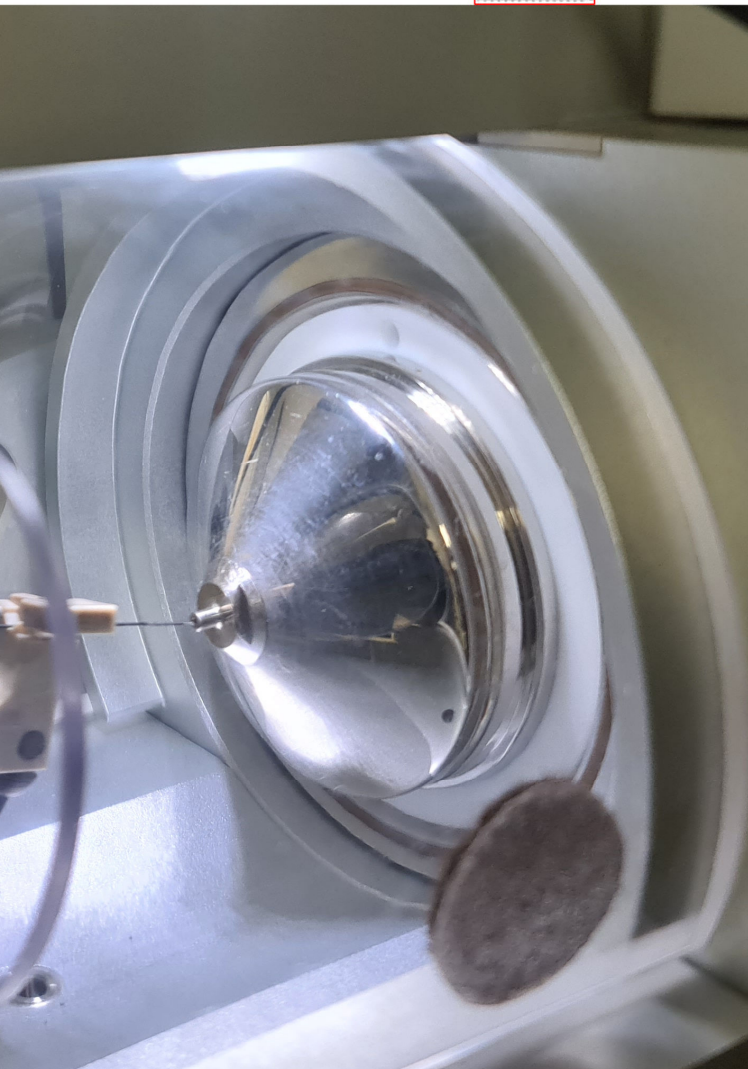
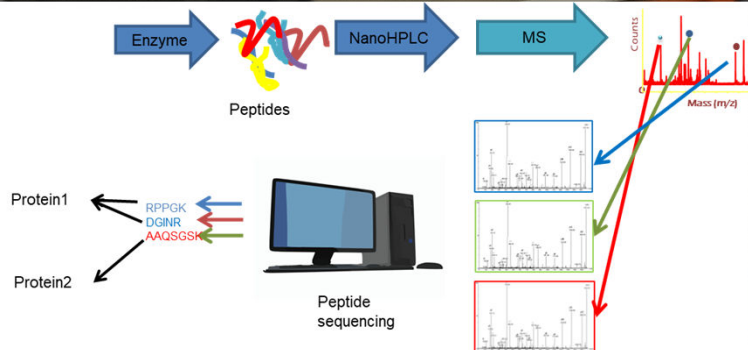




ESPCI  PARIS | PSL 

SMBP :

