

Funcția în cadrul Proiectului: Director de proiect

1. Nume: Sicora
2. Prenume: Cosmin Ionel
3. Data și locul nașterii: 30 ianuarie 2009, Huedin, Romania
4. Cetățenie: Romana
5. Stare civilă: Casatorit
6. Studii: doctorat

Instituția	Perioada	Grade sau diplome obținute
Universitatea "Babes-Bolyai", Facultatea de Biologie si Geologie Cluj-Napoca, Romania.	1992-1997	licentiat in Microbiologie
Universitatea "Babes-Bolyai", Facultatea de Biologie si Geologie Cluj-Napoca, Romania	1997-1998	master in Manipularea genetica la plante
Universitatea din Szeged, Ungaria	1999-2003	doctorat in Stiintele Mediului

7. Experiența profesională:

Instituția	Perioada	Funcția	Descriere
Institutul de Cercetari Biologice Cluj, Romania	1997-1998	asistent de cercetare	Influenta diferitelor factori de mediu asupra creșterii plantelor superioare
Centrul de Cercetari Biologice, Academia Maghiara de Stiinte, Szeged, Ungaria	1998-1999	bursier International Training Course	Distructia indusa de UV-B si recuperarea activitatii fotosintetice la cianobacteria <i>Synechocystis</i> sp. PCC 6803
Centrul de Cercetari Biologice, Academia Maghiara de Stiinte, Szeged, Ungaria	1999-2003	student la doctorat	Mecanismele moleculare ale distructiei indusa de UV-B si a recuperarii activitatii fotosintetice la cianobacteria <i>Synechocystis</i> sp. PCC 6803
Centrul de Cercetari Biologice, Academia Maghiara de Stiinte, Szeged, Ungaria	2003-2004	staff researcher	studii ale stresului cauzat de lumina si UV-B pe diferite specii de cianobacterii
Universitatea Mount Allison, NB, Canada	2004-2006	cercetator postdoctoral	expresia genelor din familia <i>psbA</i> la <i>Gloeobacter</i> PCC7421, <i>Synechocystis</i> PCC6803 si <i>Anabaena</i> PCC7120
Turku University, Finland	2006-2008	bursier postdoctoral al Fundatiei Universitatii din Turku	-conditii de transcriere ale genelor "tacute" <i>psbA</i> -expresia genica a hidrogenazelor cu dubla functie in diferite specii de cianobacterii
Scoala de Stiintele Vietii, Universitatea de Stat din Arizona, Tempe, USA	2008-2009	asociat de cercetare postdoctoral	isolarea hidrogenazelor cu dubla functie din natura si producerea de bio-hidrogen de catre cianobacterii

8. Titluri științifice:

- Licența și Master de la Universitatea Babes-Bolyai, Cluj, Romania
- Doctorat de la Universitatea din Szeged, Ungaria

9. Limbi străine cunoscute: engleza (scris, oral), franceza (scris, oral)**10. Brevete de invenții, dacă există (maxim cinci):****11. Lucrări publicate, dacă există (maxim cinci lucrări, cele mai relevante în domeniul proiectului):**

1. Sicora, CI; Ho, FM; Salminen, T; et al., Transcription of a "silent" cyanobacterial *psbA* gene is induced by microaerobic conditions, *BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS*, 1787 (2): 105-112, 2009, ISSN: 0005-2728
2. Sicora, CI; Brown, CM; Cheregi, O; et al., The *psbA* gene family responds differentially to light and UVB stress in *Gloeobacter violaceus* PCC 7421, a deeply divergent cyanobacterium,

BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS, 1777 (2): 130-139, 2008, ISSN: 0005-2728

- Sicora, C; Wiklund, R; Jansson, C; et al., Charge stabilization and recombination in Photosystem II containing the D1 ' protein product of the psbA1 gene in Synechocystis 6803, PHYSICAL CHEMISTRY CHEMICAL PHYSICS, 6 (20): 4832-4837, 2004, ISSN: 1463-9076
- Sicora, CI; Appleton, SE; Brown, CM; et al., Cyanobacterial psbA families in Anabaena and Synechocystis encode trace, constitutive and UVB-induced D1 isoforms, BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS, 1757 (1): 47-56, 2006, ISSN: 0005-2728
- Sicora, C; Mate, Z; Vass, I, The interaction of visible and UV-B light during photodamage and repair of Photosystem II, PHOTOSYNTHESIS RESEARCH, 75 (2): 127-137, 2003, ISSN: 0166-8595

