



# **15<sup>TH</sup> OPEN SYMPOSIUM OF THE EUROPEAN IMMUNOGENICITY PLATFORM (EIP) SUMMARY & OUTLOOK**

Daniel Kramer (Sanofi), EIP Chairman on behalf of EIP

# Immunogenicity of New Modalities

- Red thread throughout the EIP Open symposium: New modalities present novel challenges for immunogenicity
  - Cellular (MHC-I restricted) immune responses to transduced cells in mRNA/LNP, AAV-gene therapies or CRISPR/Cas gene editing
    - How to assess this (ELISpot vs Flow Cytometry)?
    - How to predict/mitigate this (MHC-I in silico prediction/deimmunization)
  - Innate immune responses against nucleic acids (e.g. mRNA in mRNA/LNP)
    - How to assess this analytically (IL-1, TNF-alpha, IP-10 and IL-6?)
  - Pre-existing ADAs to the AAV capsid or PEG in mRNA/PEG therapies
    - Total ADAs (TAb) or NAb (transduction inhibition assay) for AAV gene therapies
    - Need for IVDR/IDE if used for patient inclusion/exclusion
  - Multispecifics demand adapted ADA testing strategies to assess ADAs/NAbs against different domains (based on the risk assessment)

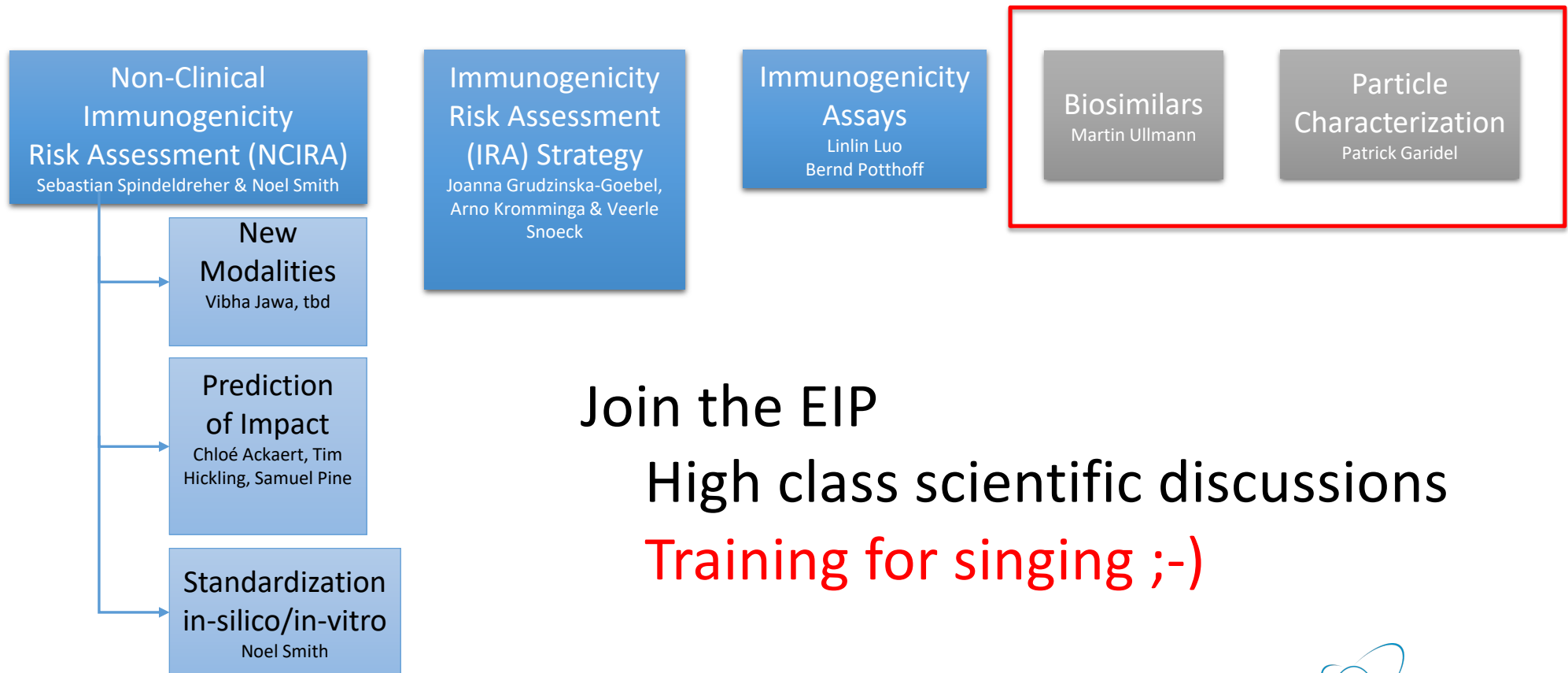
# “Prediction“

- Huge improvements of „prediction tools“ over the last years
  - Accuracy of MHC-II in-silico prediction significantly improved due to training the algorithm with MAPPs data
  - Identification/inclusion of tolerated (or even tolerizing) residues
  - Inclusion of HLA DP/DQ
  - MAPPs
    - Adapted immune precipitation strategy
    - Using real patient samples
  - In vitro assays do allow to assess some extrinsic immunogenicity factors (oligomers)
- Still standardization of in-vitro assays necessary
  - EIP/AAPS/HESI

# Clinical Relevance

- Tolerance induction via
  - Reduce inflammation
  - Inhibition of immunoproteasome
  - B-cell depletion
  - Treg induction
- Proactive drug monitoring
- Drug concentration many times is the main driver
- Delayed hypersensitivity is clinically heterogenous and not limited to biologics

# EIP Working Group Structure



Join the EIP

High class scientific discussions

Training for singing ;-)

# Conference Report 2024

MABS  
2024, VOL. 16, NO. 1, 2324801  
<https://doi.org/10.1080/19420862.2024.2324801>



MEETING REPORT

OPEN ACCESS Check for updates

## Proceedings of the 14th European immunogenicity platform open symposium on immunogenicity of biopharmaceuticals

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**We will issue a conference report from the 15<sup>th</sup> EIP Open Symposium as well and will ask presenters for their contribution – stay tuned!**



Next EIP Open Symposium

Will be announced soon!!!

Stay tuned

**Thanks for joining  
and have a safe trip back**