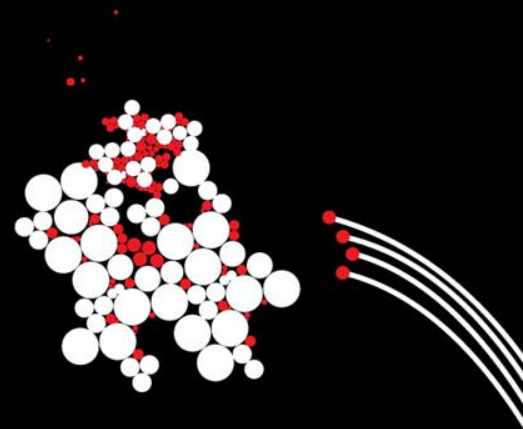


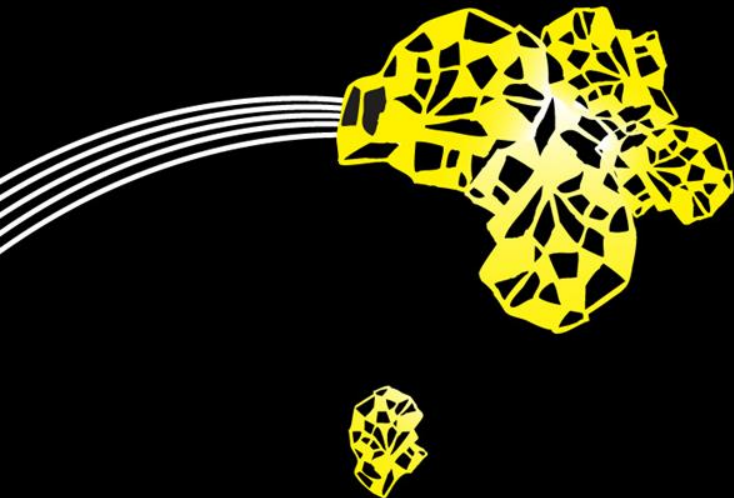
STW-Perspectief P13-03

23-10-2014

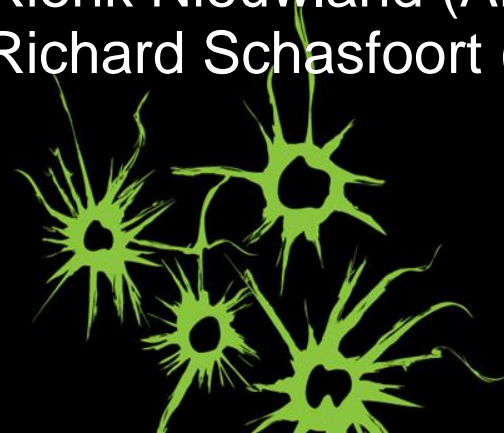


Cancer-ID

New Technology for monitoring Cancer therapy through
extracellular vesicle Identity



Leon W.M.M. Terstappen (UT)
Frank A.W. Coumans (AMC)
Ton G. van Leeuwen (AMC)
Rienk Nieuwland (AMC)
Richard Schasfoort (IBIS)