DECIPHERING THE WORLD OF PROTEINS

Education 

Science 

Innovation 

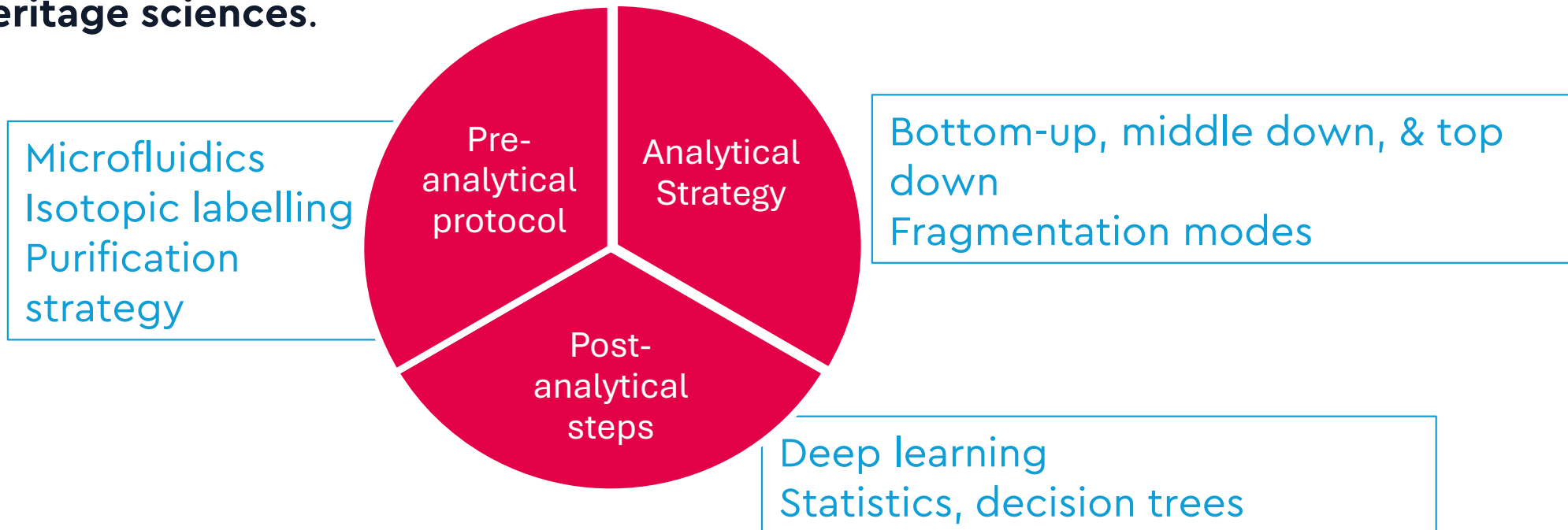
AT THE HEART OF PARIS SCIENCE

📍 Located on **Montagne Sainte-Geneviève**, in PSL University, an exceptional scientific and academic environment.



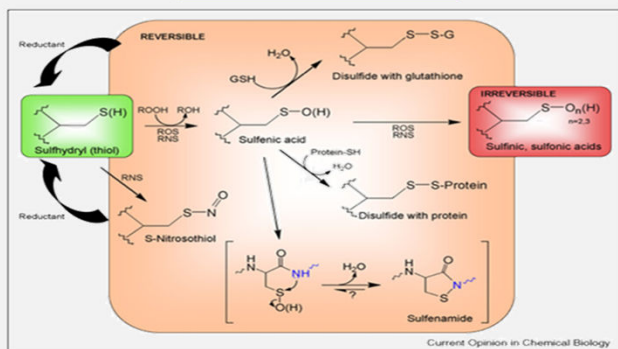
🔬 Our mission: **identify, quantify, and characterize proteins, peptides, and peptidomimetics (including toxins)** to understand biological mechanisms and human pathologies.

🌍 Our analytical developments for **applications from biomedicine to heritage sciences**.

