

Anna J. Székely

Curriculum Vitae

PERSONAL DATA

Name	Anna Júlia Székely
Citizenship	Hungarian
Children	two children (born 2007, 2011)
Work address	College of Marine Science, University of South Florida, 140 7th Avenue South, St Petersburg, FL 33701, USA, Phone: +1-727-553-1018, email: aszekely@mail.usf.edu
Affiliation	Post-doc, Department of Ecology and Evolution/Limnology, Uppsala University, Norbyv. 18D, 75236 Uppsala, Sweden, email: anna.szekely@ebc.uu.se

PROFESSIONAL EMPLOYMENT

2013-present	Post-doc, Marie Curie International Outgoing Fellowship, Department of Ecology and Evolution/Limnology, Uppsala University, Sweden. Host: Lars Tranvik. Outgoing phase, Biological Oceanography, College of Marine Science, University of South Florida, St. Petersburg, USA. Host: Mya Breitbart.
2009-2012	Post-doc, Carl Tryggers fellowship, Limnology, Department of Ecology and Genetics, Uppsala University, Sweden. Host: Silke Langenheder.
2005-2008	Research Assistant, Cooperative Research Center for Environmental Sciences (ELTE-KKKK), Budapest, Hungary.
2006	Research consultant. Part-time contract at Organic, Inc., Budapest, Hungary.

EDUCATION & DEGREES

2009	PhD degree, title: “Reliability and use of microbial diversity analyzing methods in applied wastewater microbiology”. Supervisor: Károly Márialigeti.
2001-2005	PhD student, Department of Microbiology, Graduate School of Biology, Eötvös L. University, Budapest, Hungary.
2001	MSc degree, title: “Molecular analysis of the nitrifying bacterial community of the gravel bed of the Danube”. Supervisor: Marcell Nikolausz.
1996-2001	Undergraduate studies in Biology, specialization in Molecular biology and Microbiology, Eötvös L. University, Budapest, Hungary.

SELECTED CURRENT & PAST PROJECTS

- 2013-2016** Main researcher of the project: “*Linked analysis of viral and bacterial communities for better understanding of microbial biogeography and ecosystem functioning*”. Funded by Marie Curie International Outgoing Fellowship.
- 2012-2014** Main PI of the project: “*Impact of soil leachate on lake bacterial community assembly*”. Funded by Olsson-Borghs Foundation.
- 2009-2012** Main researcher of the project: “*Assembly patterns and niche differentiation in bacterial communities*”. Funded by Carl-Tryggers Foundation.
- 2004-2008** Researcher of the Cooperative Research Center for Environmental Sciences (ELTE-KKKK). Funded by: EU/Hungarian Government project of the Operative Programme for Economic Competitiveness. Projects of the initiative in which AJ Székely participated: (1) Optimization of a wastewater treatment plant treating coking effluent at Dunaferr, the major metallurgic company of Hungary (main researcher), (2) Optimization of biogas production by pilot scale fermenting reactor experiments (scientific coordinator), (3) Testing and microbial analyses of the application of new nitrifying biofilm carriers in a pilot scale nitrifying reactor treating wastewater (scientific coordinator), (4) Investigation of the bacterial contamination problems of the ultrapure water system of Paks Nuclear Power Plants (scientific coordinator).
- 2003-2006** Scientific co-worker of the project: “*Study of the bias of molecular diversity analyzing methods, optimization of protocols and practical applications*”. Funded by OTKA grant of the Hungarian Scientific Research Fund.
- 2002-2005** Scientific co-worker of the project: “*Control of mushroom compost production by selected microorganisms*”. Funded by BIO 0029/2002 grant of the Hungarian Ministry of Agriculture.