EXTRA CELLULAR VESICLES

STARTED ~ 2009

Rienk Nieuwland



Leon Terstappen



EXTRA CELLULAR VESICLES

STARTED ~ 2010, PHD 2015, VENI 2017

~ 2012, VENI 2014

Edwin van der Pol



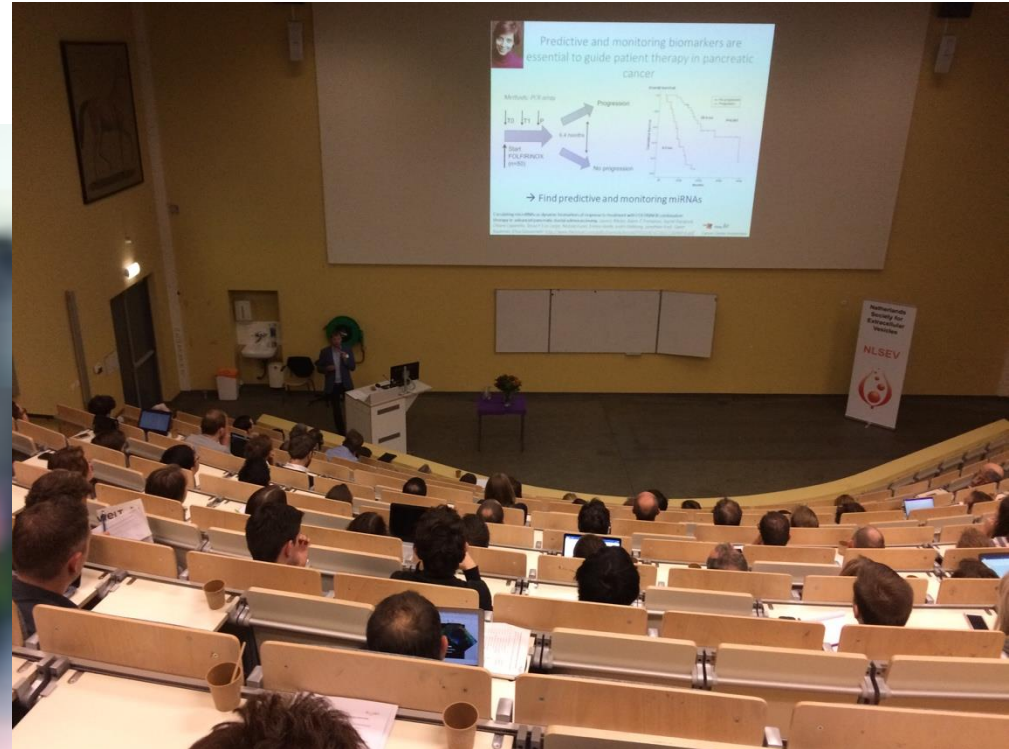
Frank Coumans



EXTRA CELLULAR VESICLES

MARCH 2013, MICROVESICLES SYMPOSIUM

Marca Wouben



- different groups
- different technologies
- companies
- opportunity!

CANCER-ID STW PERSPECTIVE: MOTIVATION

To battle cancer we need effective:

- ✓ Screening tools
- ✓ Therapies
- ✓ Tools to predict optimal therapy
- ✓ Tools to monitor therapies

