Daedalus
Interdisciplinary MultiOMIC Project to Advance Crossanalysis in Translational research

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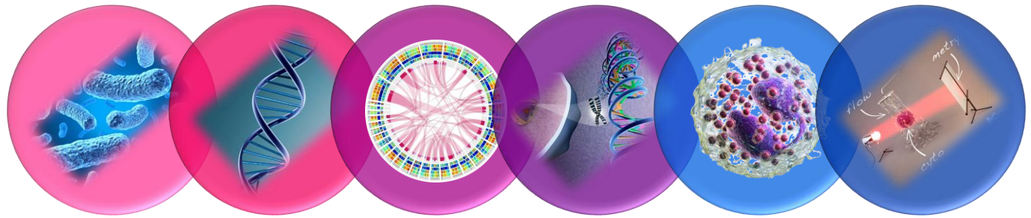

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European Society
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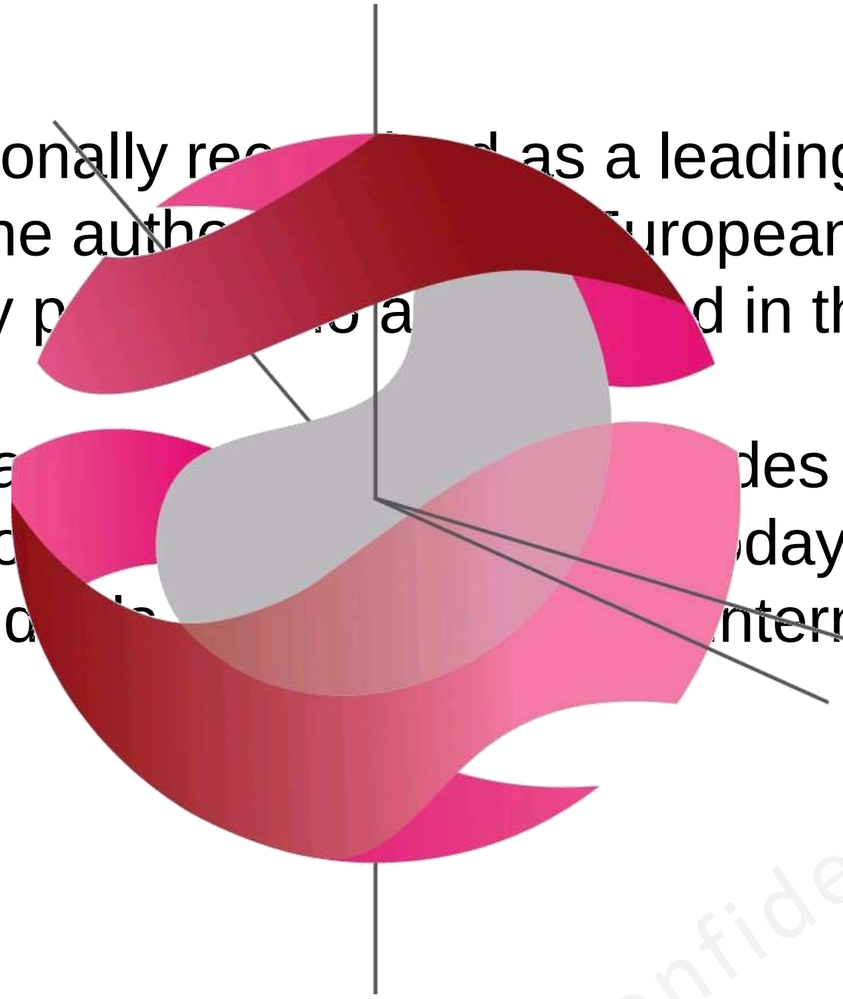

- ESCCA is internationally rec d as a leading scientific organization and the auth uropean countries to educate and certify p s a d in the cell analysis process.
- Its leader status wa des of hard work on building a netwo day consists of thousands of individ nternational scientific societies.

