

Summer Course „**Hydrobiology and inland environmental science in Poland**”
by the Faculty of Fisheries Sciences, Hokkaido University (**HU**), Japan
and the Department of Zoology, Faculty of Biology and Biotechnology,
the University of Warmia and Mazury in Olsztyn (**UWM**), Poland
(12) 13 - 28 (29) September 2018

Coordinators: prof. Takafumi FUJIMOTO from HU; prof. Alicja BORON, dr hab. Lech Kirtiklis from UWM

• Lectures (each 45') for all Students		
Who, From	time	Title
Takafumi Fujimoto, HU	14.09. 13:00-14:30	(2 hrs.): “Chromosome set manipulation in fish”
	14:30-16:00	(2 hrs.): “Embryo manipulation as a developmental engineering in fish”
	20.09. 8:30-10:00	(2 hrs.): “Clonal loach in nature - Its reproduction and origin”
Andrzej Ciereszko, PAN	17.09. 8:30-10:00	(2 hrs.): “Cryopreservation of the fish sperm”
Alicja Boron, UWM	14.09. 9:30-11:00	(2 hrs.): “Hydrobiology as the science of life processes in water - field of research interests and inland water bodies in Poland”
	20.09. 10:30-12:00	(2 hrs.): “Freshwater fishes of Poland with data on farmed species”
Izabela Jablonska-Barna,	24.09.	(1h) “Baltic Sea - inland, brackish sea of alien species”
Julita Dunalska, UWM	9:00-9:45 9:45-10:30	(1h) “Water protection and restoration”
Stanisław Czachorowski, UWM	18.09. 8:30-10:00	(2 hrs.): “Animals living in Polish inland water bodies; characteristic of the most typical taxa, their adaptations and limitations”
Lech Kirtiklis, UWM	19.09. 8:30-10:00	(2 hrs.): “Taxonomical identification – a review of the genetic methods”
total		10 lectures = 18 hours
• Practical trainings (PT) (each hour = 45') for all Students		
Izabela Jablonska-Barna	24.09. 9:45-10:30	(1 h) “Baltic Sea – inland, brackish sea of alien species”
Julita Dunalska, UWM	24.09. 13:45-16:00	(3 hrs.) “Water protection and restoration”
Stanisław Czachorowski, UWM	18.09. 10:15-13:15	(4 hrs.): “Identification of main typical invertebrates taxa inhabiting Polish lakes and rivers”
Lech Kirtiklis, UWM	19.09. 10:00-12:15	(3 hrs.): “Molecular techniques in freshwater animals’ taxonomy”
Andrzej Ciereszko, PAN	17.09. 10:00-10:45	(1 hrs.): Scientific groups of Gamete and Embryo Biology – visit in PAN
All students	26.09.	(4 hrs): “The language and culture of Japan” - presentation during The Olsztyn's Days of Science and Art
total		16 hrs. of practical training
• Two Mini-Projects (MP); one (MP#1 or MP#2) will be chosen by each student’s group		
Dorota Juchno, UWM	17.09-27.09	MP#1 (21 hrs.) by “Gonad histology of the Prussian carp <i>Carassius gibelio</i> (Teleostei, Cyprinidae) males from bisexual population in Poland”
Aleksandra Szabelska, Lech Kirtiklis, UWM	17.09-27.09	MP#2 (21 hrs.) “The length and chromosomal mapping of 5S rDNA sequence of <i>Carassius gibelio</i> of different ploidy”
total		42 hrs.; in total 21 hrs. for each group (18 hrs. of practical trainings within the Mini-Projects plus 3 hours for making the final data presentations)
• Seminars for all Students		
Takafumi Fujimoto, HU, Alicja Boron, UWM	14.09 11:00-11:45	(1 h) Introduction into the organization of the Summer Course and the topics of two Mini-projects (MP#1, MP#);
	25.09 13:00-15:15	(3 hrs) Preparation of the presentation for The Olsztyn's Days of Science and Art;
	27.09 10:00-12:15	(3 hrs) - Final presentation and discussing of the results of Mini-Projects.
	total	7 hrs

Schedule of the Summer Course
„Hydrobiology and inland environmental science in Poland”
 by the Faculty of Fisheries Sciences, Hokkaido University (HU),
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(12) 13 - 28 (29) September 2018

Each Group contains **5** students (**2 or 3** from HU and **3 or 2** from UMW), one assistant professor and/or PhD student (UWM) - supervisors of students and professors (HU or UWM).

