Anna Karnkowska, PhD

EDUCATION

2006-2011 **PhD in Molecular Evolution and Taxonomy**
Faculty of Biology, University of Warsaw, Poland
Thesis: *Phylogeny and taxonomy of autotrophic euglenids (Euglenea) based on molecular and morphological data*
Supervisor: Prof. Bożena Zakryś

2004-2006 **MSc (Hons) in Biology of the cell and organism**
Faculty of Biology, University of Warsaw, Poland

2001-2004 **BSc (Hons) in Biology of the cell and organism**
Faculty of Biology, University of Warsaw, Poland

PROFESSIONAL EXPERIENCE

2011-present **Assistant Professor**
Institute of Evolutionary Biology, University of Warsaw, Poland

2016 **Postdoctoral research fellow**
Botany Department, University of British Columbia, Vancouver, Canada
Supervisor: Prof. Patrick Keeling

2013–2015 **Postdoctoral research fellow**
Parasitology Department, Charles University in Prague, Czech Republic
Supervisor: Dr hab. Vladimir Hampl

2014 **Visiting researcher**
Department of Cell Biology, University of Alberta, Canada (6 months)
Supervisor: Prof. Joel B. Dacks

2014 **Visiting researcher**
Dept. of Biochemistry & Molecular Biology, Dalhousie University, Canada (2 weeks)
Supervisor: Prof. Andrew J. Roger

2009 **Visiting researcher**
Ehrenberg collection, Museum für Naturkunde, Germany (2 weeks)

2006 **Visiting researcher**
Dept.of Plant Biology, Michigan State University, USA (2 months)
Supervisor: Prof. Richard E. Triemer

2004 **Student volunteer**
Laboratory of Bioinformatics and Protein Engineering, International Institute of Molecular and Cell Biology, Poland (3 months)
Supervisor: Prof. Janusz M. Bujnicki

RESEARCH GRANTS

AS A PRINCIPAL INVESTIGATOR

2020 *Establishing protocols for the long-read sequencing of microbial eukaryotes* EMBO Small Grant

2019 -2021 *Evolution of phototrophy in eukaryotes* EMBO Installation Grant

2017-2020 *Plastid evolution and functions of colourless algae within the Euglenophytes and Dictyochophyceae*, Polish National Science Center grant

2012-2013 *Occurrence and distribution of conventional and non-conventional introns in tubB gene of heterotrophic euglenids*, University of Warsaw intramural grant

2009 *Taxonomy of green euglenids - insight into the Ehrenberg* Collection, UE grant in Synthesys program, Museum für Naturkunde, Berlin

2009-2010 *Origin of the chloroplast of green euglenids based on the phylogeny of psbO gene*, University of Warsaw intramural grant

2008-2009 *Evolution of gapC gene in Euglenida*, University of Warsaw intramural grant

2007-2008 *Analysis of value of cox1 sequence in taxonomy and phylogeny of euglenids*, University of Warsaw intramural grant

AS A TEAM MEMBER OR CO-PI

2019-2022 Evolution and function of inverted repeats (IR) in the plastid genomes of Euglenophyta, Preludium Grant, Polish National Science Center, supervisor.

2017-2022 Life without mitochondrion , ERC Consolidator grant (Co-PI). Vladimir Hampl, Charles University in Prague, Czech Republic.

2018-2021 Evolution of ascetosporean parasites, an emerging threat in marine environments, Swedish Research Council Grant (Co-PI). PI: Dr Fabien Burki, University of Uppsala, Sweden.

2013-2015 *Genome sequencing of oxymonad and Trimastix*. PI: Dr Vladimir Hampl, Charles University in Prague, Czech Republic

2011-2014 *Distribution of conventional and non-conventional introns in nuclear genes of photosynthetic euglenids*, Polish National Science Center grant.
PI: Dr Rafał Milanowski, University of Warsaw, Poland

2011-2014 *Molecular identification of green euglenids and taxonomic verification of cryptic species*, Ministry of Science and Higher Education grant. PI: Prof. Bożena Zakryś, University of Warsaw, Poland

2011-2013 *The potential and realized toxicity of cyanobacteria in the waters of the Great Mazurian Lakes on the basis of molecular markers analysis, concentrations of toxins and environmental analysis*, Polish Ministry of Science and Higher Education grant.
PI: Dr Iwona Jasser, University of Warsaw, Poland

