00 break
16:00-17:00 ***Dr. Philippe Sabella-Garnier:*** *The Anti de Sitter-Conformal Field Theory (AdS/CFT) correspondence*

Free evening

Saturday July 28

Visit by train to Amsterdam Vondelpark / RijksMuseum, etc"

Sunday July 29

Cycling to Dunes/Beach
(rain alternative: Museum in Leiden)

Monday July 30

09:00-10:00 ***Prof. Martin van Exter:*** *Quantum Optics*
10:00-11:00 ***Dr. Wolfgang Löffler:*** *Solid-state cavity QED*
11:00-11:30 break
11:30-12:30 ***Prof. Jan Aarts:*** *Introduction to Superconductivity*
12:30-13:30 lunch (with speakers of the day)
13:30-14:30 ***PhD student in theoretical physics: Vincenzo Scopelliti:*** *Open Discussion*
14:30-15:00 break
15:00-18:00 ***Student presentations and performances***

Tuesday July 31

09:00-10:00 ***Prof. Martin van Exter:*** *Quantum Optics*
10:00-11:00 ***Prof. Jan Aarts:*** *Superconductor-ferromagnet Hybrid Devices*
11:00-11:15 **information about Leiden Master's program.**
11:15-11:30 break
11:30-12:30 ***Dr. Stefan Semrau:*** *Quantitative single cell biology*
12:30-13:30 lunch (with speakers of the day)
13:30-17:00 **Hands on Lab visit 3** *(Huygens: Exter, Löffler, de Dood, Bouwmeester):*

19:00 Good bye dinner

Wednesday August 1

09:00-10:00 ***Dr. Stefan Semrau:*** *Quantitative single cell biology*
10:00-10:30 ***break***
10:30-12:30 ***Prof. Dirk Bouwmeester:*** *Quantum cryptography, quantum teleportation, and other quantum Information schemes.*
12:30-13:30 ***Lunch***
13:30 **bicycle return**

End of program