Lectures; **PT – practical training;** **Mini-projects;** **seminars**

Day	Activities	
	Group #1	Group #2
<u>12.09 Wednesday</u>	Arrival (13:25) by Qatar Airways QR0259 (stay one night at Warszawa)	
<u>13.09. Thursday</u>	Move to Olsztyn (Takafumi Fujimoto, HU students) Alicja BORON, Takafumi FUJIMOTO, Lech KIRTIKLIS; Orientation; 16:15-17:00 Welcome party/Ice breaking (coffee/tea with sweets)	
<u>14. 09. (Friday)</u> 9:00-9:30	<i>Collegium Biologiae, M. Oczapowskiego 1A</i> prof. Tadeusz Kamiński, Dean of the Faculty of Biology and Biotechnology Welcome address Start of the summer course by prof. Takafumi Fujimoto - Coordinator from HU and prof. Alicja Boron - Coordinator from UWM	
9:30-11:00 (2hrs)	Lecture by prof. A. Boron " Hydrobiology as the science of life processes in water - field of research interests and inland water bodies in Poland "	
11:00-11:45 (1hrs)	Seminar - Introduction into the organization of the Summer Course and the topics of two Mini-projects (MP#1, MP#) by Alicja Boron and Takafumi Fujimoto	
12:00-13:00	Lunch	
13:00-14:30 (2hrs)	Lecture by prof. Takafumi Fujimoto, HU " Chromosome set manipulation in fish "	
14:30-16:00 (2hrs)	Lecture by prof. Takafumi Fujimoto, HU "Embryo manipulation as a developmental engineering in fish"	
<u>15.09. (Saturday)</u>	UWM and HU students - tour of Olsztyn	
<u>16. 09. (Sunday)</u>	Free time	
<u>17. 09 (Monday)</u> 8:30-10:00 (2hrs) 10:00-10:45 (1hrs)	<i>Tour (c. 30') to the Polish Academy of Sciences in Olsztyn (PAN)</i> Lecture by prof. Andrzej Ciereszko, PAN " Cryopreservation of the fish sperm " PT: Scientific groups of Gamete and Embryo Biology – visit in PAN	
12:00-13:00	lunch	
13:00-15:15 (3hrs)	MP#1 (21 hrs.) by Dorota Juchno, PhD "Gonad histology of the Prussian carp <i>Carassius gibelio</i> (Teleostei, Cyprinidae) males from bisexual population"	MP#2 (21 hrs.) by Aleksandra Szabelska, PhD student and Lech Kirtiklis, PhD "The length and chromosomal mapping of 5S rDNA sequence of <i>Carassius gibelio</i> diploids and triploids"
<u>18. 09. (Tuesday)</u> 8:30-10:00 (2hrs) 10:15-13:15 (4hrs)	Lecture by prof. Stanisław Czachorowski " Animals living in Polish inland water bodies; characteristic of the most typical taxa, adaptations and limitations " PT by prof. Stanisław Czachorowski " Identification of main typical invertebrates taxa inhabiting Polish lakes and rivers " (field trip to lake, river, collecting samples)	

13:15-14:15	Lunch	
14:15-15:45 (2hrs)	MP#1 (21 hrs.) by Dorota Juchno, PhD "Gonad histology of the Prussian carp <i>Carassius gibelio</i> (Teleostei, Cyprinidae) males from bisexual population"	MP#2 (21 hrs.) by Aleksandra Szabelska, PhD student and Lech Kirtiklis, PhD "The length and chromosomal mapping of 5S rDNA sequence of <i>Carassius gibelio</i> diploids and triploids"
19. 09. (Wednesday)		
8:30-10:00 (2hrs)	Lecture by Lech Kirtiklis, PhD "Taxonomical identification - a review of the genetic methods"	
10:00-12:15 (3hrs)	PT by Lech Kirtiklis, PhD "Molecular techniques in freshwater animals' taxonomy"	
12:15-13:15	Lunch	
13:30-15:45(3hrs)	MP#1 (21 hrs.) by Dorota Juchno, PhD "Gonad histology of the Prussian carp <i>Carassius gibelio</i> (Teleostei, Cyprinidae) males from bisexual population"	MP#2 (21 hrs.) by Aleksandra Szabelska, PhD student and Lech Kirtiklis, PhD "The length and chromosomal mapping of 5S rDNA sequence of <i>Carassius gibelio</i> diploids and triploids"
20. 09. (Thursday)		
8:30-10:00 (2hrs)	Lecture by prof. Takafumi Fujimoto , HU "Clonal loach in nature - Its reproduction and origin"	
10:30-12:00 (2hrs)	Lecture by prof. A. Boron "Freshwater fishes of Poland with data on farmed species"	
12:00-13:00	Lunch	
13:00-16:00 (4hrs)	MP#1 (21 hrs.) by Dorota Juchno, PhD "Gonad histology of the Prussian carp <i>Carassius gibelio</i> (Teleostei, Cyprinidae) males from bisexual population"	MP#2 (21 hrs.) by Aleksandra Szabelska, PhD student and Lech Kirtiklis, PhD "The length and chromosomal mapping of 5S rDNA sequence of <i>Carassius gibelio</i> diploids and triploids"
21.09. (Friday)		
22. 09. (Saturday)		
Students; PhD, Professors; Trip to Krakow and Wieliczka Salt Mine; to know the culture and tradition of Poland (2 days plus one night)		
23.09.2018 Sunday		
Free time		
24. 09 (Monday)		
9:00-10:30 (2hrs)	Lecture (1 hour) and PT (1 hour) by Izabela Jablonska-Barna, PhD, UWM "Baltic Sea - inland, brackish sea of alien species"	
10:30-12:00 (2hrs)	MP#1 (21 hrs.) by Dorota Juchno, PhD "Gonad histology of the Prussian carp <i>Carassius gibelio</i> (Teleostei, Cyprinidae) males from bisexual population"	MP#2 (21 hrs.) by Aleksandra Szabelska, PhD student and Lech Kirtiklis, PhD "The length and chromosomal mapping of 5S rDNA sequence of <i>Carassius gibelio</i> diploids and triploids"
12:00-13:00	lunch	
13:00-16:00 (4hrs)	Lecture (1 hour) and PT (3 hours) by prof. Julita Dunalska "Water protection and restoration"	
25. 09. (Tuesday)		
9:00-12:00 (4hrs)	MP#1 (21 hrs.) by Dorota Juchno, PhD "Gonad histology of the Prussian carp <i>Carassius gibelio</i> (Teleostei, Cyprinidae) males from bisexual population"	MP#2 (21 hrs.) by Aleksandra Szabelska, PhD student and Lech Kirtiklis, PhD "The length and chromosomal mapping of 5S rDNA sequence of <i>Carassius gibelio</i> diploids and triploids"