2007-2010 *Phylogeny and taxonomy of euglenids (Euglenaceae) based on molecular and morphological data*, Ministry of Science and Higher Education grant.
PI: Prof. Bożena Zakryś, University of Warsaw, Poland

AWARDS AND FELLOWSHIPS

2020	University of Warsaw Rector Individual Award for Research Achievement
2020	University of Warsaw Rector Team Award for Research Achievement
2019	University of Warsaw Rector Individual Award for Research Achievement
2018-2020	Ministry of Science Scholarship for outstanding young scientists
2017	University of Warsaw Rector Individual Award for Research Achievement
2017	Prize of Bedřich Hrozný for a major scientific achievement, Charles University in Prague
2016	University of Warsaw Rector Team Award for Research Achievement
2016	Postdoctoral Research Fellowship of Centre for Microbial Diversity and Evolution (CMDE)
2015	Phylogenetically informed curation of Eukaryotic 18S rDNA (EukRef) workshop fellowship (Vancouver, Canada).
2015	Holz-Conner Travel Award from ISOP for ISOP Conference (Sevilla, Spain)
2015	FEMS Young Scientists Meeting Grant for European Phycological Congress (London, United Kingdom)
2013	Eukaryotic Cell Journal Outstanding Young Investigator Award at the EMBO Comparative Genomics of Eukaryotic Microorganisms conference (San Feliu de Guixols, Spain)
2013-2015	Postdoctoral Research Fellowship funded by European Social Fund and the state budget of the Czech Republic
2013-2014	Young Scientist Award of the Foundation for Polish Science
2012-2013	Award for the best young PhDs of the University of Warsaw
2012-2013	Polish Prime Minister Award for the doctoral thesis
2012	Holz-Conner Travel Award from ISOP for Protist2012 Conference (Oslo, Norway)
2011	University of Warsaw Rector Award for the doctoral thesis
2011	Foundation for Polish Science Travel Award for VI European Congress of Protistology (Berlin, Germany)
2009	University of Warsaw Rector Award for Research Achievement
2009	Travel Award from 9th International Phycological Congress organizers (Tokyo, Japan)
2006-2010	PhD scholarship funded by Faculty of Biology, University of Warsaw

LIST OF PUBLICATIONS

1. Lukesova S, Karlicki M, Hadariova L, Szabova J, **Karnkowska A**, Hampl V (2019). **Analyses of SSU rRNAs and two regions of chloroplast genomes revealed unexpected diversity of photosynthetic euglenids in marine environments.** *Environ Microbiol Rep*, 12(1):78-91.
2. Jagielski T, Bakuła Z, Gawor J, Maciszewski K, Kusber W-H, Dyląg M, Nowakowska J, Gromadka R, **Karnkowska A** (2019) ***Prototheca* (Trebouxiophyceae, Chlorophyta) revisited: Implications from molecular taxonomic studies**. Algal Res, 43: 101639.
3. Maciszewski K, **Karnkowska A** (2019) **Should I stay or should I go? Retention and loss of components in vestigial endosymbiotic organelles.** *Curr Opin Genet Dev*, 58-59: 33-39.

