

# Magyarország-Szerbia IPA Határon Átnyúló Együttműködési Program



Célcsoportok: Biológiai szakokon alap-, mesteri- és doktori képzésekben tanuló diákok Magyarországon és Szerbiában, és minden tudományos intézetek munkatársai, akiknek hasznukra váhat az antioxidánsokról, és az oxidativ stressz megjelenéséről szükséges ismeretek.

## Főbb eredmények:

- Három nyelvű tanprogram és tananyag elkészítése Nyitókonferencia Szegeden (2015.04.20)
- Szeminarium, műhelymunkák Újvidéken (2015.06.08-12.)
- Szeminarium: Az antioxidánsok, és az oxidativ stressz a növényekben

## Műhelymunkák:

- Fruška gora (Tarcal-hegység) növényvilága
- Az antioxidánsok analitikai kimutatása és a oxidativ stressz paraméterei a növényben
- Vajdaság legjelentősebb termesztett növényei Szeminárium, műhelymunkák Szegeden (2015.08.31 – 09.04.)
- Szeminarium: Az abiotikus stressz hatása a növényekre
- Műhelymunkák:
  - Az ionok szállítása a növényekben
  - Fotoszintézis – hatásos eszköz a biomonitoringban
  - Analitikai módszerek a proteinek kivizsgálásában
  - Diáksere programok Újvidéken és Szegeden Zárókonferencia Újvidéken (2016. 05.24.)

A projektum elnevezése: Egyetemi mester szintű és Ph.D. tananyag, valamint szakmai továbbképzési programok együttes fejlesztése a növénybiológia területén (PLANTRAIN, ID: HUSBR/1203/221/173) Vezető intézmény: Szegedi Tudományegyetem A projektum 1. partnere : Mezőgazdasági Kar, Újvidéki Egyetem IPA támogatás: 171 785,00 € A projektum kezdete: 2015. 01.01. A projektum lezárása 2016. 06.30.

## IPA Program prekognanične saradnje između Mađarske i Srbije



Veza između Poljoprivrednog fakulteta Univerziteta u Novom Sadu i Univerziteta Jožef Atilla u Segedinu postoji već nekoliko decenija. Naša saradnja je zasnovana na sličnosti u geografskom položaju i klimatskim uslovima koji su glavni preduslovi za gajenje i rast biljaka. Do sada je naša saradnja bila uglavnom posvećena naučnim istraživanjima samoniklih i gajenih biljaka i odvijala se kroz međuniverzitetske razmene i u vidu IPA EXIT projekta koji je finansiran od strane EU (2014). Saradnja u oblasti obrazovanja je prva ovakve vrste, započela je sa aktuelnim IPA PLANTRAIN projektom koji je odobren 2015. godine od strane EU.

Ciljevi: Zadatak IPA PLANTRAIN projekta je da se unesu nova zajednička znanja u nastavne programe kao i u obrazovne sisteme Departmana za biologiju, Univerziteta Jožef Atilla u Segedinu i Poljoprivrednog fakulteta, Univerziteta u Novom Sadu. Sve aktivnosti u okviru projekta bile su posvećene stvaranju novog pristupa proučavanju biologije biljaka, hemije bioških procesa i biohemije u nastavnim programima i naučnim istraživanjima. Zadatak projekta IPA PLANTRAIN je i omogućavanje mobilnosti studenata sa obe univerzitet. U cilju postizanja navedenih edukacionih zadataka kreiran je novi trojezični nastavni program.

Naziv projekta: Razvoj programa visokog obrazovanja i obuke u biologiji biljaka za podršku društva zasnovanog na znanju (PLANTRAIN, ID: HUSBR/1203/221/173)

Vodeći korisnik: Univerzitet u Segedinu Partner 1 na projektu: Univerzitet u Novom Sadu, Poljoprivredni fakultet

IPA finansiranje: 171 785,00 €

Početak projekta: 01.01.2015. Kraj projekta: 30.06.2016.

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Project PLANTRAIN programme IPA  
Cross-border Hungary-Serbia is financed  
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by Provincial Secretariat for Finance,  
Autonomous Province of Vojvodina.



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Ciljne grupe: Studenti bioloških nauka koji se bave proučavanjem biljaka, iz Mađarske i Srbije (osnovne, master i doktorske studije), zainteresovani za sticanje novih znanja iz oblasti biologije, biohemije, hemije bioloških procesa i zaštite životne sredine koja se mogu primeniti u savremenoj konvencionalnoj i organskoj poljoprivredi. Saradnici naučnih instituta i srodnih institucija mogu biti zainteresovani za pohađanje ovog kursa, jer im se pružaju neophodna znanja u vezi antioksidanata i pojave oksidativnog stresa koji se javlja kao posledica suše, poplava, visokih/niskih temperatura, upotrebe veštackih dубriva, insekticida, herbicida i dr. u poljoprivredi.

