

## Personal details

Full name: Ingrida Olendraite  
Nationality: Lithuanian

## Education

2011-2015 BA Molecular Biology | Vilnius University, Lithuania  
2015-2016 MSc Genetics of Human Disease | University College London, UK  
2016-2020 PhD Computational Molecular Virology | University of Cambridge, UK

## Research Experience

2012-2015

### “16S rRNA Methylation by the Archaeal Nop5p-aFib Protein Heterodimer”

Experimental work: RNA, DNA and protein purification, RNA methylation, RNA-protein EMSA, Reverse Transcription, RT-pausing analysis.

Department of DNA modification, Institute of Biotechnology, Vilnius University, Lithuania

Supervisors: Prof. S. Klimasauskas and Dr M. Tomkuvienė

2014-2015

### “Controlling the Lifetime of GMO Bacteria with a Crispr/Cas Based Mechanism: the ColiClock”

Involvement: A co-founder and a team leader for iGEM competition. Work involved fundraising, public outreach and experimental work. More could be found: <http://2015.igem.org/Team:Vilnius-Lithuania>

Department of RNA-protein interactions, Institute of Biotechnology, Vilnius University, Lithuania

Mentor: Prof. V. Siksnys (the pioneer in Crispr/Cas technology)

2016

### “Deep Learning based Computational Investigation of Transcription Factors Binding”

Computational work: coding in Python, R and Unix based environment; use of Deep learning by Artificial Neural Networks; comparison of ChIP-seq vs PBM and SELEX data of transcription factors and human/mouse genomes.

Bioinformatics and Computational Biology, The Francis Crick Institute, University College London, UK

Supervisors: Prof. N. Luscombe, Dr A. Cakiroglu and Dr A. Steele

2016-2020

### “Mining Diverse and Novel RNA Viruses in Publicly Available Databases”

Computational and Experimental work: coding in Python and within a Unix-based environment; use of profile Hidden Markov Models and profiles based search, RNA-sequencing data analysis, molecular phylogenetics, non-canonical translation; *in vitro* translation.

Division of Virology, Department of Pathology, University of Cambridge, UK

Supervisor: Dr A. E. Firth

2020-2021

### “Comparing RdRp mutations between pandemic and seasonal Influenza A virus”

Computational and Experimental work: coding in Python and within a Unix-based environment; analysing publically available datasets from the last 100 years.

Division of Virology, Department of Pathology, University of Cambridge, UK

Supervisor: Dr AJ te Velthuis

## Academic and Public Outreach Activities

- I was an invited **member** (and the only virologist) in an advising **committee for Lithuanian prime minister I. Simonyte** during the COVID-19 pandemic (2020-2021). I have **initiated SARS-CoV-2 sequencing in Lithuania**. After the government supported the idea, I wrote a project proposal (assembling a team of experts from different universities and clinics), which was adopted by the Ministry of Health. As of June 2021, there are already over 11,000 genome sequences available in the public database (GISAID). We also were the first to identify a novel variant of interest (B.1.620) (publication available in medarXives).
- Within my doctorate study years, I have **supervised 4 undergraduate students** (2 part II and 2 summer project students) and once helped with demonstrations for undergraduate tutorials. Currently (as a postdoctoral research associate) I am a mentor at **LT Big Brother** program, where I have **4 mentees** (all with BSc or higher degrees) from Lithuania, who are interested in a career in bioinformatics.
- **Consulted** 'Diagnolita' company and did an analysis of RNA-sequencing datasets
- Visiting Scientist for a month at the Bioinformatics division, Institute of Biotechnology, Vilnius University, working together with Dr Darius Kazlauskas on **genus level pHMMs**. The **collaboration** work is in process. The update meeting with Dr Kazlauskas and Dr Mart Krupovic was held in Institute Pasteur, Paris. The publication is in preparation and is likely to be finished once Dr Kazlauskas will have a chance to visit another member of this collaboration Dr Eugene Koonin in the NIH, USA.
- Participated in creating a novel **Biotechnology program** and laboratories in 13 Lithuanian schools. Work included: writing and editing textbooks (and manuals) on Classic and Modern Biotechnology for teachers and pupils, creating and optimizing school-friendly experiments, buying laboratory equipment and materials (2012)
- Co-Founder and Team Leader of the first Baltic's iGEM team: **Vilnius-Lithuania iGEM, 2015**. The iGEM is a Synthetic Biology competition, where students come up with their own ideas, which are important for the public, attract funding, actively engage in human practices (public outreach) and present results in multiple forms. The teams are judged based on their idea, conducted work, poster and oral presentations as well as website. Later on, I have been mentoring and advising multiple future Lithuanian iGEM teams. In 2017 and 2020 the team became the absolute winners of the competition.
- An active member of the **Departmental Public Outreach and Engagement committee** (2017-2021), Division of Virology student/postdoc representative. In addition to helping to organise the science festival at the department, I was visiting schools, managing social media accounts (for the department and my current lab), creating content and illustrations, helping with press releases and organising other public outreach events. Also, data analysis of the documented outreach activities within our department.
- In the last 6 years, I have presented in various settings **information for general or specific public** (e.g. conferences "Luzio taskas", "Ismani Lietuva", "Cambridge Science Festival"; represented British Society for Immunology at local schools and organised day activities, computer games and talks for primary and high school students both: in Lithuania and United Kingdom.
- Has been an active **communicator** for Lithuanian audiences on **SARS-CoV-2**. Activities involve advising medics (personal and associations), giving interviews to Lithuanian National Broadcaster (LRT), answering general public questions and indirectly advising the ministry of health. Due to my active involvement in communication during pandemics, my PhD time got a two month extension. Since February 2020, I have done at least 50 different activities. Was also invited to the UK COG-Consortium for data analysis.
- Helped to organise the European Youth Science Olympiad (**EUSO**, Vilnius, 2012)
- Annually organised national **science** (Biology, Chemistry, Physics, Life Sciences) **olympiads** (competitions) as a board member of LGMOA (Association for Lithuanian Natural Sciences Olympiads) (2011-2015)
- An active volunteer in "ThermoFisher Scientific" and Vilnius University programme: **Mobile Bioclass**. We were organising one-day research experience while visiting many different schools in Lithuania. We introduced and taught pupils about DNA, PCR and gel electrophoresis and its applications (2012-2014)