4. Han KY, Maciszewski K, Graf L, Yang JH, Andersen AA, **Karnkowska A**, Yoon HS (2019) **Dictyochophyceae plastid genomes reveal unusual variability of their organization**. *J Phycol,* 55: 1166-1180.
5. **Karnkowska A**, Treitli SC, Brzoň O, Novák L, Vacek V, Soukal P, Barlow LD, Herman EK, Pipaliya SV, Pánek T, Žihala D, Petrželková R, Butenko A, Eme L, Stairs CW, Roger AJ, Eliáš M, Dacks JB, Hampl V. (2019) **The oxymonad genome displays canonical eukaryotic complexity in the absence of a mitochondrion.** *Mol Biol Evol,* 36(10): 2292-2312.
6. Adl, S.M., Bass, D., Lane, C.E., Lukeš, J., Schoch, C.L., Smirnov, A., Agatha, S., Berney, C., Brown, M.W., Burki, F., Cárdenas, P., Čepička, I., Chistyakova, L., Del Campo, J., Dunthorn, M., Edvardsen, B., Eglit, Y., Guillou, L., Hampl, V., Heiss, A.A., Hoppenrath, M., James, T.Y., **Karnkowska, A.**, Karpov, S., Kim, E., Kolisko, M., Kudryavtsev, A., Lahr, D.J.G., Lara, E., Le Gall, L., Lynn, D.H., Mann, D.G., Massana, R., Mitchell, E.A.D., Morrow, C., Park, J.S., Pawlowski, J.W., Powell, M.J., Richter, D.J., Rueckert, S., Shadwick, L., Shimano, S., Spiegel, F.W., Torruella, G., Youssef, N., Zlatogursky, V., Zhang, Q. (2019) **Revisions to the Classification, Nomenclature, and Diversity of Eukaryotes.** *J Eukaryot Microbiol,* 66: 4–119.
7. **Karnkowska A**, Bennett MS, Trimer RE (2018) **Dynamic evolution of inverted repeats in Euglenophyta plastid genomes**. *Sci Reports*, 8:16071.
8. Jagielski T, Gawor J, Bakuła Z, Decewicz P, Maciszewski K, **Karnkowska A** (2018) **cytb as a new genetic marker for differentiation of *Prototheca* species**. *J Clin Microbiol*, 56(10):e00584-18.
9. Leander BS, Lax G, **Karnkowska A**, Simpson AGB. **Euglenida.** Handbook of the Protists, J.M. Archibald et al. (Eds.), Springer-Verlag, Wien. 2017, 1047-1088.
10. Zakryś B, Milanowski R, **Karnkowska A** (2017) **Evolutionary origin of *Euglena*.** Euglena: Biochemistry, Cell and Molecular Biology. Schwartzbach, S. Shigeoka (Eds.) *Advances in Experimental Medicine and Biology* 979 p. 3-17.
11. Strassert JFH, **Karnkowska A**, Hehenberger E, del Campo J, Kolisko M, Okamoto N, Burki F, Janouškovec J, Poirier C, Leonard G, Hallam SJ, Richards TA, Worden AZ, Santoro AE, Keeling PJ. (2018) **Single cell genomics shows uncultured Marine Alveolates (MALVs) represent multiple independent lineages in early dinoflagellate evolution**. *ISME Journal*, 12: 304–308.
12. del Campo J, James ER, Hirakawa Y, Fiorito R, Kolisko M, Irwin NAT, Mathur V, Boscaro V, Hehenberger E, **Karnkowska A**, Scheffrahn RH, Keeling PJ (2017) ***Pseudotrichonympha leei*, *Pseudotrichonympha lifesoni*, and *Pseudotrichonympha pearti*, new species of parabasalian flagellates and the description of a novel rotating organelle.** *Sci Reports*, 7: *16349*.
13. Boscaro V, James ER, Fiorito R, Hehenberger E, **Karnkowska A**, del Campo J, Kolisko M, Irwin NAT, Mathur V, Scheffrahn, RH & Keeling PJ (2017) **Molecular characterization and phylogeny of four new Trichonympha (Parabasalia, Trichonymphea) species from lower termite hindguts.** *Int J Syst Evol Micr,* 67: 3570-3575.
14. Klinger CM, **Karnkowska A**, Herman EK, Hampl V, Dacks JB. **Phylogeny and Evolution.** Molecular Parasitology – Protozoan Parasites and their Molecules. Julia Walochnik J and Michael Duchêne (Eds). Springer-Verlag, Wien. 2016, 383-408.
15. Novak L, Zubáčová Z, **Karnkowska A**, Kolisko M, Hroudová M, Stairs CW, Simpson AGB, Keeling PJ, Roger AJ, Čepička I, Hampl V (2016) **Arginine deiminase pathway enzymes: evolutionary history in metamonads and other eukaryotes**. *BMC Evol Biol*, 16:197.
16. **Karnkowska A**, Hampl V (2016) **The curious case of vanishing mitochondria**. *Microbial Cell*, 3(10):361-364.
17. Łukomska-Kowalczyk M*, **Karnkowska A***, Krupska M, Milanowski R, Zakryś B (2016) **DNA Barcoding In Autotrophic Euglenids: Evaluation of COI and 18S rDNA.** *J Phycol*, 52: 951-60. *both authors contributed equally
18. **Karnkowska A**, Vacek V., Zubacova Z., Treitli SC., Petrzelkova R., Eme L., Novak L., Zarsky V., Barlow LD., Herman EK., Soukal P., Hroudova M., Dolezal P., Stairs CW., Roger AJ., Elias M, Dacks JB., Vlcek C. and Hampl V. (2016) **A Eukaryote without a Mitochondrial Organelle**. *Curr Biol*, 26: 1274–1284.