12. Membru al asociațiilor profesionale:

Membru al Societății Internaționale de Cercetare în Fotosinteză - 2001-prezent

13. Specializări și calificări:

- Interacțiunea luminii UV-B și vizibile în distrugerea lanțului transportor de electroni al bacteriilor fotosintetizante
- Repararea mediata de proteaze a fotosistemului II la cianobacterii
- Influența carbonului celular asupra reglării complexului Ndh
- Modele diferite de exprimare ale genelor *psbA* în condiții de mediu standard și de stress la diferite specii de cianobacterii
- Investigarea diversității naturale a hidrogenazelor cu dubla funcție

14. Experiența acumulată (inclusiv managerială) în alte programe/proiecte naționale/internaționale:

Programul/Proiectul	Funcția	Perioada
Studii asupra mecanismelor moleculare de distrugere cu lumina UV-B și recuperarea activității fotosintetice la cianobacteria <i>Synechocystis</i> sp. PCC 6803	Bursier, International Training Course	1998-1999
Mecanisme moleculare ale distrugerii cu lumina UV-B și recuperarea aparatului fotosintetic la cianobacteria <i>Synechocystis</i> sp. PCC 6803	doctorand	1999-2004
Expresia genelor familiei <i>psbA</i> la <i>Gloeobacter</i> PCC7421, <i>Synechocystis</i> PCC6803 și <i>Anabaena</i> PCC7120	cercetator postdoctoral	2004-2006
Condițiile de transcrierea ale genelor "tacute" <i>psbA</i> gene		
Expresia diferențială a genelor <i>hoxY</i> ale hidrogenazelor cu dubla funcție în diferite condiții de mediu la <i>Synechocystis</i> sp. PCC6803 și <i>Anabaena</i> sp. PCC7120		
Producția de bio-hidrogen de către cianobacterii și izolarea unor noi hidrogenaze cu dubla funcție din natură	cercetator postdoctoral asociat	2008-2009

15. Lista celor mai importante publicații/brevete (numai pentru specialistul din strainatate):

Articole în reviste științifice peer-reviewed

- C.I. Sicora**, Ho FM, Salminen T., Styring S., Aro EM. Transcription of a "silent" cyanobacterial *psbA* gene is induced by microaerobic conditions, *Biochim. Biophys. Acta* (2009), 1787 Issue: 2 Pages: 105-112.
- Cosmin I. Sicora**, Christopher M. Brown, Otilia Cheregi, Imre Vass and Douglas A. Campbell (2007) *The psbA gene family responds differentially to light and UVB stress in Gloeobacter violaceus PCC 7421, a deeply divergent cyanobacteria. Biochimica et Biophysica Acta* 1777 (2008) 130-139
- Cosmin I. Sicora**, Christopher M. Brown, Otilia Cheregi, Imre Vass and Douglas A. Campbell (2007) *The psbA gene family responds differentially to light and UVB stress in Gloeobacter violaceus PCC 7421, a deeply divergent cyanobacteria. Biochimica et Biophysica Acta* 1777 (2008) 130-139
- Cosmin Sicora** and Eva-Mari Aro (2007) *Characterization of biohydrogen production and gene expression under changing environmental conditions. Photosynthesis Research* 91, PS1.12
- Pengpeng Zhang, **Cosmin I. Sicora**, Natalia Vorontsova, Yagut Allahverdiyeva, Natalia Battchikova, Peter J. Nixon, Eva-Mari Aro (2007) *Expression of inducible inorganic carbon complexes is under the control of FtsH protease in Synechocystis sp. PCC 6803. Photosynthesis Research* 91:223 PS9.15
- Pengpeng Zhang, **Cosmin I. Sicora**, Natalia Vorontsova, Yagut Allahverdiyeva, Natalia Battchikova, Peter J. Nixon, Eva-Mari Aro (2007) *FtsH protease is required for induction of inorganic carbon acquisition complexes*

in *Synechocystis* sp. PCC 6803 **Molecular Microbiology** **65(3)**, 728–740.

7. Otilia Cheregi, **Cosmin Sicora**, Peter B. Kós, Myles Barker, Peter J. Nixon and Imre Vass (2007) *The role of the FtsH and Deg proteases in the repair of UV-B radiation-damaged Photosystem II in the cyanobacterium Synechocystis PCC 6803*. **BBA- Bioenergetics** 1767(6):820-828. Epub 2006 Dec 5.