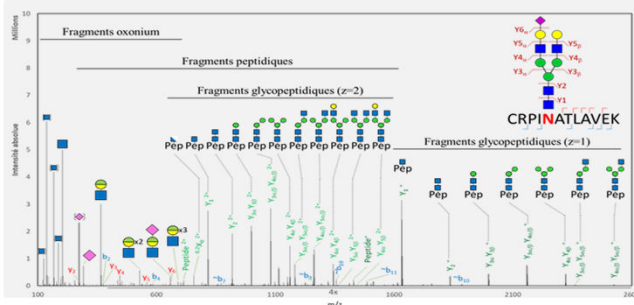


RESEARCH TOPICS: PROTEOMES AND PROTEOFORMS

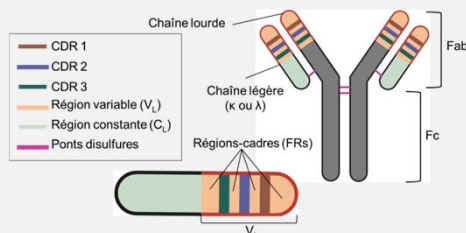
Thiol redox proteomics

Poole L. *Curr Opin Chem Biol.* 2008

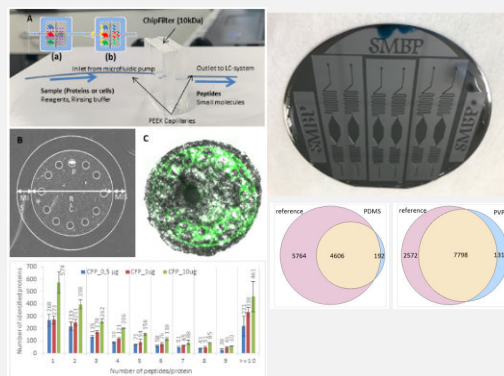
Glycoproteomics



Igg Mutations



Microfluidics



Test & Quality control

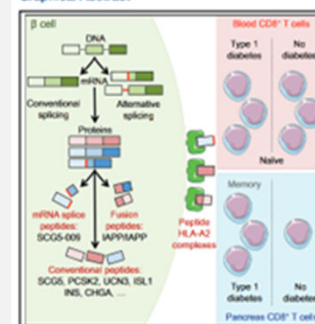


Peptidomics

Cell Metabolism

Conventional and Neo-antigenic Peptides Presented by β Cells Are Targeted by Circulating Naïve CD8+ T Cells in Type 1 Diabetic and Healthy Donors

Graphical Abstract



Authors

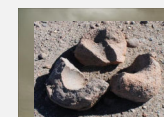
Sergio Gonzalez-Duque,
Marie Eliane Azoury, Malkel L. Colli, ...,
Yann Verdier, Joelle Vinh,
Roberto Mallone

Correspondence
roberto.mallone@insorm.fr

In Brief

Mallone et al. use peptidomics and transcriptomics to identify the epitopes presented by β cells that trigger type 1 diabetes (T1D) autoimmunity. Multiple pathways, including conventional processing and mRNA and peptide splicing, are involved in epitope generation and presentation; these epitopes are selectively recognized by pancreas-infiltrating CD8⁺ T lymphocytes in T1D patients.

Archeoproteomics and Forensics



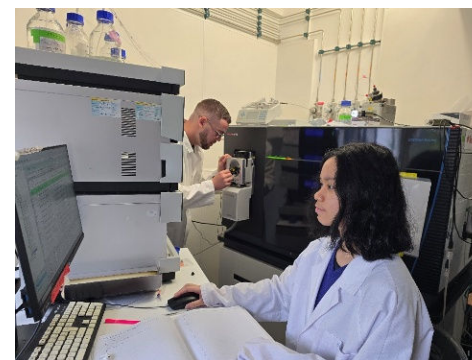
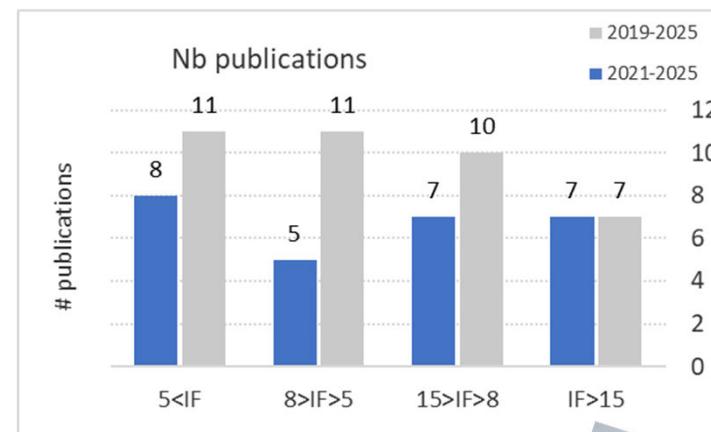
QUALITY SUPERVISION & STRONG SCIENTIFIC RECOGNITION

- **Excellence in Supervision & Scientific Recognition**
- **SMBP: multidisciplinary, rigorous, and dynamic team**
- Supervision by HDR and PhD holders

Different publications (2024-2025)

Training & Outreach

- Active role in the **French Society for Mass Spectrometry (SFSM)**
- **25 years of CNRS-certified proteomics training program**
- Strong involvement in teaching at ESPCI & Master's level



• J Proteome Res. 2024 Feb 14;23(3):869-880. doi: 10.1021/acs.jproteome.3c00288

nature communications

ChipFilter: Microfluidic-Based Comprehensive Sample Preparation Methodology for Microbial Consortia

Article

<https://doi.org/10.1038/s41467-024-55647-3>

NHSL3 controls single and collective cell migration through two distinct mechanisms

