PROGRAM
CPLC SUMMER SCHOOL 2012

Sunday July 29 – ARRIVAL

Monday July 30 – Basic Training Day 1

8:00 – 8:40 am Registration and Continental Breakfast (Hallway outside Loomis 144)
8:40 – 9:00 am Welcome – Jaya Yodh, Director of Education and Outreach (Loomis 144)
9:00 – 10:00 am Taekjip Ha
Lecture 1: Introduction to the CPLC, smFRET, & SiMPull (Loomis 144)
10:00 – 11:00 am Klaus Schulten
Lecture 2: Towards Cell Scale Molecular Dynamics Simulations with VMD and NAMD -Demonstrated for the Light-Harvesting Apparatus of Purple Photosynthetic Bacteria (Loomis 144)
11:00 – 11:30 am Photo Shoot (Outside Loomis Courtyard)
11:30 – 1:15 pm Lunch (provided) & Poster Session (Physics Interaction Room, Loomis204)
1:15 – 6:30 pm MINI-COURSES: OPTICS, VMD, & MATLAB (refer to individual schedules – courses are taught in 2.5 hour blocks from 1:15 - 3:45 pm and 4:00 – 6:30 pm)
I. VMD (Beckman 3rd Floor - Schulten Innovation Courtyard II)
II. OPTICS (Ha Lab Station Loomis 108B & Selvin Lab Station Loomis 363)
III. MATLAB (Loomis 257)
Beginner 1:15 – 3:45 pm; Intermediate 4:00 – 6:30 pm
7:00 – 9:00 pm Opening Reception & Dinner, The Bread Company
706 South Goodwin Avenue, Urbana, IL 61801

Tuesday July 31 – Basic Training Day 2

8:30 – 9:30 am Yann Chemla
Lecture 3: Optical traps: molecules to cells (Loomis 144)
9:30 – 10:00 am Coffee Break (Hallway Outside Loomis 144)
10:00 - 11:00 am Klaus Schulten
Lecture 4: The Computational Microscope Images Biomolecular Machines and Nanodevices (Loomis 144)
11:00 am - 12:00 pm Zan Luthey-Schulten
Lecture 5: Stochastic Simulations of Cellular Processes (Loomis 144)
12:00 – 1:15 pm  Lunch (provided) & Poster Session  (Physics Interaction Room, Loomis 2nd Fl)

1:15 – 6:30 pm  MINI-COURSES: OPTICS, VMD, & LABVIEW
(refer to individual schedules – courses are taught in 2.5 hour blocks from 1:00 - 3:30 pm and 3:45 – 6:15 pm)
I.  VMD  
(Beckman 3rd Floor - Schulten Innovation Courtyard II)

II. OPTICS  
(Ha Lab Station Loomis 108B & Selvin Lab Station Loomis 363)

IV. LABVIEW  
(Loomis 257)

6:30 – 7:15 pm  Dinner (on your own)

7:15 – 9:45 pm  MINI-COURSE (OPTICS)
II. OPTICS  
(Ha Lab Station Loomis 108B & Selvin Lab Station Loomis 363)

Wednesday August 1 – Advanced Module Day 1

8:00 am- Evening  Advanced Modules in Assigned Labs (refer to individual module handouts)
A.  (Schulten, Luthey-Schulten) Computational Analysis of Ribosome Structure, Function, and Networks  
(Beckman 3rd Floor - Schulten Innovation Courtyard II)
B.  (Gruebele) Fast Relaxation Imaging: heat shock response dynamics in living cells  
(CLSL A223)
C.  (Golding) Following transcription kinetics in individual cells  
(Loomis 393)
D.  (Sokac) Membrane Dynamics in Living Fruit Fly Embryos  
(IGB 121)
E.  (Chemla & Golding) Optical trapping & fluorescence imaging of protein-DNA interaction  
(Loomis 393)
F.  (Ha) SiMPull: Single-Molecule Pull-Down  
(Loomis 108)
H.  (Selvin) Single-Molecule FIONA  
(Loomis 364)
I.  (Ha & Myong) Single-Molecule FRET  
(Loomis 108 & DCL 1230)
J.  (Selvin & Ha) Super-resolution fluorescence microscopy  
(Loomis 108 (Wed/Thurs) & 328 (Friday))

8:30 – 9:30 am  Ido Golding  
Lecture 6: A quantitative narrative for the living cell: From precise measurements to general principles  
(ESB 190)

9:30 – 10:30 am  Paul Selvin  
Lecture 7: Super-Accuracy & Super-Resolution via Fluorescence Microscopy  
(ESB 190)

Thursday August 2 – Advanced Module Day 2

8:00 am - Evening  Advanced Modules in Assigned Labs (refer to individual module handouts)

8:30 – 9:30 am  Martin Gruebele
Lecture 8: Fast Relaxation Imaging: Heat shock response dynamics in living cells (Loomis 144)

Friday August 3 – Advanced Module Day 3

8:00 am - Evening  Advanced Modules in Assigned Labs (refer to individual module handouts)

8:30 – 9:30 am  Anna Sokac
Lecture 9: Membrane Dynamics in Living Fruit Fly Embryos (Loomis 144)

Saturday August 4 – Advanced Module Day 4

8:00 – 11:30 am  Advanced Modules in Assigned Labs (refer to individual module handouts)

11:30 am – 12:30 pm  Student Presentations (refer to separate schedule) (Loomis 144)

12:30 – 1:00 pm  Lunch (provided) & fill out student evaluations (Hallway Outside Loomis 144)

1:00 –3:05 pm  Student Presentations (continued) (Loomis 144)

3:05 – 3:35 pm  Coffee Break (Hallway Outside Loomis 144)

3:35 –4:45 pm  Student Presentations (continued) (Loomis 144)

7:00 pm  Dinner party at home of Taekjip Ha
1703 Byrnebruk Dr. Champaign, IL 61822

Sunday August 5 – DEPARTURE