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Cytome (flow and mass cytometry)

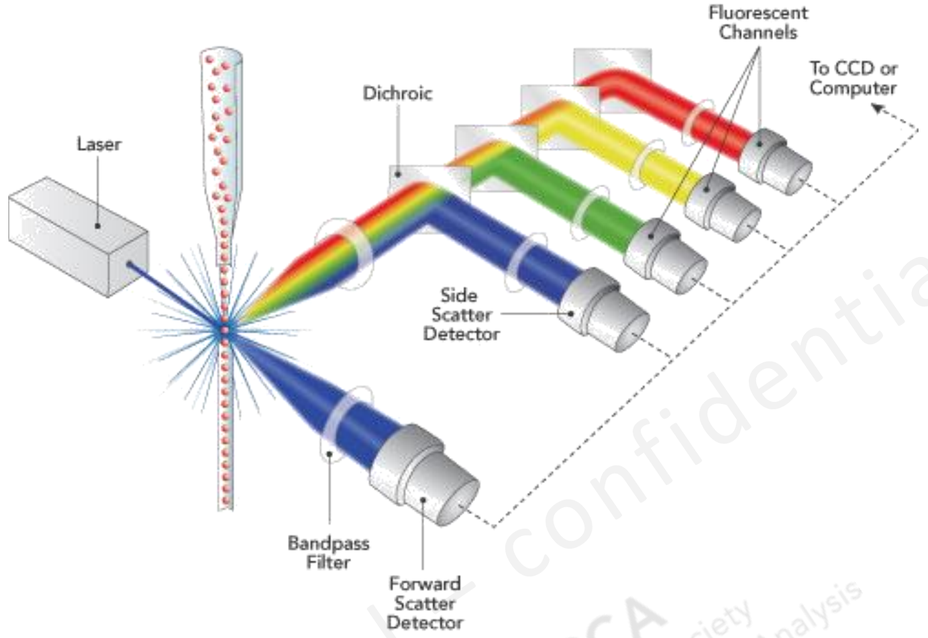
Why is Cytome absent from NextGen IS

- Extreme multidimensi
- Higher QC requireme involvement in clinica
- Data significantly affe equipment variations, and calibration of the
- Lack of quantitative d analysis processes

G

For each single nucleotide read (A or C or G or T) the Cytome corresponding is a multidimensional matrix

	1 1111	2 1111	3 1111	4 0001
	Byte Order			Bit Mask
P01				
P02				
P03				
P04				
P05				
P06				
P07				
P08				
P09				
P10				
P11				
P12				
P13				
P14				



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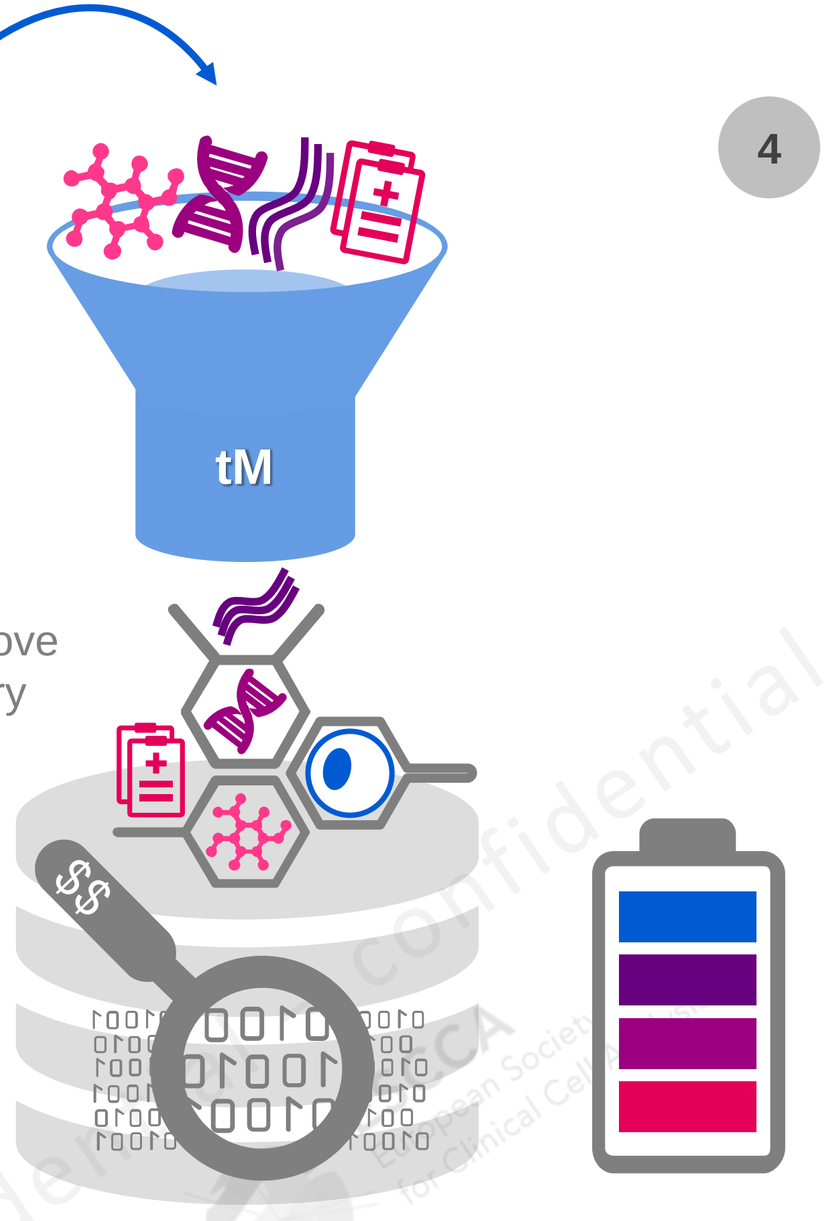
Cross-analysis empowers discovery rate at an increased data management cost

