

## ***Wasm Technology : a revolution for bioinformatics learning?***

*27 juin 2024 - 16h30-18h30*

### **Organisation**

**Institut Français de Bioinformatique e-learning Working Group** composed of :

Hélène Chiapello, Research Engineer, IFB-core & INRAE (Jouy-en-Josas)

Thomas Denecker, Research Engineer, IFB-core, CNRS (Paris)

Lucie Khamvongsa Charbonnier, Study Engineer, IFB-core, CNRS (Marseille)

Pierre Poulain, Associate Professor, Université Paris Cité (Paris)

Denis Puthier, Professor, Aix Marseille Université (Marseille)

Olivier Sand, Research Engineer, IFB-core, CNRS (Lille)

Claire Toffano-Nioche, Researcher, CNRS (Gif-sur-Yvette)

Morgane Thomas-Chollier, Associate Professor, École normale supérieure - PSL & IFB-core, CNRS (Paris)

### **Brief summary**

Bioinformatics requires fundamental skills in Unix, R and Python. The French Institute for Bioinformatics (IFB) is working on open source and efficient e-learning resources based on the WebAssembly technology (Wasm), allowing to execute bioinformatics environments directly in the web browser (like JupyterLite, webR and sandbox.bio). During the mini-symposium, we propose to discuss the advantages of Wasm for bioinformatics learning with trainers and technology experts, as well as to provide technical and pedagogical user feedbacks. For a better grasp of the technology, we will invite participants to test it live.

### **Invited speakers**

**Jérémy Tuloup**, QuantStack (Grenoble, France)

Technical Director at QuantStack and Core Jupyter Developer - JupyterLite

<https://jupyter.org/try-jupyter/lab/index.html>

**Robert Aboukhalil**, Chan Zuckerberg Initiative (Mountain View, USA)

Bioinformatics Software Engineer - Developer of sandbox.bio <https://sandbox.bio/>

### **Funding**



### Programme (27 juin 2024 - 16h30-18h30)

- 16h30-16h55: Interactive computing in the browser with Jupyterlite - **Jérémy Tuloup**
- 16h55-17h05 : JupyterLite user feedback- **Pierre Poulain**
- 17h05-17h30 : sandbox.bio: online interactive tutorials with WebAssembly - **Robert Aboukhalil** (visio)
- 17h30-17h50 : Sandbox.bio user feedback in initial and continuing education - **Morgane Thomas-Chollier** et **Claire Toffano-Nioche**
- 17h50-18h00 : WASM4Learn pilot platform demo  
<https://ifb-elixirfr.github.io/Wasm4Learn/> - **Lucie Khamvongsa Charbonnier** et **Denis Puthier**
- 18h00-18h30 : Round table - moderation : **Hélène Chiapello** et **Olivier Sand**