8. **Cosmin I. Sicora**, Sarah E. Appleton, Christopher M. Brown, Jonathon Chung, Jillian Chandler, Amanda M. Cockshutt, Imre Vass and Douglas A. Campbell (2006) *Cyanobacterial psbA families in Anabaena and Synechocystis encode trace, constitutive and UVB induced D1 isoforms*. **Biochimica et Biophysica Acta (BBA) - Bioenergetics** Volume 1757, Issue 1, Pages 47-56. (Impact factor: 4.237)

9. Jean-Charles Cadoret, Bernard Rousseau, Irene Perewoska, **Cosmin Sicora**, Otilia Cheregi, Imre Vass and Jean Hoummard (2005) *Cyclic nucleotides, the photosynthetic apparatus and response to a UV-B stress in the cyanobacterium Synechocystis sp. PCC 6803*. **Journal of Biological Chemistry** Oct 2005; 280: 33935 -33944. (Impact factor: 5.854)

10. Subramanyam Rajagopal, **Cosmin Sicora**, Zsuzsanna Valkonyi, Laszlo Mustardy and Prasanna Mohanty (2005) *Protective effect of supplemental low intensity white light on ultraviolet-B exposure-induced impairment in cyanobacterium Spirulina platensis: formation of air vacuoles as a possible protective measure*. **Photosynthesis Research** 85 (2): 181-189. (Impact factor: 2.295)

11. **Cosmin Sicora** and Imre Vass (2005) *Photoinhibition Of PSII Affects Differentially The Activity Parameters Measured Under Single-Turnover Flash or Continuous Illumination* Satellite Meeting of 13th International Congress on Photosynthesis Trois-Rivieres, Québec, Canada, **Photosynthesis Research** Suppl. (in press). (Impact factor: 2.295)

12. Otilia Cheregi, **Cosmin Sicora**, Peter B Kos, Peter J Nixon and Imre Vass (2005) *The FtsH protease is required for the repair of Photosystem II in the cyanobacterium Synechocystis 6803 damaged UV-B radiation*. **BMC Plant Biology** 2005, 5(Suppl 1):S8 doi:10.1186/1471-2229-5-S1-S8. (Impact factor: 2.65)

13. **Cosmin Sicora**, Ronney Wiklund Christer Jansson and Imre Vass (2004) *Charge stabilization and recombination in Photosystem II containing the D1' protein product of the psbA1 gene in Synechocystis 6803*. **Phys. Chem. Chem. Phys.** 6, pp4832 – 4837 (Impact factor: 2.076)

14. **Cosmin Sicora**, Zoltan Mate and Imre Vass (2003) *The interaction of visible and UV-B light during photodamage and repair of photosystem II*. **Photosynthesis Research** 75:127-137. (Impact factor: 2.239)

15. M. Tichy, L. Lupinkova, **C. Sicora**, I. Vass, S. Kuvikova, O. Prasi and Josef Komenda (2003) *“Synechocystis 6803 mutants expressing distinct forms of the Photosystem II D1 protein from Synechococcus 7942: relationship between the psbA coding region and sensitivity to visible and UV-B radiation.”* **Biochimica et Biophysica Acta** 1605 55-66. (Impact factor: 4.431)

16. **Sicora, C.** and Vass, I. (2000) *“The interaction of visible and UV-B light in damaging the electron transport of Photosystem II in the cyanobacterium Synechocystis 6803”* **Plant Physiol. Biochem.** 38 (suppl.): 110. (Impact factor: 1.292)

17. **Cosmin Ionel Sicora**, Mihail Dragan-Bularda and Imre Vass (2000) *UV-B-Induced Damage and Recovery of Photosynthetic Activity in the Cyanobacterium Synechocystis sp. PCC 6803*. **Studia Universitatis Babeş-Bolyai, Biologia**, XLV, 2, 2000, pp 82-90.