19. Milanowski R, Gumińska N, **Karnkowska A**, Ishikawa T, Zakryś B (2016) **Intermediate introns in nuclear genes of euglenids - are they a distinct type?** *BMC Evol Biol*, 16:49.
20. Łukomska-Kowalczyk M, **Karnkowska A**, Milanowski R, Łach Ł, Zakryś B (2015). **Delimiting species in the Phacus longicauda complex (Euglenida) through morphological and molecular analyses**. *J Phycol*, 51: 1147-57.
21. **Karnkowska A**, Bennett MS, Watza D, Kim JI, Zakryś B, Triemer RE. (2015) **Phylogenetic relationships and morphological character evolution of photosynthetic euglenids (Excavata) inferred from taxon-rich analyses of five genes**. *J Euk Microbiol*, 62: 362-73.
22. Bukowska A, Bielczyńska A, **Karnkowska A**, Chróst RJ, Jasser I (2014) **Calibration of the analyses of taxonomic composition of potentially toxic cyanobacteria in freshwater lakes using a molecular approach based on DGGE and classical microscopic observations.** *Aquatic Biosystems,* 10: 2.
23. Milanowski R, **Karnkowska A**, Ishikawa T, Zakryś B (2014) **Distribution of conventional and non-conventional introns in tubA and tubB genes of euglenids.** *Mol Biol Evol* 31: 584-93. (IF: 10,353.
24. Zakrys B, **Karnkowska-Ishikawa A**, Łukomska-Kowalczyk M, Milanowski R (2013) **New photosynthetic euglenoid isolated in Poland: *Euglenaria clepsydroides* sp. nova (Euglenea).** *Eur J Phycol,* 48: 260-7.
25. Jasser I, **Karnkowska-Ishikawa A**, Chróst RJ (2013) **Do acid-tolerant picocyanobacteria exist? A study of two strains isolated from humic lakes in Poland.** *Hydrobiologia,* 707: 209-18.
26. **Karnkowska-Ishikawa A**, Milanowski R, Triemer RE, Zakryś B**.** (2013) **A rediscription of morphologically similar species from the genus *Euglena*: *E. laciniata*, *E. sanguinea*. *E. sociabilis* and *E. splendens*.** *J Phycol,* 49: 616-26.
27. **Karnkowska-Ishikawa A**, Milanowski R, Triemer RE & Zakryś B (2012) **Taxonomic revisions of morphologically similar species from two genera: *Euglena* (*E. granulata* and *E. velata*) and *Euglenaria* (*Eu. anabaena, Eu. caudata, Eu. clavata*).** *J Phycol,* 48: 729-39.
28. **Karnkowska-Ishikawa A**, Milanowski R, Zakryś B (2011) **The species *Euglena deses* (Euglenaceae) revisited: new morphological and molecular data.** *J Phycol,* 47: 653-61.
29. Jasser I, Królicka A, **Karnkowska-Ishikawa A** (2011) **A novel phylogenetic clade of picocyanobacteria from the Mazurian lakes (Poland) reflects the early ontogeny of glacial lakes**. FEMS *Microbiology Ecology*, 75(1):89-98.
30. Linton EW, **Karnkowska-Ishikawa A**, Kim JI, Ciugulea I, Shin W, Bennett M, Kwiatowski J, Zakryś B, Triemer RE (2010) **Reconstructing euglenoid evolutionary relationships using three genes: nuclear SSU and LSU, and chloroplast 16S rDNA sequences and the description of *Euglenaria gen. nov.* (Euglenophyta).** *Protist,* 161:603-19.
31. Jasser I, **Karnkowska-Ishikawa A**, Kozłowska E, Królicka A, Łukomska-Kowalczyk M. (2010) **Composition of picocyanobacteria community in The Great Mazurian Lakes: isolation of phycoerythrin-rich and phycocyanin-rich ecotypes from the system - comparison of two methods.** *Pol J Microbiol,* 59 (1):21-31.
32. **Karnkowska-Ishikawa A**, Milanowski R, Kwiatowski J, Zakryś B. (2010) **Taxonomy of the *Phacus oscillans* and its close relatives - balancing morphological and molecular features**. *J Phycol,* 46:172-82.
33. Kosmala S, **Karnkowska-Ishikawa A**, Milanowski R, Kwiatowski J, Zakryś B (2009) **Phylogeny and systematics of *Euglena* (Euglenaceae) species with axial, stellate chloroplasts based on morphological and molecular data - new taxa, emended diagnoses and epityfication.** *J Phycol,* 45:464-81.
34. Kosmala S, **Karnkowska A**, Milanowski R, Kwiatowski J, Zakryś B (2005) **The phylogenetic and taxonomic position of *Lepocinclis fusca* comb. nova (=*Euglena fusca*) (Euglenaceae). Morphological and molecular justification.** *J Phycol,* 41:1258-67.

