



PRESTO

P2X REceptorS as Therapeutic Opportunity

TRAINING SCHOOL 2024: 10 FACTS FROM THE ORGANIZER

The event **Bioinformatics for P2X Single-cell** was organized by Joel P. Arrais (University of Coimbra) and Cátia Moutinho (The Single-Cell World).

1. The intention of the event was to introduce single-cell RNA sequencing (scRNAseq) data analysis, equipping participants with theoretical and practical insights into bioinformatics applications in single-cell genomics.
2. The event took place over two days, July 1-2, 2024, at University of Coimbra, Portugal.
3. The event attracted participants primarily from the PRESTO network, including master's, Ph.D., and postdoctoral researchers. Most attendees had limited prior experience with single-cell analysis, positioning this training as an essential skill-building opportunity in bioinformatics and P2X receptor research.
4. The topics covered were included introduction to single-cell sequencing, scRNAseq data workflows, bioinformatics tools (e.g., Cell Ranger, Loupe Browser), multiomics, systematic review, and meta-analysis.
5. The key speakers and the affiliations were: Cátia Moutinho (The Single-Cell World); Ana Borges (10x Genomics); Rui Amaral Vieira (Universidade de Lisboa); Manuela Ferracin (University of Bologna); Hugo Lainé (Instituto Gulbenkian de Ciência); Paula Nieto (CNAG); Diogo Silvério (Enzifarma); Yujuan Gui (BD); Ana Falcão (Universidade do Minho); Silvie Fexova (EMBL); Wiam Echchih (Université de Tours).
6. The participants gained skills in single cell analysis, applied bioinformatics tools, and techniques for systematic review and meta-analysis, with practical sessions enhancing hands-on experience.
7. Informal feedback was positive, with follow-up compliments via email. Participants valued the depth and practical focus, with many indicating plans to incorporate single-cell techniques in their future research to explore P2X receptor-related disease mechanisms.
8. Which of PRESTO's working group was the event most closely aligning with? The use of single cell is transversal to all working packages and therefore so is the need to improved bioinformatics skills to analysis the generated data bioinformatics for genomics and targeted therapeutic research in P2XRs.
9. The event achieved the following PRESTO's overall goals. The event supported PRESTO's objectives by training young researchers in P2X receptor-focused bioinformatics and fostering interdisciplinary collaboration toward advancing P2XR-based therapies.
10. Plan for dissemination and/or communication: The event was announced in advance to attract interested participants, and its results are expected to be disseminated widely through PRESTO reports, publications, and future workshops. This plan aims to enhance visibility and awareness of bioinformatics applications in P2X receptor research across scientific and clinical communities, supporting PRESTO's mission to accelerate research translation and knowledge sharing.

Relevant as of October 2024.

Year 2: Grant Period, November 1st, 2023 – October 31st, 2024