

## **EDUCATION AND TRAINING IN AQUACULTURE AND WATER PROTECTION AT FACULTY OF FISHERIES AND PROTECTION OF WATERS, UNIVERSITY OF SOUTH BOHEMIA IN ČESKÉ BUDĚJOVICE, THE CZECH REPUBLIC**

OTOMAR LINHART, MARTIN KOCOUR, VOJTĚCH KAŠPAR  
*South Bohemian Research Center of Aquaculture and Biodiversity of Hydrocenoses,  
Faculty of Fisheries and Protection of Waters, University of South Bohemia in České  
Budějovice, Vodnany, Czech Republic, linhart@frov.jcu.cz*

### **OBRAZOVANJE I USAVRSAVANJE U AKVAKULTURI I ZAŠTITI VODA NA FAKULTETU ZA RIBARSTVO I ZAŠTITU VODA, UNIVERZITET JUŽNE BOHEMIJE U ČEŠKIM BUDEJOVICAMA, ČEŠKA REPUBLIKA**

#### *Apstrakt*

Fakultet za Ribarstvo i Zaštitu Voda, Univerziteta Južne Bohemije u Češkim Buđovicama, Češka Republika, jedan je od najkompleksnijih radnih mesta u Evropi sa osnovnim, master i doktorskim studijama, naucnim i primenjenim istraživanjima, ino-guralnim i profesionalnim pravima u oblasti ribarstva i zastite voda. Fakultet poseduje opremu i objekte za bavljenje naukom i istrazivanjima u oblasti akvakulture, hidrobilo-gije, toksikologije, bolesti, riba, reprodukcije, genetike, gajenja riba i rakova. Fakultet takođe poseduje veliki broj izdanja odnosno jedinstvenu biblioteku iz oblasti ribarstva.

#### **Studentima iz inostranstva Fakultet nudi razne programme:**

- 1) kratkoročne stipendije za razmnenu studenata (<http://www.frov.jcu.cz/cs/exchange-students/exchange-students>),
- 2) internacionalna letnja škola (<http://www.frov.jcu.cz/en/mezinarodni-letni-skoly/summer-fishery-school-2013>),
- 3) master studije (<http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/m-f-aquaculture>),
- 4) doktorske studije (<http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/d-f-fishery>).

### **1) Kratkoročne stipendije za razmenu studenata**

Studenti koji imaju želju da posete Fakultet za Ribarstvo i Zaštitu Voda su više nego dobrodošli. Ukoliko želite da nas posetite putem ERASMUS programa ili na bilo koji drugi način (kratkoročna poseta ili rad na tezi) molimo stupite u kontakt sa nama ([vkaspar@frov.jcu.cz](mailto:vkaspar@frov.jcu.cz), [lkacerova@frov.jcu.cz](mailto:lkacerova@frov.jcu.cz)) da bismo razmotrili mogućnosti vaše posete.

### **2) Internacionalna letnja škola**

Letnja škola je četvoro-nedeljni kurs za studente osnovnih i master studija kao i za PhD studente. Održava se u Julu. Tokom kursa, imaćete priliku da radite na manjim istraživačkim projektima u veoma dobro opremljenim laboratorijama i prostorijama za izvođenje eksperimenata. Za sve ovo vreme imaćete podršku naših istraživača sa iskustvom i/ili PhD studenata sa Fakulteta za Ribarstvo i Zaštitu Voda. Upravo zbog toga, očekujemo da kandidati imaju osnovno znanje engleskog jezika. Pored rada u laboratorijama, posetićete ribnjake i druga interesantna mesta, kao što su Český Krumlov, Ribnjak Třeboň Hld. Inc., Třeboň, Nové Hradky Fishery i tako dalje. Omanji završni simpozijum je sastavni deo ovoga kursa. U okviru simpozijuma, pred kolegama i istraživačima sa Fakulteta za Ribarstvo i Zaštitu Voda aktivno ćete prezentovati svoj rad i rezultate istoga. Ovakvo jedinstveno iskustvo obogatiće nadalje vaše studije i privatni život.

### **3) Master studije**

Master studije iz oblasti akvakulture pripremaju profesionalce i stručnjake za srednje i više menadžerske funkcije u preduzećima i farmama za gajenje riba, za funkcije u javnom sektoru, kao i istraživačke i obrazovne funkcije. Ove studije ih takođe kvalifikuju za pripremanje i upravljanje razvojnim i istraživačkim projektima u oblasti ribarstva i vodene sredine.

Studenti master studija stiču znanje iz raznih oblasti akvakulture i ribarstva uključujući toksikologiju vode, hemijske procese u vodenoj sredini i hemiju materija koje zagađuju vode.