Articole in volume stiintifice peer-reviewed si volume de rezumate ale conferintelor

1. Cosmin Ionel Sicora, Ankita Kotari, Martin F. Wojciechowski, Feran Garcia-Pichel (2009) *Searching for new hydrogenases in nature*, 48th Annual Meeting of the Arizona Southern Nevada Branch, April 8th 2009, Tucson, Arizona

2. Cosmin Ionel Sicora and Eva-Mari Aro (2008) *Differential expression of hoxY gene, encoding the small subunit of bidirectional hydrogenase, under Ar-induced microaerobic conditions in Synechocystis sp. PCC6803 and Anabaena sp. PCC7120* In: Allen JF, Gantt E, Golbeck JH, Osmond B (eds) *Photosynthesis 2007. Energy from the Sun*. Proceedings of the 14th International Congress on Photosynthesis. Springer, Heidelberg, in press.

3. Cosmin Sicora, Otilia Cheregi, Peter B. Kos, Peter J. Nixon, and Imre Vass (2005) *The FtsH protease is involved in the repair of UV-B radiation damaged photosystem II in Synechocystis 6803*. In *Photosynthesis: Fundamental Aspects to Global Perspectives*. (A. Van der Est and D Bruce, eds.), 511-513.

4. Douglas Campbell, Sarah Appleton, Chris Brown, Cosmin Sicora (2004) *Functional diversity of the PsbA (D1) protein family in cyanobacteria.*, In *Photosynthesis: Fundamental Aspects to Global Perspectives*. (A. Van der Est and D Bruce, eds.)

5. Jean-Charles Cadoret, Cosmin Sicora, Alessandra de Martino, Gérald Zabulon, Irène Perewoska, Chantal Guidi-Rontani, Imre Vass and Jean Hoummard (2003) *“Light adaptation of a Synechocystis PCC6803 mutant impaired in cyclic nucleotide”* Planktonic primary producers meeting Federative Institute of Fundamental & Applied Ecology (IFR 101) 5 & 6 June 2003, Paris

6. I Vass, E Turcsányi, L Sass, A Szilárd, C Sicora, Z Máté, É Hideg, F. Nagy, A Viczián (2001) *Damage and repair of Photosystem II under exposure to UV radiation*. Proc. 12th Int. Congress on Photosynthesis, Brisbane, Australia
7. Cosmin Sicora and Imre Vass (2001) *The Interaction Of Visible And UV-B Light In Damaging The Electron Transport Of Photosystem Ii In The Cyanobacterium Synechocystis 6803*. Satellite Meeting of the 12th International Congress on Photosynthesis, Aug 13-17, Heron Island, Australia (2001) pp. 15

Carti

1. Sicora, C. Szilárd, A., Sass, L. Turcsányi, E, Máté, Z. and Vass I. (2006) "*UV-B and UV-A radiation effects on photosynthesis at the molecular level*" in Environmental UV Radiation: Impact on Ecosystems and Human Health and Predictive Models, NATO Science Series, IV. Earth and Environmental Sciences – vol. 57 (Ghetti, F., Checucci, G., and Bornmann, J. eds.) pp.121-130
2. Imre Vass, Andras Szilard, and Cosmin Sicora. (2005) *Adverse Effects of UV-B Light on the Structure and Function of the Photosynthetic Apparatus*; In: PESSARAKLI: Handbook of Photosynthesis, 2nd edition page 827.

Alte publicatii stiintifice

1. Cosmin Sicora *Studies concerning the molecular mechanism of UV-B induced damage and recovery of photosynthetic activity in the cyanobacterium Synechocystis sp. PCC 6803* - Proceedings of the International Training Course on Selected Topics of Modern Biology held by Biological Research Center of The Hungarian Academy of Sciences, Szeged, Hungary, 1999
2. Cosmin Sicora, V. Opris *Characterization of UV-induced mutants of lactic acid bacteria*, The 9th Congress on Microbiology and Biotechnology, Iasi, Romania, 18-19 September 1998.
3. M. Dragan-Bularda, C. Sicora *Isolation of dextranase productive bacteria-*, The 9th Congress on Microbiology and Biotechnology, Iasi, Romania, 18-19 September 1998.
4. Cosmin Sicora, M.Dragan-Bularda *Isolation of levanase productive microbial strains-* - The 9th Congress on Microbiology and Biotechnology, Iasi, Romania, 18-19 September 1998.
5. Cosmin Sicora, M.Dragan-Bularda *Characterization and isolation of some enzymes obtained from transgenic bacteria* -Abstract "Genetic of Industrial Microorganisms Symposium", Jerusalem, Israel, 28.06-3.07 1998.

Declar pe proprie răspundere că datele prezentate sunt în conformitate cu realitatea.

Data completării: 26.10.2010