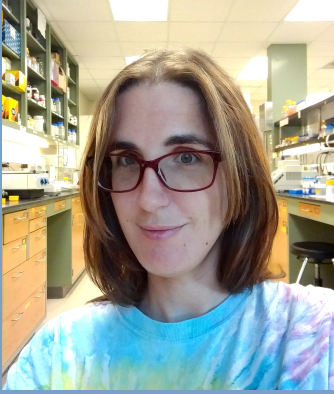


BIOGRAPHY



**VERONIKA
MICHALKOVA**

Institute of Zoology
Slovak Academy of Sciences

Project number
1175/01/02

Project duration
2/2022 - 1/2025

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"I have vast experiences in molecular physiology which can be used by implementation of the SASPRO project and possibility to extend my knowledge also in neuropeptide studies and enrich this way the information about general biology of tsetse flies, as important insect disease vector. The obtained data can be modern tool implemented later in applied research."

PROJECT SUMMARY

Neuropeptide regulators: revealing the secrets of neuronal control and behaviour of tsetse flies

Neuropeptides play a key role in all physiological processes but little is known about their identity, expression and function in vectors of pathogens, such as tsetse flies. Decoding the tsetse genome is already a big step in right direction of finding new perspective target genes for biological control and neuropeptides may hold the main point to controlling tsetse populations and eventually eradicating trypanosomiasis. They are also promising targets for the development of new environmentally-safe insecticides because they regulate all of the tsetse fly's crucial processes. Interfering with neuropeptides' proper functioning may allow us to decrease the fly's fitness and thereby shrink populations. 39 neuropeptide genes and 43 receptor genes have been already annotated in six *Glossina* species' genomes and future unrevealing the tsetse fly's neuropeptide systems undoubtedly contributes to a better understanding of its overall biology.



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PUBLICATIONS

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2. International Glossina Genome Initiative (2019) Comparative genomic analysis of six Glossina genomes, vectors of African trypanosomes. Genome biology 20: 187.
<https://genomebiology.biomedcentral.com/articles/10.1186/s13059-019-1768-2>
3. **Michalkova V**, Benoit JB, Weiss BL, Attardo GM, Aksoy S (2014) Vitamin B-6 Generated by Obligate Symbionts Is Critical for Maintaining Proline Homeostasis and Fecundity in Tsetse Flies. Applied and Environmental Microbiology 80: 5844-5853.
<https://journals.asm.org/doi/10.1128/AEM.01150-14>
4. International Glossina Genome Initiative (2014) Genome Sequence of the Tsetse Fly (*Glossina morsitans*): Vector of African Trypanosomiasis. Science 344: 380-386.
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5. **Michalkova V**, Benoit JB, Attardo GM, Medlock J, Aksoy S (2014) Amelioration of reproduction-associated oxidative stress in a viviparous insect is critical to prevent reproductive senescence. PLoS One 9: e87554.
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0087554>