Studenti master studija mogu da se specijalizuju u oblasti reprodukcije riba i genetike riba ili u oblasti sistema u akvakulturi. Studenti su u mogućnosti da primene svoje znanje u drugačijim klimatskim uslovima i/ili na drugim vrstama riba, vodenim organizmima ili sistemima proizvodnje. Plan rada je pogodan i za studente osnovnih studija iz drugih oblasti.

Nastava je bazirana na tradicionalnoj Češkoj kulturi gajenja riba, čiji se centar nalazi u ovom regionu kao i na kvalitetnoj naučnoj bazi Fakulteta a Ribarstvo i Zaštitu Voda.

**Nastavni sistem:** Primenjuje se sistem kredita - ECTS. Studenti moraju da ostvare minimum 120 kredita – od kojih 105 moraju biti ostvareni iz obaveznih predmeta i 15, koji moraju biti ostvareni kroz obavezno-izborne predmete.

**Mogućnosti za dalje školovanje:** Studenti master studija imaju mogućnost da nastave sa doktorskim studijama u oblasti Ribarstva na Fakultetu za Ribarstvo i Zaštitu Voda. Ove studije su akreditovane i na Češkom i na Engleskom jeziku.

### **Školarina: €20 po semestru.**

**Stipendije:** Fakultet za Ribarstvo i Zaštitu Voda pruža smeštaj, srednje i visoke stipendije prema regulativama za stipendije Univerziteta Južne Bohemije i Fakulteta za Ribarstvo i Zaštitu Voda. Fakultet takođe pruža specijalne stipendije za talentovane studente sa odličnim rezultatima i postignućima. Ukoliko ste talentovani imaćete dovoljno novca za život u Češkoj Republici u toku druge godine studija.

**Prijem studenata:** Standardna aplikacija na internet stranici fakulteta <http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/m-f-aquaculture>

### **Doktorske studije (Ph.D.)**

Akreditovane doktorske studije u oblasti Ribarstva su interesantna mogućnost za nastavak sticanja novog naučnog znanja na osnovu individualnog plana. Ove studije produbljuju znanje i mogućnosti stečene na master studijama. Stići ćete detaljnu profesionalnu stručnost, najčešće u kontekstu trenutnih naučnih i istraživačkih trendova u akvakulturi, genetici i reprodukciji riba, ribarstva, zaštite voda, hidrobiologije, toksikologije voda, itd.

Studenti su deo radnih grupa u naučnim laboratorijama našeg fakulteta. Grupe se razlikuju prema istraživačkim temama. Osim timskog rada, od studenata se traži kreativnost i samostalan rad kao i da objave rezultate istraživanja u naučnoj publikaciji.

Cilj studija je da pripremi studente za njihova buduća istraživanja, naučnu i pedagošku karijeru na Univerzitetima ili istraživačkim institucijama, kao i za upravljačke funkcije u kompanijama.

**Nastavni sistem:** Primenjuje se sistem kredita. Studije se zasnivaju na individualnom nastavnom planu koji se sastoji od naučnog i istraživačkog dela. Student pravi individualni nastavni plan posle konsultacija sa njegovim/njenim mentorom. Odbor odseka mora da odobri nastavni plan. Individualni nastavni plan se pravi na osnovu teme i istraživačkih aktivnosti, teze i prethodnog obrazovanja.

**Mogućnosti za budućnost:** Doktoranti sa odličnim rezultatima obično postaju članovi istraživačkog tima fakulteta ili apliciraju za post doktorske pozicije

**Školarina: €20 po semestru.**

**Stipendije:** Studenti dobijaju stipendiju koja pokriva troškove života u Češkoj Republici. Osim stipendije, studenti imaju mogućnost da rade na našem fakultetu dok studiraju.

**Prijem studenata:** Pogledajte ponuđene teme za disertacije za narednu akademsku godinu i izaberite jednu. Kontaktirajte mentora koji je predložio temu. Ukoliko dođe do obostranog sporazuma, popunite aplikacioni formular za doktorske studije

<http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/d-f-fishery>

### *Abstract*

The Faculty of Fisheries and Protection of Waters (FFPW) of the University of South Bohemia (USB) in České Budějovice, Czech Republic, is one of the most complex working places within Europe with bachelor, master and doctoral studies, scientific and applied research, inaugural and professorial rights in the field of fisheries and protection of waters. The faculty has experimental background for study and research of aquaculture, hydrobiology, toxicology, fish diseases, reproduction, genetics, fish and crayfish culture and a unique fishery library.