CONFERENCES AND WORKSHOPS ORGANIZER

2020 Organizing Committee, 4th Polish EMBO workshop on computational and structural biology and chemistry, Waplewo, Poland.

2019 Organising Committee - Workshop on Phylogenomics, Cesky Krumlov, Czechia

2018 Organising Committee - 6th Polish Evolutionary Conference, Warsaw, Poland

2018 Scientific Committee, Meeting of the International Society for Evolutionary Protistology, Drouhsia, Cyprus.

2015 Phylogenomics: new approaches to solving old problems in algal evolution Symposium Organizer - 6th European Phycological Congress, London, England

2014 Local Organising Committee - Protist 2014, Banff, Canada

2011 Organizing Committee of 54th Workshop: Evolutionary Biology and Related Topics

2010 Organizing Committee of 16th European Meeting of PhD Students in Evolutionary Biology

INVITED PRESENTATIONS

04/2019 49th Jírovec's Protozoological Days, Kostelec nad Černými lesy, Czechia
Exploring microbial eukaryotes to understand the evolution of endosymbiotic organelles

03/2019 Seminar speaker, Center for New Technologies, University of Warsaw
Exploring microbial eukaryotes to understand the evolution of endosymbiotic organelles

11/2017 The Company of Biologists Workshop: Symbiosis in the microbial world: from ecology to genome evolution, England
The origin, fate, and loss of endosymbiotic organelles

10/2017 EMBO Conference: Comparatives genomics of eukaryotic microbes: Dissecting sources of evolutionary diversity, Spain
Origins of the secondary plastids of Euglenophyta

05/2017 Ecology and Evolution seminars at University of Warsaw
Biology's 'dark matter' – eukaryotic microbes

03/2017 115th International Titisee Conference on Evolutionary mitochondrial biology: molecular, biochemical, and metabolic diversity, Germany
Reductive evolution of mitochondria

11/2016 Centre for Microbial Diversity and Evolution annual meeting, Canada
Reduction and expansion in the genome of parasitic rhizarian, Mikrocytos mackini

11/2015 Seminar speaker, Life Science Research Centre, University of Ostrava
Gain and loss of chloroplasts and mitochondria in eukaryotes

09/2014 Seminar speaker, Department of Cell Biology Seminar, University of Alberta, Canada
Eukaryote with no mitochondria: Genomic study of Monocercomonoides demonstrates a bona fide amitochondriate

09/2012 Conference speaker, 53th meeting of the Czech Phycological Society, Ostrava, Czechia
Evolution of introns in nuclear genes of euglenids

02/2012 Kužela seminar speaker, Comenius University in Bratislava, Slovakia
Molecular phylogeny and evolution of autotrophic euglenids

09/2011 Conference speaker, 52th meeting of the Czech Phycological Society, Prague, Czechia
Phylogeny, taxonomy and evolution of autotrophic euglenids

TEACHING EXPERIENCE

2020 – present	Teacher and coordinator of Applied bioinformatics for the third year of Bsc in Biotechnology, University of Warsaw
2018 – present	Teacher of Biodiversity course for the first year of Bsc in Biotechnology, University of Warsaw
2017- present	Teacher at Evolutionary biology course for the third year of Bioinformatics and Systems Biology, University of Warsaw
2017	Teaching assistant at the Workshop on Genomics, Cesky Krumlov, Czechia
2014	Guest lecturer on Molecular taxonomy course, Charles University in Prague
2013-present	Teacher and coordinator of Biology of microbial eukaryotes course for the first year of Msc in Microbiology, University of Warsaw
2006-present	Teacher of Botany course for the first year of Bsc, University of Warsaw
2006-2012	Teacher of Flora of Poland field course for first year of Bsc, University of Warsaw

