

## Retreat of the CRC 1078

### ‘Protonation Dynamics in Protein Function’

**Place:** Seminar- und Tagungshotel  
Bildungszentrum Erkner  
Seestr. 39, D-15537 Erkner  
www.bz-erkner.com

**Directions:** The Regional Express RE1 to Frankfurt Oder takes approx. 30 minutes to Erkner. It is departing every half hour (see table). Ticket needed: Berlin ABC for 3,10 €. From the train station in Erkner, it's a 10-minute walk to the hotel. For a map of Erkner or directions by car, please see last page.

Zoologischer Garten	13:14	13:44
Hauptbahnhof	13:20	14:50
Friedrichstraße	13:23	13:53
Alexanderplatz	13:26	13:56
Ostbahnhof	13:31	14:01
Erkner	13:50	14:20

## Retreat Program

Friday, 31.5.2013

14:30 Welcome coffee (maximum talking time given in parentheses)

### 15:00 – 16:30 Session 1 – Channelrhodopsin Chair: Ernst-Walter Knapp

15:00 **Victor Lorenz-Fonfria**, B3 (15 – 20 min)  
*Transient protonation changes in channelrhodopsin-2 and their relevance to channel gating*

15:30 **Hartmut Oschkinat & Anne Diehl**, B1 (15 – 20 min)  
*Towards Expression of Channelrhodopsin in Pichia pastoris with respect to NMR demands*

16:00 **Jonas Wietek**, B2 (15 – 20 min)  
*Gloeobacter rhodopsin, Limitation of proton pumping and perspectives for ion channeling*

16:30 Coffee break

### 17:00 – 18:30 Session 2 – Cytochrome c Oxidase Chair: Peter Hegemann

17:00 **Inez Weidinger**, A1 (15 – 20 min)  
*Resonance Raman Investigations on Cytochrome c Oxidase*

17:30 **Anna Lena Wölke**, C2 (15 – 20 min)  
*Role of Glu286 in Cytochrome c Oxidase as a Potential Proton Gate*

18:00 **Ulrike Alexiev**, A2 (10 min)  
*Protonation reactions and redox-dependent changes at the CcO surface*

18:15 **Alexander Wolf**, A2 (10 min)  
*Surface functionalization for single molecule studies: application to protein interactions and enzyme function*

19:00 Dinner

### 20:00 – 21:30 Presentation of the Integrated Graduate School Chair: Inez Weidinger

Topics: activities, representatives, curriculum, etc.

Saturday, 1.6.2013

(maximum talking time given in parentheses)

**9:00 – 10:30 Session 3 – Photosystem II** Chair: Ramona Schlesinger

9:00 **Holger Dau, A4** (15 – 20 min)

*First steps towards IR-tracking of protonation dynamics in genetically modified photosystem II*

9:30 **Julia Hellmich & Martin Bommer, A5** (20 – 30 min)

*Recent developments in Photosystem II Crystals - Slimming for the summer*

10:15 **Federico Guerra, C4** (10 min)

*Proton-coupled protein and water dynamics in complex biological systems*

10:30 Coffee break

**11:00 – 12:30 Session 4 – Channelrhodopsin** Chair: Niko Ernstring

11:00 **Nils Krause & Christopher Engelhard, B4** (15 – 20 min)

*Structural differences between the closed and open states of channelrhodopsin-2 as observed by EPR spectroscopy*

11:30 **Franz Bartl, B5** (10 min)

*Light-dark adaptation of channelrhodopsin 2*

11:45 **Christopher Mielack, C4** (10 min)

*Proton-coupled dynamics of channelrhodopsin-2*

12:00 **Till Stensitzki, B3** (15 – 20 min)

*Polarisation resolved femtosecond pump-probe spectroscopy*

12:45 Lunch

**13:00 – 15:30 Discussions in smaller groups**

Small-group discussions on scientific projects and/or a walk outside

**15:30 – 18:30 Session 5** Chair: Holger Dau

15:30 **Petra Imhof** (20 min)

*Transition Networks for Proton Transfer in complex systems*

16:00 **Round Table Discussion**

*On scientific goals of the CRC and how they can be achieved*

17:00 Coffee break

17:30 **Round Table Discussion – continued**

19:00 Dinner

**20:00 – 21:30 Discussions in smaller groups**

Various subjects: public outreach activities, our next retreat, gender equality measures, the new CRC logo, and other topics yet to be decided

Sunday, 2.6.2013

(maximum talking time given in parentheses)