Cytome

using Cytome to achieve higher integration and improve biomarker discovery



NextGen IS are dramatically increasing options for cross-analyses without extra costs

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What we have

Published Database schema

A perspective for biomedical data integration: Design of databases for flow cytometry

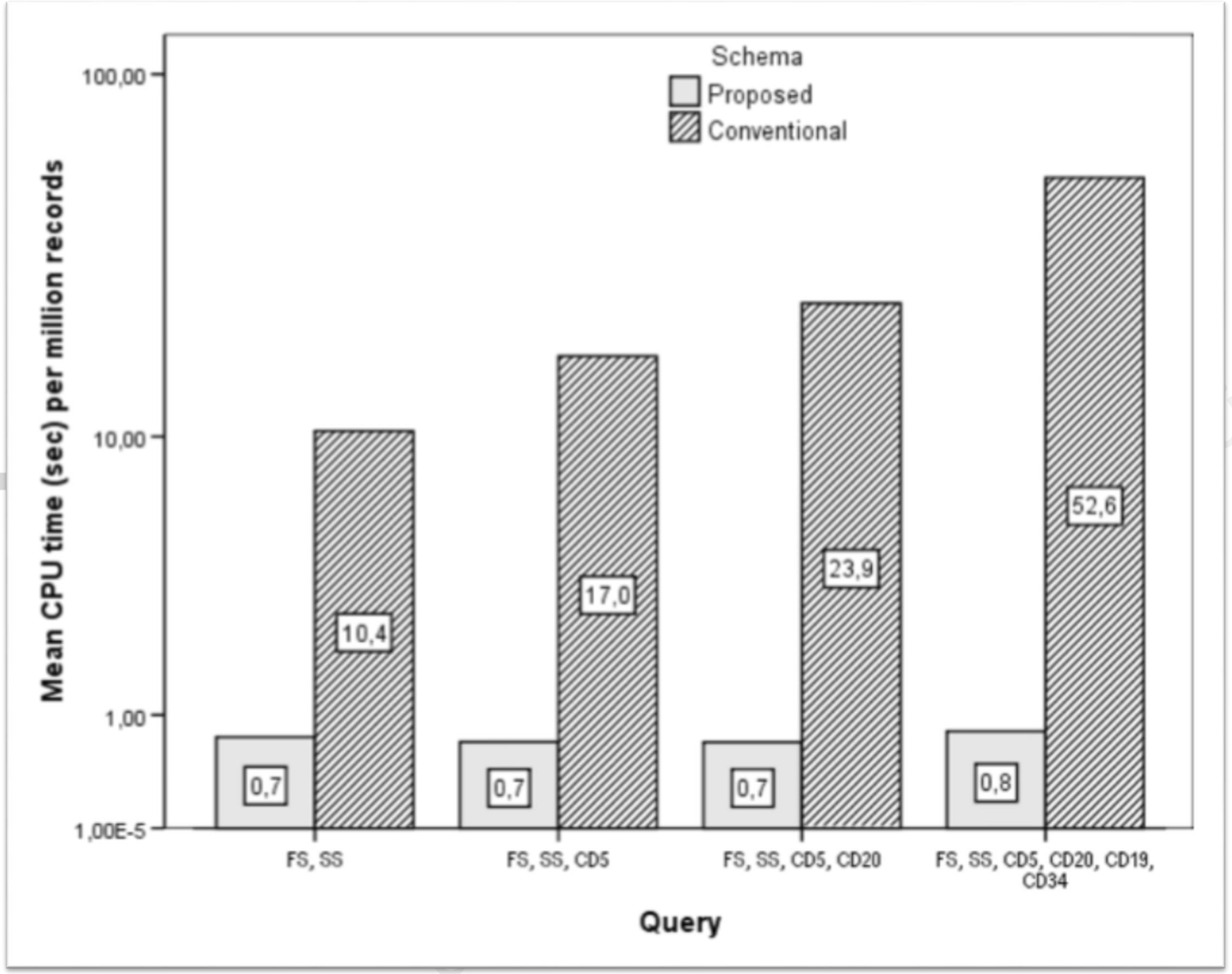
BMC bioinformatics, 2008

An environment for efficient flow cytometry data management

ESCCA 2009

A functional framework for total MDS (digital) management