AWARDS

- 2006** Best Scientific Poster Award for the poster “*Microbial community analysis of activated sludge treating industrial wastewater*”. AXIOM Spring School, Leipzig, Germany.
- 2003** Best presentation award for “*Comparison of ammonia oxidizing community structure in different sewage treatment strategies by amoA TRFLP analysis*”. 14th International Congress of the Hungarian Society for Microbiology, Balatonfüred, Hungary.
- 2001** First prize for the presentation of the scientific work “*Molecular analysis of nitrifying bacterial community of river Danube gravel biofilm*”. XXVth National Scientific Student Conference, Budapest, Hungary.

SUPERVISING EXPERIENCE

- 2011** M. A. H. Mollah. MSc: “Resistance and resilience of bacterial communities in response to multiple disturbances.” Uppsala University, Sweden (co-supervisor).
- 2008** Scheirich G. MSc: “Analysis of thiocyanate degrading microbial community by classical and molecular methods.” Eötvös L. University, Budapest, Hungary (co-supervisor).
- 2008** Rácz A. MSc: “Analysis of the biodegradation of a phenolic wastewater by classical and molecular microbial methods.” Eötvös L. University, Budapest, Hungary (co-supervisor).
- 2007** Gorál R. MSc: “Microbial community structure and dynamics of the activated sludge treating an industrial wastewater.” Eötvös L. University, Budapest, Hungary.
- 2005** Berta B. MSc: “Analysis of the bacterial community of mushroom compost by classical and DNA-based microbial methods.” Eötvös L. University, Budapest, Hungary.
- 2005** Molnár K. MSc: “A study of Archaeobacteria population from the Cojocna’s salt lake by modern molecular methods.” Babeş-Bolyai Univeristy, Cluj, Romania.
- 2003** Felföldi T. MSc: “Molecular microbial analysis of the nitrifying basins of a sewage treatment plant.” Eötvös L. University, Budapest, Hungary.

TEACHING EXPERIENCE

- Lectures** Environmental microbiology, Microbial taxonomy .
- Lab courses** Microbiology, Microbial ecology, Microbial taxonomy and Molecular zootaxonomy .

OTHER TRAININGS

- 2006** FISH course: In Situ Detection of microbial structure and function in contaminated and pristine aquatic surface & subsurface systems. Freising, Germany.
- 2006** AXIOM Spring School: Microbial activity at biogeochemical gradients. Leipzig Germany.
- 2005** SGM/FEMS Microbiology in Schools Training Course. Reading, UK
- 2005** Internship training at CNRS-Limos and INRA-IaM. Nancy, France. ECO-NET project: Effect of forest species on biodegradation of litters: processes, biological actors and modeling.

OUTREACH ACTIVITIES

Popular science	Székely AJ (2006). Biofilmek a szennyvíztisztításban (Biofilms in wastewater treatment). 53 pages training book for Organica Water, Inc., Budapest, Hungary. Székely AJ (2005/6). „Műveletlen” baktériumok - Az ismeretlen sokaság (“Uncultured” bacteria - The unknown crowd). Élet és Tudomány (Life and Science) – popular science magazine, Hungary. Székely AJ, Sipos R, Bujdosó L., Hajdú Cs., Márailigeti K. (2004/4). Molekuláris eljárások a gombakomposzt baktérium-népességeinek vizsgálatában (Molecular approaches to study the bacteria of mushroom compost). Gombahíradó (Mushroom news) – Hungarian magazine of mushroom producers.
Science festival	Science in the Sun (2013) presenter at the Virus hunters/genomics booth.
Primary school	Regular volunteering as presenter and science fair judge at the primary school of my children.

ADDITIONAL MERITS & EXPERIENCE

Licenses	PADI Advanced Diver, biosafety, fire security and radioactive lab work permit.
Language skills	Hungarian (native speaker), English (fluent), Spanish (fluent), Swedish (basic communication).
Parental leave	Total equivalent of 41 months full-time.
Film production	Field assistant of natural-history documentaries based in Iceland (2004) and Central-Siberia (2006).
Field coordinator	Field coordinator and interpreter in Peru on the field trip of the Dep. of Animal Taxonomy and Ecology (Eötvös L. University, 1999).