12:00-13:00	lunch	
13:00-15:15 (3hrs)	Seminar - Preparation of the presentation "The language and culture of Japan" for The Olsztyn's Days of Science and Art; students and prof. T. Fujimoto	
26. 09. (Wednesday) Time in future (2 hrs)	Faculty of Biology and Biotechnology, Collegium Biologiae (Kortowo) PT "The language and culture of Japan"- presentation during The Olsztyn's Days of Science and Art; students and prof. T. Fujimoto	
Time in future (2 hrs)	Faculty of Biology and Biotechnology, Collegium Biologiae (Kortowo) PT "The language and culture of Japan" - presentation during The Olsztyn's Days of Science and Art; students and prof. T. Fujimoto	
12:00-13:00	lunch	
13:00-15:15 (3hrs)	Preparation of the final presentation - the results of Mini-Project (#1); D. Juchno, PhD	Preparation of the final presentation - the results of Mini-Project (#2); A. Szabelska, PhD student, L. Kirtiklis, PhD
27. 09. (Thursday) 10:00-12:15 (3hrs)	Seminar - Final presentation and discussing of the results of Mini-Projects (#1 #1) by prof. Takafumi Fujimoto, prof. A. Boron, dr hab. Lech Kirtiklis;	
12:15-13:15	Lunch & Free time	
17:00-∞	Official Dinner, summarizing of the Summer Course, closing remarks	
28. 09. (Friday)	Move to Warszawa, stay one night (28.09).	
29. 09. (Saturday)	Leave for Japan (29.09)	
30.09. (Sunday)	Arrive at Tokyo, stay one night (30.09.)	
01.10. (Monday)	Move to Hakodate (01.10.)	

Running the summer course and excursion for 10 days (excluding weekend) with 3 to 8 hours of lectures/training courses/seminars in each day

1. In total during the Summer Course will be given 83 hours of different activities as following:

- 18 hours (18 x 45') of lectures,
- 16 hours of practical training,
- 42 hours of practical training in scientific research realizing as two Mini-Projects,
- 7 hours of seminars.

2. Each Student-Participant will get 4 ECTS points (in UWM) = 2 credits (in HU) and take part in 62 hours of different activities as following:

- 18 hours (18 x 45') of lectures,
- 16 hours of practical training,
- 21 hours of practical training in scientific research realizing as two Mini-Projects (including 3 hrs. for preparation of the final presentation),
- 7 hours of seminars.

**Total hours of lectures, practical training courses and seminars for each of Students
and also in each working day of the Summer Course 2018**

Day	lectures	Mini- Projects realization	practical training	seminars, meetings	Total hours
14.09. (Friday)	6	-	-	1	7
17. 09. (Monday)	2	3	1	-	6
18. 09. (Tuesday)	2	2	4	-	8
19. 09. (Wednesday)	2	3	3	-	8
20. 09. (Thursday)	4	4	-	-	8
21.09. (Friday)	-	-	-	-	-
24. 09 (Monday)	2	2	4	-	8
25. 09. (Tuesday)	-	4	-	3	7
26. 09. (Wednesday)	-	3	4	-	7
27. 09. (Thursday)	-	-	-	3	3
Total 60	18	21	16	7	62