ESCCA 2010



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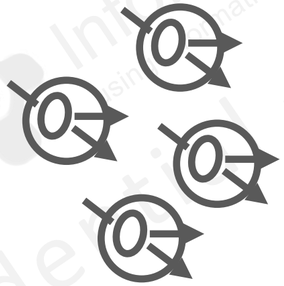
What we have

From A to Z, fully automatically and standardized Cytome pipeline



Data processing

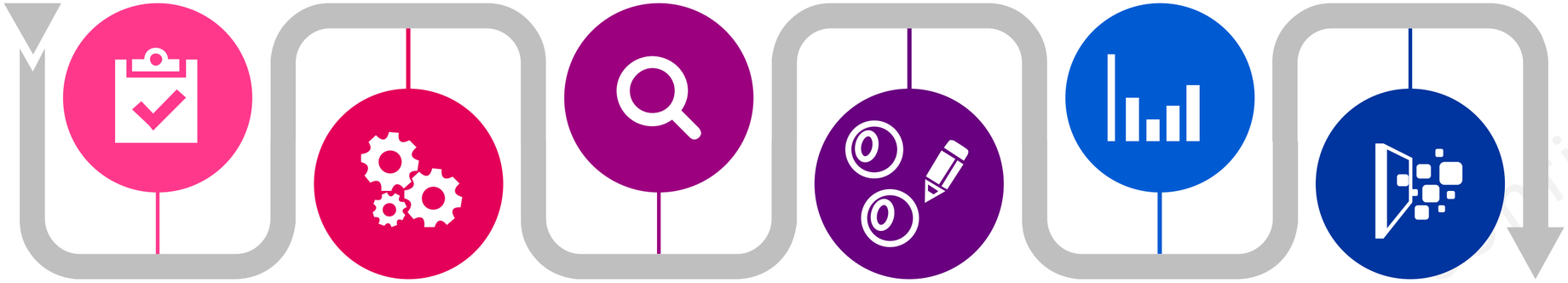
Including compensation, cleaning and data transformation steps

Automatic cell populations annotation

Based on user knowledge and automatic analyses

The power of tranSMART

Cytome integration further improves biomarker discovery in the most advanced NextGen IS