**9:00 – 10:30 Session 6 – Phytochrome** Chair: Joachim Heberle

- 9:00 **Maria Andrea Mroginski, C2** (15 – 20 min)  
*The chromophore binding site of bathy and prototypical phytochromes in the Pfr state*
- 9:30 **Patrick Piwowarski, B5** (10 min)  
*FTIR spectroscopic investigations on the photoreaction of barty phytochrom Agp2*
- 9:45 **Francisco Velazquez Escobar, B6** (15 – 20 min)  
*Resonance Raman spectroscopic studies of bathy phytochromes*
- 10:15 **Stefan Milenkovic, C4** (10 min)  
*New methods for dissecting hydrogen bond dynamics in complex biological systems*
- 10:30 Coffee break

**11:00 – 12:30 Session 7 – Cytochrome c Oxidase** Chair: Ana-Nicoleta Bondar

- 11:00 **Bernd-Joachim Schultz, A1** (15 – 20 min)  
*Time-resolved IR spectroscopy using tunable quantum cascade lasers*
- 11:30 **Mario Gerecke, A3** (10 min)  
*Fast water solvation dynamics at the phospholipid membrane surface*
- 11:45 **Celin Richter, A3** (10 min)  
*Ratiometric pH probes for protein surfaces*
- 12:00 **Roland Netz, C2** (15 – 20 min)  
*Diffusion and dielectric spectroscopy at membrane surfaces*
- 12:45 Lunch

**14:00 – 15:30 Session 8** Chair: Holger Dau

- 14:00 **Round Table Discussion**  
*Concluding discussion and making plans for future colloquia, gender equality measures, the new CRC logo, public outreach activities, our next retreat, and ...*
- 15:30 Farewell coffee



Seestraße 39, 15537 Erkner

## Information zur An – bzw. Abreise im Zeitraum 31.05.-02.06.2013

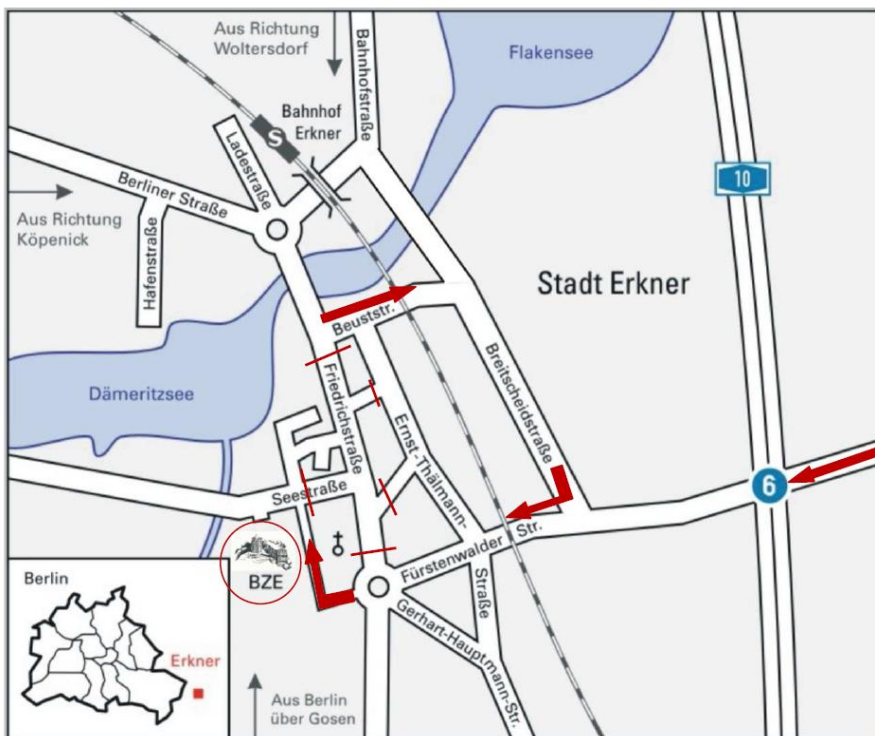
Sehr geehrte Gäste,

in der Zeit vom 31.05.-02.06.2013 findet das alljährliche Heimatfest in Erkner auf der Friedrichstraße statt.

In diesem Zeitraum ist die Friedrichstraße komplett gesperrt. Sie erreichen unser Hotel wie folgt:

### aus der Richtung Berlin → Erkner

Bitte folgen Sie der Ausschilderung und fahren parallel zur Friedrichstraße in die Ernst-Thälmann-Straße, danach rechts in die Fürstenwalder Straße - Richtung Kreisverkehr. Im Kreisverkehr nehmen Sie bitte die zweite Ausfahrt. Nach ca. 1 km biegen Sie dann links in die Seestraße.



### aus der Richtung A 10 → Erkner

Bitte fahren Sie von der Fürstenwalder Straße in den Kreisverkehr und danach die zweite Ausfahrt rechts ab. Nach ca. 1 km biegen Sie dann links in die Seestraße.

**Bei Fragen helfen wir Ihnen auch gern telefonisch unter der Rufnummer 03362/ 769-0 weiter.**