

## Conditions for PARTICIPATION:

BC-level in biology, ecology or natural sciences required. The course is restricted to eight participants, selected according to the above mentioned criteria and date of registration. Registration per email is open from 01. April 2018.

Price for the Summer School (incl. bus shuttles and visits): 180 (early bird until 30.04.19), 250€ (until 30.05.19) and 300 € (until 30.06.19).

Cancellation after 30.06.19 is no longer possible.

Cost for logis and subsistence: not included. We recommend to stay in the Youth hostel of Konstanz, however there are many Airbnb, B&B and couchsurfing opportunities, too.

### Registration fee:

180 € (early) ✂  
300 € (late) ✂

Deadline for latest registration:  
**June 30, 2019**

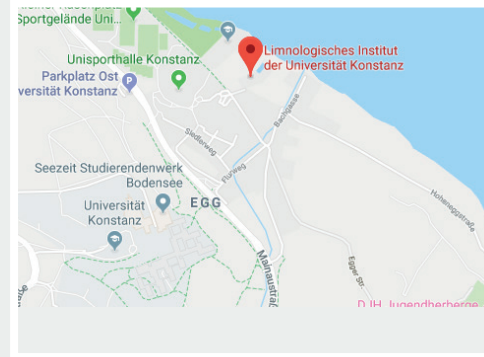
### Registration:

KWBodensee@gmx.de

mention  
"Summer School"

### UNIVERSITÄT KONSTANZ

Limnolog. Inst. Mainaustrasse, 78464 Konstanz



### PH WEINGARTEN

Kirchpl. 2, 88250 Weingarten



### Kompetenzzentrum Wasser Bodensee e.V.

Wollmatinger Str. 22  
D-78467 Konstanz  
KWBodensee@gmx.de

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BIC: SOLADES1KNZ



## Summer School Limnology

21 - 25 July 2019  
Lake Constance and  
the Danube river,  
Germany



Universität  
Konstanz





Oder Donauquelle (Foto: A. Gerhardt)

## Programme INFORMATION

During this summer school you study at two different universities along Lake Constance, involved in aquatic ecology: the Pedagogical University of Weingarten and the excellence University of Constance, here esp. the famous Limnological Institute at the lake shore.

You are participating in a trip of the research ship collecting and analyzing water samples from the lake (plankton). You learn different sampling methods and instruments. Moreover, you get insight into the actual research at this institute. Lake Constance is a unique example of a lake to recover from severe eutrophication: you will hear about the success story and the efficient measures leading to re-oligotrophication. You get insight in applied aquatic ecology and ecotoxicology: numerous micropollutants can be found in surface, drinking and wastewater. You learn about a unique method to continuously monitor water quality and detect spills by online biomonitoring. This is important to safeguard drinking water, which is taken from Lake Constance and delivered to about 4.5 Mio. people. You visit a large, modern drinking water facility.

At the University of Weingarten you learn how to analyse freshwater with children (> 8 yrs.) and implement the subject into environmental education and nature conservation. Afterwards you try these methods in the field. The last day, we visit the fantastic Danube river with its unique peculiarities in the Danube Nature Park, such as its spring, headwaters, downdwelling site and Aachtopf spring. The value equivalents of this course represent 1 ECTS based on regular and active attendance and final report.

**Kompetenzzentrum Wasser Bodensee e.V.**



### PROGRAMME

Sunday, 21.07.19  
Individual arrival; Get together 19:00 Hafenhalle Biergarten

#### MONDAY, 22.07.19

- 10:00** Excursion on Lake Constance with the research ship from downtown harbour. Limnological Institute, University of Constance (Prof. Rothhaupt)
- 13:00-16:00** Plankton microscopy exercises  
Presentations of actual research at the Institute. Lecture: Lake Constance: from eutrophication to re-oligotrophication

#### TUESDAY, 23.07.19

- 09:00-11:00** Bus shuttle to PH Weingarten from Meersburg  
Environmental education for sustainable development using water as an example. PH Weingarten (Prof. H. Weitzel)  
Bus shuttle back to Meersburg ferry
- 16:00**

#### WEDNESDAY, 24.07.19

- 10:00** Ecotoxicology and online biomonitoring of water quality: Lectures and exercises. Limnological Institute, University of Constance (Dr. Gerhardt, LimCo International)
- 13:00-16:00** Visiting the waterworks (Sipplingen)

#### THURSDAY, 25.07.19

- 9:00-16:00** Bus excursion to the Danube headwaters: benthos field assessment, Danube springs (Donaueschingen), Danube downdwelling (Immendingen) and Aachtopf (Aach)

## What has the DANUBE river to do with LAKE CONSTANCE?

The Danube river is the 2nd largest river in Europe, flowing through ten countries, as many as no other river in the world. The Danube river has its main source as small mountainous stream (Brigach) in the Black Forest Nature Park, taking up the stream Breg and the Danube spring in Donaueschingen, where the Danube is born. Flowing through a karst region the Danube percolates through chasms in the karst rock and “disappears” completely from the surface during ca. 150 days/y. The water emerges as Germanys largest spring, Aachtopf, which then flows as Radolfzeller Aach into Lake Constance.



Danube downdwelling site (Foto: A. Gerhardt)