Data curation

Automated method that can take advantage of the domain expert

Automatic cell populations discovery

Using our tailor-made methodology

Data analysis

Including state of the art statistical and cytometry-dedicated analyses

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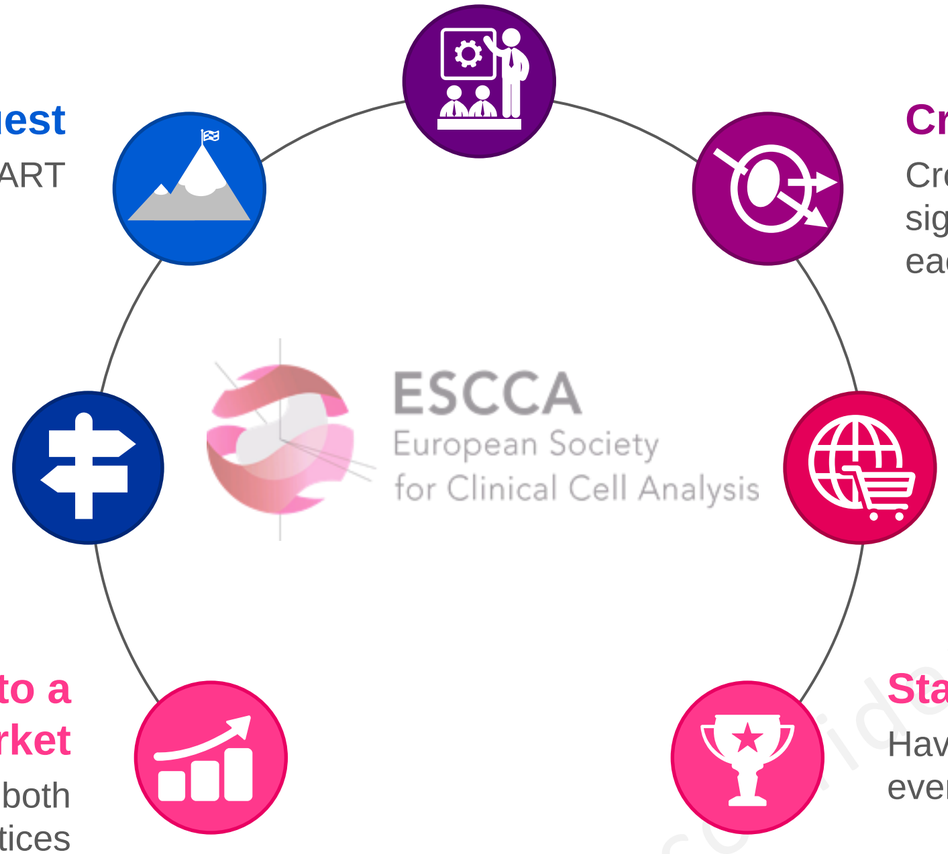
Benefits for the community

Improved biomarker discovery while expanding the reach of tranSMART

Be part of a strong network

Daedalus is running with the support of ESCCA, a network of thousands of cytometry specialists in Europe



Fulfill an anticipated community request

Integrating cytometry data into tranSMART

Cross-OMICs benefits

Cross-analyzing OMIC data with Cytome significantly improved biomarker discovery on each OMIC field

Solve an open problem

Providing a quantitative and standardized method to handle (raw) Cytome data

Increase revenue

Wider audience, stronger demand for services

Improved access to a growing market

Cytome is heavily involved in both clinical and research practices

Stay on top

Having a NextGen IS which supports even more datatypes

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Special Thanks

to Daedalus project team

- **Katherina Psarra, PhD.**
  Head of the Cytometry and Immunophenotyping lab, Evangelismos hospital.
- **Silvia Della Bella, MD, Prof.**
  University of Milan.
- **Frank Preijers, PhD.**
  Head of the Cytometry and Immunophenotyping lab, Radboud University Medical Center.
- **Paula Fernandez, MD, PhD.**
  Head of FACS/Stemcell-Laboratory, Institute for Laboratory Medicine, Kantonsspital Aarau.
- **Stefano Papa, MD, Prof.**
  University of Urbino.
- **Jose-Enrique, Prof.**
  University of Valencia.
- **Andy Rawstron, PhD.**
  Leeds Teaching Hospitals NHS Trust.
- **Jordi Petriz, PhD**
  University of Barcelona.
- **Claudio Ortolani, MD, Prof.**
  Venice General Hospital.
- **Laura Koumas Lioliou, PhD.**
  Head of Hematology and Immunology Core Laboratory, Karaiskakio Foundation.
- **Pavlos Costeas, PhD.**
  Bone Marrow Laboratory Director, Karaiskakio Foundation.

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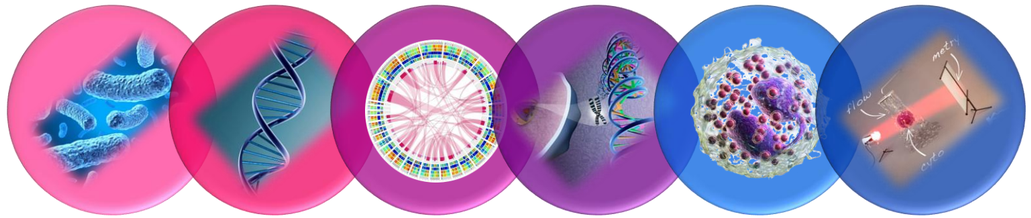

Thank you !

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