Program

LION Summer School: Modern physics at all scales
Sunday July 16 – Wednesday July 26, 2017

Sunday, July 16
Arrival at hotel  (dinner is not included at the hotel but breakfast is included)

Monday July 17 Snellius
09:00-10:00  Prof. D. Bouwmeester Welcome to LION (Including brief review of Dutch traffic rules for bicycles)
10:00-11:00  Dr. Dorothea Samtleben: Introduction to neutrino astronomy
11:00-11:30  break
11:30-12:30  Prof. M. van Exter: Advanced optics
12:30-13:30  lunch@Huygens cafeteria (with speakers of the day)
13:30-14:30  Prof. M. van Exter/ Dr. Wolfgang Loeffler: Advanced optics
14:30-15:00  break
15:00-15:50  Dr. Denteneer: Fundamentals of solid state physics
15:50-16:00  short break
16:00-16:50  Dr. Denteneer: Fundamentals of solid state physics
17:00-18:00  Get bicycles!!
18:00  Welcome dinner Restaurant: Verboden Toegang

Tuesday July 18 Snellius
09:00-10:00  Dr. Dorothea Samtleben: neutrino oscillations
10:00-11:00  Prof. M. van Exter / Dr. Wolfgang Loeffler: Advanced optics
11:00-11:30  break
11:30-12:30  Prof. Michel Orrit: Single molecule optics
12:30-13:30  lunch@Huygens cafeteria (with speakers of the day)
13:30-14:30  Dr. Denteneer: Fundamentals of solid state physics
14:30-15:00  break
15:00-16:00  Dr. Jaap Kautz: Introduction to Low Energy Electron Microscopy (LEEM)
16:00-17:00  Dr. S.J. van der Molen: Experiments with the LEEM
20:00  Pub quiz, Café “Storm”

Wednesday July 19 Snellius
09:00-09:50  Prof. Ana Achúcarro: Observing the Big Bang
09:50-10:00  short break:
10:00-11:00  Prof. Ana Achúcarro: Observing the Big Bang
11:00-11:30  break
11:30-12:30  Prof. Michel Orrit: Single molecule optics
12:30-13:30  lunch@Huygens cafeteria (with speakers of the day)
13:30-14:30  Dr. Wolfgang Loeffler: Semiconductor Quantum Information Science
14:30-17:00  Hands on Lab visit 1 (Huygens: Orrit, Exter, Loeffler, de Dood, Bouwmeester):
17:30  Evening program ???
Thursday July 20 Snellius
09:00-10:00  **Dr. John van Noort**: the Physics of DNA organization
10:00-11:00  **Thomas O’Brien**: Introduction quantum computation
11:00-11:30  break
11:30-12:30  **Dr. Haymen Ben Hamida**: Introduction to superconductivity
12:30-13:30  lunch@Huygens cafeteria (with speakers of the day)
13:30-14:15  **Dr. Haymen Ben Hamida**: Introduction to superconductivity
14:15-15:00  **Prof. Dirk Bouwmeester**: On the collapse of the quantum wave function
15:00-17:00  Hands on Lab visit 2: Kamerlingh Onnes Laboratory
Free evening

Friday July 21 Snellius
09:00-10:00  **Dr. Stefan Semrau**: Quantitative single cell biology
10:00-11:00  **Dr. John van Noort**: the Physics of DNA organization
11:00-11:30  break
11:30-12:30  **Prof. Dirk Bouwmeester**: Quantum Cryptography, Quantum Teleportation
12:30-13:30  lunch@Huygens cafeteria (with speakers of the day)
13:30-14:30  **Thomas O’Brien**: Quantum Error Correction
14:30-15:30  **Prof. Martin van Hecke**: Mechanics of metamaterials (introduction lab)
15:30-16:00  break
16:00-17:00  **Lab tour**: Huygens Laboratory **Prof. Martin van Hecke**
Free evening

Saturday July 22
Visit by train to Amsterdam Vondelpark / RijksMuseum, etc”

Sunday July 23
Cycling to Dunes/Beach
(rain alternative: Museum in Leiden)

Monday July 24 Oort
09:00-10:00  **Dr. Yashar Akarami**: Gravity on the largest scales: Do we need to go beyond Einstein?
10:00-11:00  **Prof. Koenraad Schalm**: Introduction theoretical physics
11:00-11:30  break
11:30-12:30  **Prof. Koenraad Schalm**: Introduction theoretical physics
12:30-13:30  lunch@Huygens cafeteria (with speakers of the day)
13:30-14:30  **Prof. Thomas Schmidt**: Introduction cell biology
14:30-15:00  break
15:00-16:00  **Dr. Stefan Semrau**: Quantitative single cell biology
16:00-17:00  **Dr. Daniela Kraft**: Self-assembly in colloidal systems
Evening program (food delivery) and student presentations
Tuesday July 25 Oort
09:00-10:00 Dr. Paul Baireuther: Machine learning
10:00-11:00 Prof. Thomas Schmidt: Mechanobiology
11:00-11:15 information about Leiden Master’s program.
11:15-11:30 break
11:30-12:30 Prof. Doris Heinrich: Dynamical processes in living cells
12:30-13:30 lunch@Huygens cafeteria (with speakers of the day)
13:30-17:00 Hands on Lab visit 3: Cell Observatory
(setups: Schmidt/Heinrich/Semrau/van Noort,...)
19:00 Good bye dinner (location?)

Wednesday July 26 Oort
09:00-10:30 Dr. Alexey Boyarsky (live from CERN): Why do we believe that the Standard Model is incomplete?
10:30-11:00 break
11:00-12:30 Dr. Daniela Kraft: Self-assembly in colloidal systems (lecture and lab visit)
12:30-13:30 lunch@Huygens cafeteria
13:30 bicycle return

End of program