## Glavni rezultati:

### Kurikulum na tri jezika

### Otvaraajuća konferencija u Segedinu (20.04.2015)

### Seminar i radionice u Novom Sadu (08-12.06.2015)

- Seminar: Antioksidanti i oksidativni stres u biljkama

### Radionice:

#### Upoznavanje sa biljnim svetom Fruške gore, analitičko određivanje antioksidanata i parametara oksidativnog stresa u biljkama,

#### Najvažnije gajene biljne vrste u Vojvodini Seminar i radionice u Segedinu (31.08.2015 - 04.09.2015)

- Seminar: Odgovori na abiotički stres u višim biljkama

### Radionice:

#### Jonski transport u biljkama Fotosinteza - efikasan alat za biomonitoring

#### Uvod u analitičke metode analize proteina Programi i razmene studenta

#### Zatvarajuća konferencija u Novom Sadu (24.05.2016)

#### Nabavka opreme i hemikalija za analizu biljnog materijala

Unapređena prekogranična saradnja u oblastima obrazovanja i istraživanja i učvršćene veze između dve institucije zasnovane na stručnosti, kolegjalnosti, saradnji i prijateljstvu.

Projekat PLANTRAIN u okviru IPA prekogranične saradnje Mađarska/Srbija je finansiran od strane EU i sufinansirani od Pokrajinskog Sekretarijata za finansije APV.

Hungary-Serbia  
IPA Cross-border Co-operation Programme

## Hungary-Serbia IPA

### Cross-border Co-operation programme

Relationship between University of Novi Sad, Faculty of Agriculture and University Joszef Atilla from Szeged existed already a several decades. The main reasons for our collaborations were similarities in geographical configuration and climate conditions what are the main prerogatives for plant growth and cultivation. Our collaboration so far was dedicated mostly to scientific research of wild growing and cultivated plants through the interuniversity exchanges and one IPA project under acronym EXTR financed by EU (2014). Our first collaboration in the frame of education started with actual IPA PLANTRAIN project which was approved by EU in 2015.

Objectives: The task of the IPA PLANTRAIN project was to bring the new common knowledge's in training programs and educational systems of Department of Plant Biology, Joszef Atilla University of Szeged and Faculty of Agriculture, University of Novi Sad. All activities conducted during the project were devoted to create a new approach to plant biology, chemistry and biochemistry studies, teaching programs and investigations. The task of the IPA PLANTRAIN project was also to enable mobility of students from both Universities by creating new educational possibility in the form of trilingual teaching program.

**Project title:** Joint development of higher education and training programmes in plant biology in support of knowledge-based society

(PLANTRAIN, ID: HUSBR/1203/221/173)

Lead Beneficiary: University of Szeged

Project partner 1: Faculty of Agriculture, University of Novi Sad

IPA funding: 171 785,00 €

Start of the project: 01.01.2015. End of the project: 30.06.2016.

Target groups: Hungarian and Serbian students (bachelor, master, PhD) who are studing plant sciences and are interested in obtaining new knowledges in the fields of biology, biochemistry, biological chemistry and environmental protection which could be implemented in contemporary commercial and organic agriculture. Scientists from research institutes and related companies could be interested to attend this course because it could give them all the necessary knowledge's connected with antioxidants and oxidative stresses which could be induced by drought, flood, high/low temperatures, use of fertilizers, insecticides, herbicides etc. in agriculture.

### Main results:

#### Trilingual curriculum

#### Opening conference in Szeged (20.04.2015)

#### Seminar and workshop in Novi Sad (08-12.06.2015)

- Seminar: Antioxidants and oxidative stress in plants

#### Workshops:

#### Introduction to the Fruška Gora mountain and its plant world,

#### Analytical Determination of Antioxidants and Oxidative stress parameters in Plants,

#### Most important crop species in Vojvodina Province Seminar and workshop in Szeged (31.08.2015 - 04.09.2015)

- Seminar: Abiotic stress responses of higher plants

#### Workshops:

#### Introduction to the ion transport in plants, Introduction to methods in photosynthesis: an effective tool for biomonitoring,

#### Introduction to protein analytical methods PhD student exchanging programmes

#### Closing conference in Novi Sad (24.05.2016)

#### Purchasing of equipment and chemicals for plant material investigations

Improved cross-border collaboration in the fields of education and investigation between Serbian and Hungarian partners, based on expertise, colleagueial relationship and friendship.



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