SUPERVISION OF STUDENTS

2019-present	Bachelor student at Biology, Małgorzata Chwalińska
2019-present	Bachelor student at Bioinformatics and Systems Biology, Julia Różycka
2019-present	Bachelor student at Bioinformatics and Systems Biology, Julia Rymuza
2019 – present	Master student at Biology, Gabriela Wilga
2019 – present	Master student at Bioinformatics and Systems Biology, Stanisław Antonowicz
2018-2019	Bachelor student, Stanisław Antonowicz
	Evaluation of the machine learning-based data representation and classification methods on the example of function assignment in a particular protein family
2018 – present	PhD student, Paweł Hałakuc, co-supervisor
	Euglenids genomics
2018 – present	PhD student, Michał Karlicki, co-supervisor
	Eukaryotic photoautotrophy and photoheterotrophy
2017 – present	PhD student, Kacper Maciszewski, co-supervisor
	Reductive evolution of plastids
2017-2018	Master student, Michał Karlicki
	Mining metagenomic data for organellar genomes of microbial eukaryotes
2011-2012	Bachelor student, Magdalena Jabłońska
	Cyanotoxins - effects on organisms and their occurrence in Polish surface waters
2011-2013	Master student, Małgorzata Korzeniecka
	Assessment of two molecular markers (cox1 and 18S rDNA) as potential DNA barcodes for autotrophic euglenids (Euglenea)

MANUSCRIPT REVIEWER

- Nature communications (1)
- BioEssays (1)
- Scientific Reports (2)
- Plos Biology (1)
- Philosophical Transactions of the Royal Society B (1)
- Environmental Microbiology (1)
- Journal of Eukaryotic Microbiology (4)
- Journal of Phycology (3)
- European Journal of Protistology (2)
- Polish Journal of Microbiology (1)
- *G3: Genes, Genomes, Genetics* (1)
- Nova Hedwigia (1)
- Frontiers in Ecology and Evolution (1)
- Current Genetics (1)
- Protist (2)
- PeerJ (1)
- Acta Societatis Botanicorum Poloniae (1)
- Kosmos (2)

GRANT REVIEWER

Ministry of Science and Higher Education, 2019, reviewer of the project in the Diamond Grant program

SCIENTIFIC SOCIETY MEMBERSHIPS

- International Society for Evolutionary Protistology (ISEP); member since 2006, European Councellor (2014-2016)
- Internationl Society for Protistology (ISOP), member since 2010, Nominating Committee member (2015), Vice-President (2017)

UNIVERSITY SERVICE

2020-present	Member of the Committee for student and teaching affairs at Bioinformatics and Systems Biology
2020-present	Member of the Biology Discipline Board
2017-present	Member of the University Centre for Environmental Studies and Sustainable Development Board
2008-2013	Member of the Faculty of Biology Board
2007-2011	Member of the Senate Committee for student and teaching affairs
2008-2011	PhD student member of the Institute of Botany board, Faculty of Biology
2008-2011	Head of PhD Students Council at Faculty of Biology
2008-2011	Vice-president of PhD Students Council at University of Warsaw

OUTREACH

2020	Lecture, Darwin Day, University of Warsaw
2018	Lecture, Science Café, Nicosia, Cyprus
2011-2013	Workshops for biology teachers in cooperation with Warsaw Centre for Socio-Educational Innovation and Training, Warsaw, Poland
2010-2011	Workshops for children, University of Children, Warsaw, Poland

2009-2013	Member of General Committee of Polish Biological Olympiad
2006-present	Lectures and workshops, Science Festival, Warsaw, Poland
2006–2008	Expert in internet course for biology teachers organized by Internet Academy of Teachers (project coordinated by Center for Citizenship Education), Poland
2005–2006	Project coordinator *Biology in XXI century – new lessons scenarios and classes in small town high schools*, Poland
2005–2006	Project officer *Science of modern biology – exploratory resources for biology teachers and students*, Poland
2004–2010	Laboratory workshops for high school students and teachers in collaboration with Centre for Innovative Bioscience Education, Warsaw, Poland