### **The Faculty offers to students from abroad various programs:**

- 1) short term fellowships (<http://www.frov.jcu.cz/cs/exchange-students/exchange-students>),
- 2) international summer school (<http://www.frov.jcu.cz/en/mezinarodni-letniskoly/summer-fishery-school-2013>),
- 3) master study (<http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/m-f-aquaculture>),

#### **4) doctoral study (<http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/d-f-fishery>).**

##### **Short term fellowships**

Students having an interest to visit Faculty of Fisheries and Protection of Waters are warmly welcome. In case of your interest to visit us through ERASMUS program or another type of visit (short term visit or work on diploma thesis) do not hesitate to contact us ([vkaspar@frov.jcu.cz](mailto:vkaspar@frov.jcu.cz), [lkacerova@frov.jcu.cz](mailto:lkacerova@frov.jcu.cz)) to discuss possibilities.

##### **International summer school**

The Summer School is a four-week course for bachelor, master and PhD. students organised in July. During the course you will be working on a small research project in very well-equipped laboratories and experimental facilities under the guidance of experienced researchers and/or Ph.D students of the FFPW. That is why we expect candidates with at least partial knowledge of the English language. The work in laboratories is completed with excursions to fish farms and visits to other interesting places, such as the city of Český Krumlov, Fisheries Třeboň Hld. Inc., the city of Třeboň, Nové Hradky Fishery and so on. A small final symposium makes an integral part of this course. Within the symposium, you will actively present in front of colleagues and researchers of the FFPW USB a short contribution concerning your work and results obtained. Such unique experience enriches you for your further study and personal life.

##### **3) Master study**

Master study of the Aquaculture field prepares professionals and specialists for middle and higher management in enterprises and farms focused on fish culture, for positions in public service, research, education, developmental and research project preparation and management concerning fisheries and water environment. Graduates obtain knowledge from various fields of aquaculture and fishery including aquatic toxicology, chemical processes in aquatic environment and chemistry of compounds polluting waters.

Students can specialize in the field of fish reproduction and genetics or special aquaculture systems. Graduates will be able to apply their knowledge in other climatic conditions and/or in other fish species and water organisms or production systems. Study plan was constructed to enable education also to bachelors' graduates of other fields. Teaching activities have a pillar in traditional Czech fish pond culture whose centre is located in this region and in a quality of scientific base at Faculty of Fisheries and Protection of Waters.

**Study system:** Credit system implemented. Students have to get a minimum of 120 credits – of this number, 105 credits must be acquired in compulsory subjects and 15 credits must be acquired in compulsory-selectable subjects.

**Further education possibilities:** The graduates can continue studying the doctoral field of study „Fishery” directly on the Faculty of Fisheries and Protection of Waters that is accredited both in the Czech and in the English language.

**Tuition fees: Tuition fee is €20/semester.**

**Scholarships:** FFPW provides accommodation, merit and premium scholarships according to scholarship regulations of USB and FFPW and special scholarships for gifted students with excellent results and extraordinary activity. If you are gifted you would have enough money to cover living costs in the Czech Republic during 2<sup>nd</sup> year of study.

**Admission procedure:** Use standard application form to study at a faculty <http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/m-f-aquaculture>

### **Doctoral study (Ph.D.)**

Accredited doctoral study program in field Fishery represents an interesting possibility to continue with acquiring new scientific knowledge according to an individual study plan. This study deepens knowledge and abilities acquired in the master study in relation to detailed professional specialization usually in context with current scientific and research issues in aquaculture, fish genetics and reproduction, fisheries, water protection, hydrobiology, aquatic toxicology etc. Students will be involved in working groups in scientific laboratories of our faculty based on their research topics. Aside ability to work in team, students will be requested to show creativity and self-activity and ability to publish results in scientific literature. Aim is to prepare students for their future research, scientific or pedagogical career at universities or research institutions and management of companies.

**Study system:** Credit system implemented. Study is determined by an individual study plan that consists of an educational section and a research section. Individual study plan is drawn up by the student after consultation with his or her supervisor and has to be authorized by Departmental committee. Individual study plan is chosen with respect to the topic or research activities and thesis and previous education.

**Further possibilities:** The graduates with excellent results usually become members of research teams of faculty or apply for postdoctoral internship.

**Tuition fees: Tuition fee is €20/semester.**

**Scholarships:** Students will get scholarships to be able to cover their living costs in the Czech Republic. Besides scholarships, students will get a minimal work load at our faculty.

**Admission procedure:** Look at the offered themes of Ph.D. thesis for forthcoming academic year and select one of the **proposed topics**. Contact supervisor of selected topic. In case of a mutual deal, complete the application form for the doctoral study <http://www.frov.jcu.cz/en/co-lze-studovat-jake-obory/d-f-fishery>.