Redox proteome analysis of auranofin exposed ovarian cancer cells (A2780)

• Nat Commun. 2025 Feb 18;16:1707. doi: 10.1038/ • Redox Biol. 2022 Mar 22;52:102294. doi: 10.1016/j.redox.2022.102294



AT THE FOREFRONT OF SCIENTIFIC INNOVATION

• **25 years of national recognition**
in high resolution mass spectrometry

• **Cutting-edge approaches:**

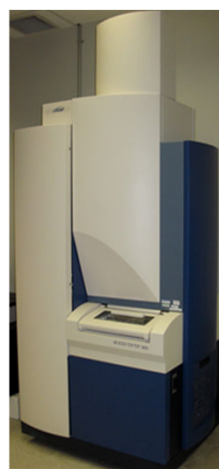
- Mono- & multi-dimensional **nanoLC**
- **Multimodal fragmentation** (CID, HCD, ETD, UVPD)
- Stable isotopic labeling
- **Microfluidics integration**

• Applications: **PTM identification, redox biology, archaeology, forensics**

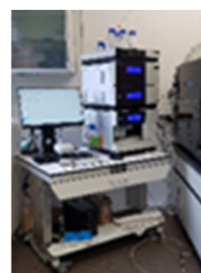
• **HOW TO USE IT?**

- Research projects
- Facility
- Collaboration/Training

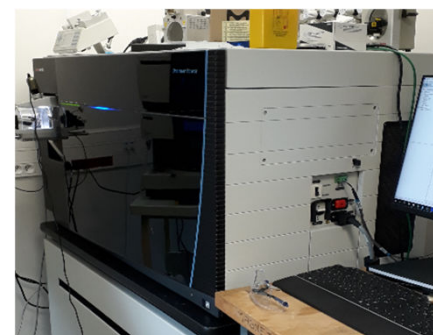
Proteomics@PSL, ESPCI site Liquid Chromatography/Mass Spectrometry



MALDI TOF-TOF 5800



4 nanoRSLC



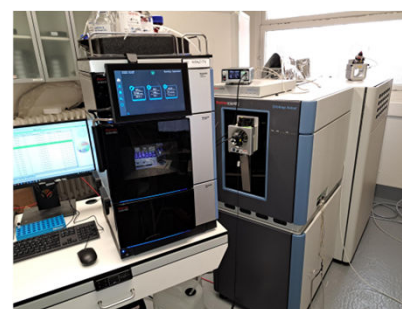
Tribid Eclipse



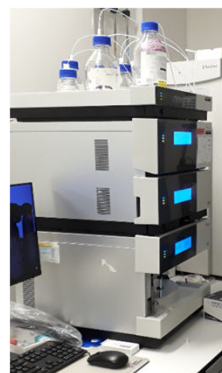
Qexactive



Qexactive HF



Neo Vanquish/ Astral



3 nano U3000



L'ÉQUIPE



15 personal

6 permanents
 4 ATER/Post-doc
 1 Post-doc to be hired
 6 PhD students
 (+ 3 graduate, 3 undergraduate students)
 3 HDR,
 8 PhD (4 permanent & 4 fixed term)



SMBP – UAR2051 Biological Mass Spectrometry and Proteomics DU Joëlle VĨNH

Permanent Teacher-Researchers

Joelle VINH - PhD HDR DR1 - CNRS
 Yann VERDIER - PhD HDR MC CE - ESPCI
 Giovanni CHIAPPETTA - PhD HDR IR1 - CNRS

Permanent Engineers

Iman HADDAD - PhD IE HC - CNRS
 Emmanuelle DEMEY - IE HC - CNRS

Statutory staff preparing a thesis

Stéphanie LAURENT – LCL IRCGN

Fixed term Teacher-Researchers Post-docs

Nicolas ESKENAZI - PhD, ANR CCAD, 27m
 Zeyuan XU – PhD, ATER ESPCI, 24m
 Xhesika LIMA – ANR ERXCUE, 6m
 Nagendra Sai ACHANTA – ANR ERXCUE, 24 m
 Yyy YYY – ANR ResOB, to be hired 18m

PhD Students

Madeleine FRELON – ANR HgNeuroDetox,
 Alix MUNOZ – LCPP Contract
 Samy MESSAOUDI - Cifre LNE
 Lucas CASTRO – PSL PhD track
 Namita Raju JOHN – PSL



ESPCI-PARIS

