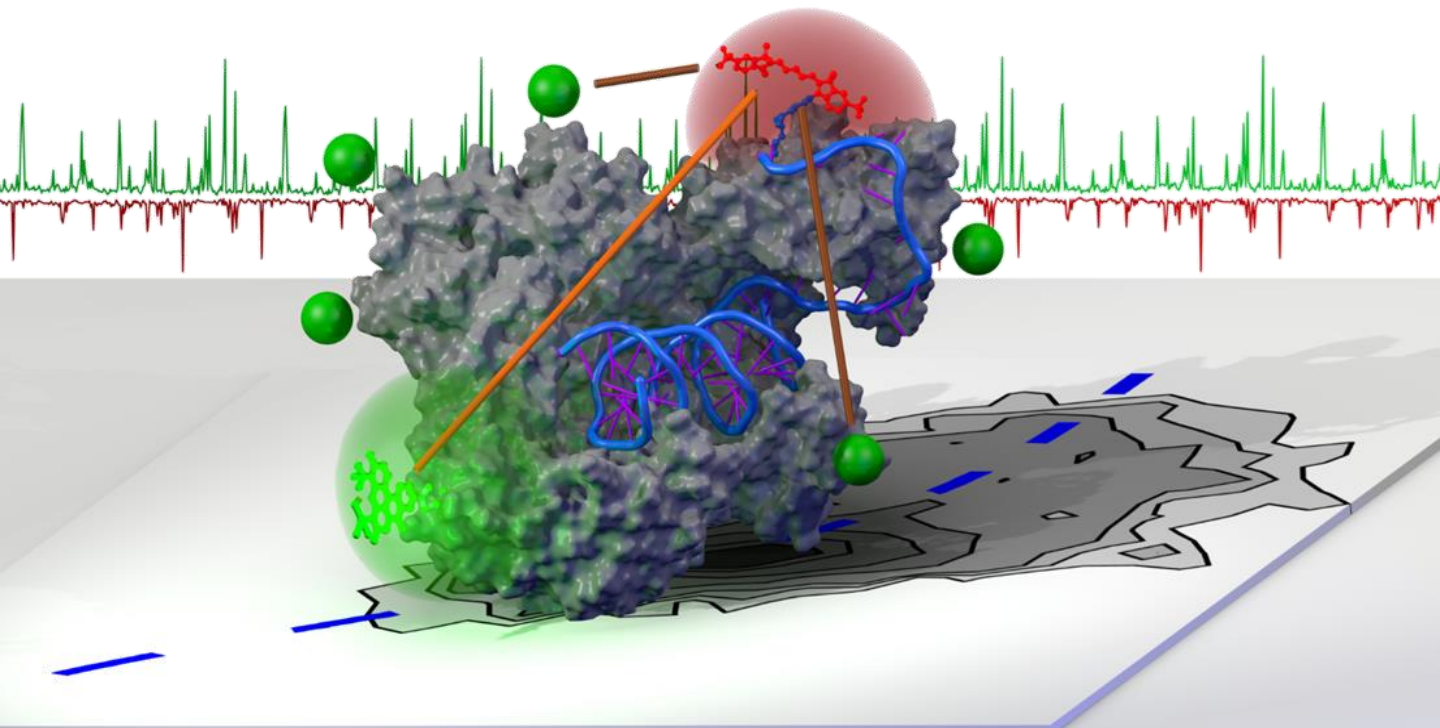


Training School:
**Advanced fluorescence methods to explore
dynamics and mechanisms of molecular machines**

7-9 February 2018, Parma, Italy



An integrated approach combining complementary spectroscopies and molecular simulations. The course will provide an in-depth theory and practice of fluorescence spectroscopy for the investigation of complex biological systems. Other spectroscopic methods will be covered in order to describe complementary approaches for structural modeling.

TOPICS: Basic principles of fluorescence spectroscopy, time-resolved fluorescence, fluorescence correlation spectroscopy, Förster Resonance Energy Transfer, single-molecule FRET, fluorescence imaging, complementary spectroscopic methods (CD, EPR, NMR) for integrative/hybrid structural modeling. **COST CM1306 website: molecularmachinery.eu**

ORGANIZERS

Claus Seidel
Andrea Mozzarelli
Serena Faggiano

TRAINERS

Stefano Bettati
Serena Faggiano
Barbara Campanini
Fraser MacMillan
Claus Seidel
Thomas Stockner
Cristiano Viappiani

REGISTRATION: send a CV and a motivation letter to andrea.mozzarelli@unipr.it before December 20, 2017. Acceptance will be notified by December 23, 2017. The number of accepted students is 12, of which 10 will be fully reimbursed by the COST action. Young SIB members will be partially supported by SIB - Protein Group. Gender and country balance will be taken into account when evaluating the applications.

TUTORS

Stefania Abbruzzetti
Samanta Raboni
Luca Ronda

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Program

February 7th

- 9.30 - 10.00** Welcome and Training School Presentation (Claus Seidel, Serena Faggiano, Andrea Mozzarelli)
- 10.00 - 10.45** Parameter dimensions of fluorescence (Stefano Bettati)
- 10.45 - 11.15** Coffee break
- 11.15 - 12.00** Time-resolved fluorescence (Cristiano Viappiani)
- 12.00 - 12.30** Case study (Barbara Campanini)
- 12.30 - 14.00** Lunch
- 14.00 - 16.00** Experimental activities on steady state fluorescence, fluorescence anisotropy and time-resolved fluorescence (Samanta Raboni, Stefania Abbruzzetti)
- 16.00 - 16.30** Coffee break
- 16.30 - 17.30** Trainees presentations of scientific papers reporting fluorescence-based investigations

February 8th

- 9.00 - 9.45** Fluorescence correlation spectroscopy (Cristiano Viappiani)
- 9.45 - 10.30** FRET (Claus Seidel)
- 10.30 - 11.00** Coffee break
- 11.00 - 11.45** Single-molecule FRET (Claus Seidel)
- 11.45 - 12.30** Case studies for FRET studies with surface bound and freely diffusing molecules (Claus Seidel)
- 12.30 - 14.00** Lunch
- 14.00 - 16.00** Experimental activities on fluorescence correlation spectroscopy and MFD analysis (Cristiano Viappiani, Claus Seidel)
- 16.00 - 16.30** Coffee break
- 16.30 - 17.30** Trainees presentations of scientific papers reporting fluorescence-based investigations
- 20.00** Social dinner

February 9th

- 9.00 - 9.45** Fluorescence imaging (Claus Seidel)
- 9.45 - 10.15** Complementary optical, magneto-optical and paramagnetic methods, I part (Fraser MacMillan)
- 10.15 - 10.45** Coffee break
- 10.45 - 11.15** Complementary optical, magneto-optical and paramagnetic methods, II part (Fraser MacMillan)
- 11.15 - 11.45** NMR (Serena Faggiano)
- 11.45 - 12.30** Integrative/Hybrid structural modeling (Thomas Stockner)
- 12.30 - 14.00** Lunch
- 14.00 - 16.00** Experimental activities on fluorescence imaging, CD, UV-vis, NMR (Luca Ronda, Serena Faggiano)
- 16.00 - 16.30** Coffee break
- 16.30 - 17.30** Trainees presentations of scientific papers reporting fluorescence-based investigations
- 17.30** Closing