REVIEWING EXPERIENCE

Peer-reviewer	The ISME journal, Applied and Environmental Microbiology, FEMS Microbiology Ecology, Microbial Ecology, Bioresource Technology, Hydrobiologia, Environmental Science and Pollution Research.
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PUBLICATIONS

Székely AJ, Langenheder S.

The importance of species sorting in bacterial communities differs between habitat generalists and specialists.

FEMS Microbiology Ecology. 2014; 87 (1): 102-112.

- Székely AJ**, Berga, M, Langenheder S.
Mechanisms determining the fate of dispersed bacterial communities in new environments.
ISME J. 2013; 7 (1): 61-71.
- Berga, M, **Székely AJ**, Langenheder S.
Effects of disturbance intensity and frequency on bacterial community composition and function.
PLoS ONE. 2012; 7 (5), art. no. e36959.
- Langenheder S, Berga, M, Östman, Ö, **Székely AJ**.
Temporal variation of beta diversity and assembly mechanisms in a bacterial metacommunity.
ISME J. 2012; 6 (6): 1107-1114.
- Langenheder S, **Székely AJ**.
Species sorting and neutral processes are both important during the initial assembly of bacterial communities.
ISME J. 2011; 5 (7): 1086-1094.
- Bohus V, Tóth EM, **Székely AJ**, Makk J, Baranyi K, Patek G, Schunk J, Márialigeti K.
Microbiological investigation of an industrial ultra pure supply water plant using cultivation-based and cultivation-independent methods.
Water Res. 2010; 44(20): 6124-6132.
- Máthé I, Táncsics A, Györgyi É, Pohner Zs, Vladár P, **Székely AJ**, Márialigeti K.
Investigation of mineral water springs of Miercurea ciuc (Csíkszereda) region (Romania) with cultivation-dependent microbiological methods.
Acta Microbiol Immunol Hung. 2010; 57(2): 109-122.
- Felföldi T., **Székely AJ**, Gorál R., Barkács K., Scheirich G., András J., Rácz A, Márialigeti K.
Polyphasic bacterial community analysis of an aerobic activated sludge removing phenols and thiocyanate from coke plant effluent.
Bioresour Technol. 2010; 101(10): 3406-3414.
- Sipos R, **Székely AJ**, Révész, S, Márialigeti K.
Addressing biases in molecular approaches.
In: Cummings S. (ed) Methods in Molecular Biology- Bioremediation. The Humana Press Inc, Totowa, NJ, USA. 2010; 599: 37-58.
- Székely AJ**, Sipos R, Berta B, Vajna B, Hajdú Cs, Márialigeti K.
DGGE and T-RFLP analysis of bacterial succession during mushroom compost production and sequence aided T-RFLP profile of mature compost.
Microb Ecol. 2009; 57(3): 522-533.
- Nikolausz M, Kappelmeyer U, **Székely A**, Rusznyák A, Márialigeti K, Kästner M
Diurnal redox fluctuation and microbial activity in the rhizosphere of wetland plants.
Eur J Soil Biol. 2008; 44(3):324-333.
- Sipos R, **Székely AJ**, Palatinszky M, Révész S, Márialigeti K, Nikolausz M.
Effect of primer mismatch, annealing temperature and PCR cycle number on 16S rRNA gene-targeting bacterial community analysis.

FEMS Microbiol Ecol. 2007; 60(2):341-50.

Tauber T, Berta B, **Székely AJ**, Gyarmati I, Kékesi K, Márialigeti K, Tóth EM.
Characterisation of community structure of bacteria in parallel mesophilic and thermophilic pilot scale anaerobe sludge digesters.

Acta Microbiol Immunol Hung. 2007; 54(1):47-55.

Nikolausz M, Sipos R, Révész S, **Székely A**, Márialigeti K.

Observation of bias associated with re-amplification of DNA isolated from denaturing gradient gels.

FEMS Microbiol Lett. 2005; 244(2):385-90.