## Publications

1. Tomkuvienė M, Ličytė J, **Olendraiė I**, Liutkevičiūtė Z, Clouet-d'Orval B, Klimašauskas S. **Archaeal fibrillar-in-Nop5 heterodimer 2'-O-methylates RNA independently of the C/D guide RNP particle.** RNA. 2017;23(9):1329-1337. doi:10.1261/rna.059832.116
2. **Olendraiė I**, Lukhovitskaya NI, Porter SD, Valles SM, Firth AE. **Polycipiviridae: a proposed new family of polycistronic picorna-like RNA viruses.** J Gen Virol. 2017;98(9):2368–2378. doi:10.1099/jgv.0.000902
3. Kleanthous E, **Olendraiė I**, Lukhovitskaya NI, Firth AE. **Discovery of three RNA viruses using ant transcriptomic datasets.** Arch Virol. 2019;164(2):643–647. doi:10.1007/s00705-018-4093-2
4. **Olendraiė I**, Brown K, Valles SM, et al. **ICTV Virus Taxonomy Profile: Polycipiviridae.** J Gen Virol. 2019;100(4):554–555. doi:10.1099/jgv.0.001241
5. Brown K, **Olendraiė I**, Valles SM, et al. **ICTV Virus Taxonomy Profile: Solinviviridae.** J Gen Virol. 2019;100(5):736–737. doi:10.1099/jgv.0.001242
6. Dinan AM, Lukhovitskaya NI, **Olendraiė I**, Firth AE. **A case for a negative-strand coding sequence in a group of positive-sense RNA viruses.** Virus Evol. 2020;6(1):veaa007. Published 2020 Feb 10. doi:10.1093/ve/veaa007
7. Hufsky F, Beerenwinkel N, Meyer IM, Roux S, Cook GM, Kinsella CM, Lamkiewicz K, Marquet M, Nieuwenhuijse DF, **Olendraiė I**, Paraskevopoulou S, Young F, Dijkman R, Ibrahim B, Kelly J, Le Mercier P, Marz M, Ramette A, Thiel V. **The International Virus Bioinformatics Meeting 2020.** Viruses. 2020 Dec 6;12(12):1398. doi: 10.3390/v12121398.
8. Dudas G, Hong SL, Potter BI, Calvignac-Spencer S, Niatou-Singa FS, Tombolomako TB, Fuh-Neba T, Vickos U, Ulrich M, Leendertz FH, Khan K, Huber C, Watts A, **Olendraiė I**, Snijder J, Wijnant KN, Bonvin AMJJ, Martres P, Behillil S, Ayoub A, Maidadi MF, Djoms DM, Godwe C, Butel C, Šimaitis A, Gabrielaitė M, Katėnaitė M, Norvilas R, Raugaitė L, Koyaweda GW, Kandou JK, Jonikas R, Nasvytienė I, Žemeckienė Ž, Gečys D, Tamušauskaitė K, Norkienė M, Vasiliūnaitė E, Žiogienė D, Timinskas A, Šukys M, Šarauškas M, Alzbutas G, Aziza AA, Lusamaki EK, Cigolo JM, Mawete FM, Lofiko EL, Kingebeni PM, Tamfum JM, Belizaire MRD, Essomba RG, Assoumou MCO, Mboringong AB, Dieng AB, Juozapaitė D, Hosch S, Obama J, Ayekaba MO, Naumovas D, Pautienius A, Rafał CD, Vitkauskienė A, Ugenskienė R, Gedvilaitė A, Čereškevičius D, Lesauskaitė V, Žemaitis L, Griškevičius L, Baele G. **Emergence and spread of SARS-CoV-2 lineage B.1.620 with variant of concern-like mutations and deletions.** Nat Commun. 2021 Oct 1;12(1):5769. doi: 10.1038/s41467-021-26055-8.

## Languages

Language	Understanding	Speaking	Writing
English*	C2	C2	C1
French	A1	A1	A1
Lithuanian	Native	Native	Native

\*IELTS test was taken on June 2016

Others: self-assessment based on the Common European Framework of Reference (CEF) level