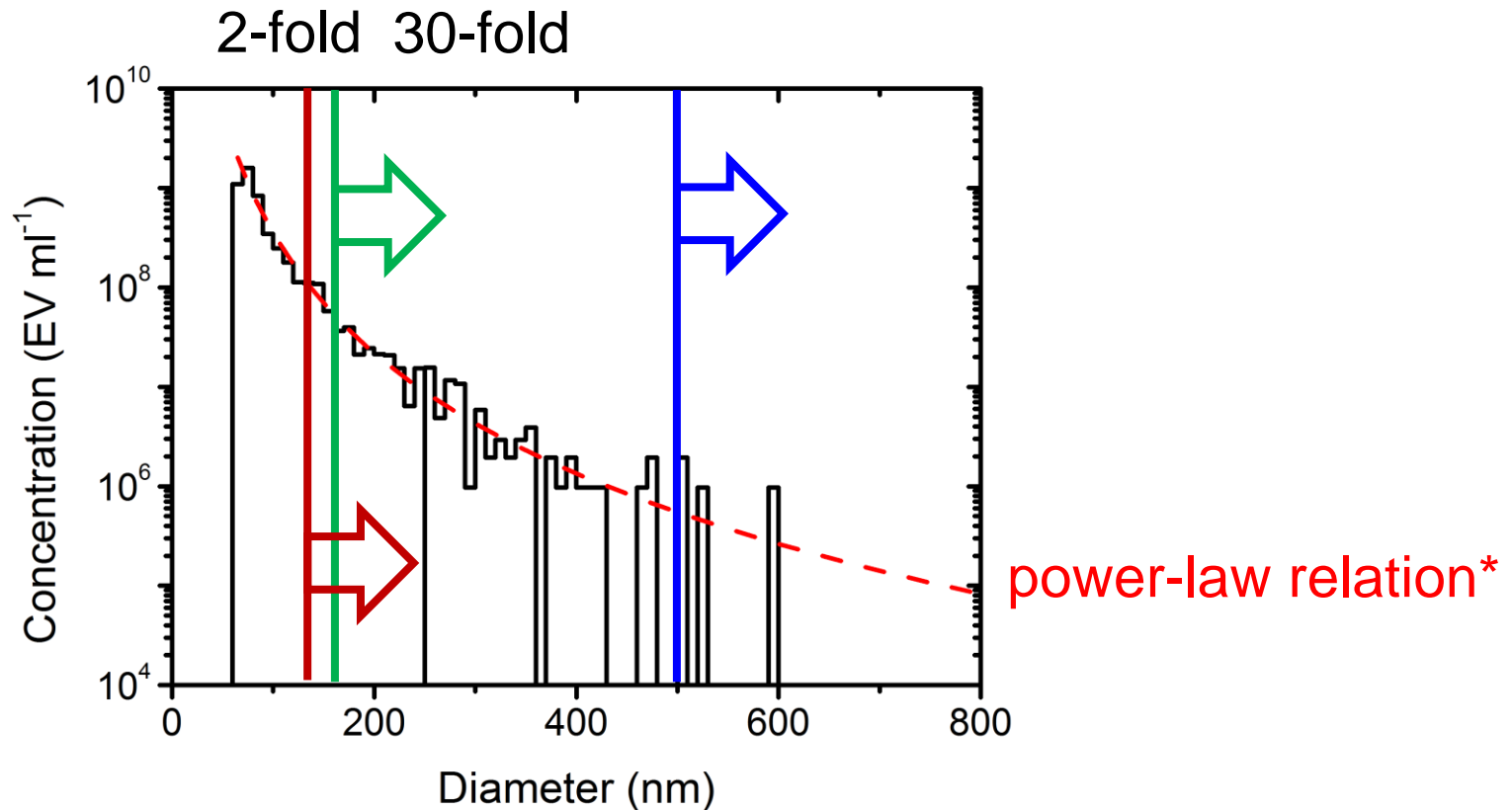
<Tumor related extracellular vesicles>

OBJECTIVES

- ✓ Detection
 - Distinguish EV from contaminants
- ✓ Identification
 - Cellular origin EV
- ✓ Therapy selection
 - Extract information

EV CHARACTERISATION

PROBLEM 1: INSTRUMENTS DIFFER IN SENSITIVITY



*van der Pol et al. JTH (2014)

EV CHARACTERISATION

PROBLEM 2 : WHAT ARE THE OPTICAL, MECHANICAL AND CHEMICAL PROPERTIES?

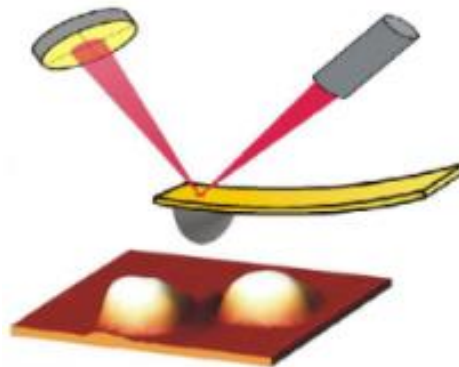
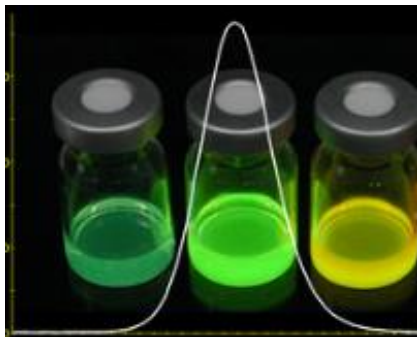
Marca Wouben



Wouter Roos



Cees Otto



EV DIAGNOSTICS FOR MONITORING THERAPY

PROBLEM 3 : WHICH TECHNOLOGY PLATFORM IS MOST SUITABLE?

Guido Jenster

Ton van Leeuwen

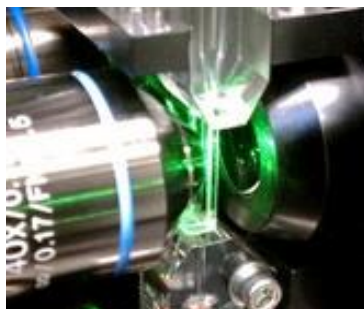
Cees van Rijn

Jaap Caro

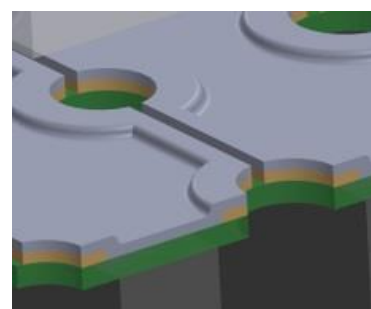
Rienk Nieuwland



Molecular (3.1)



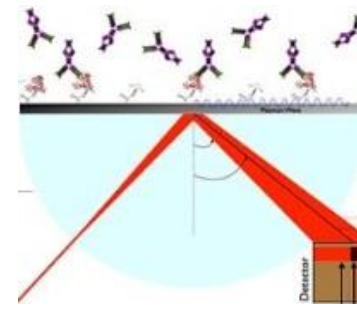
Coulter flow (3.2)



Smart microsieve (3.3)



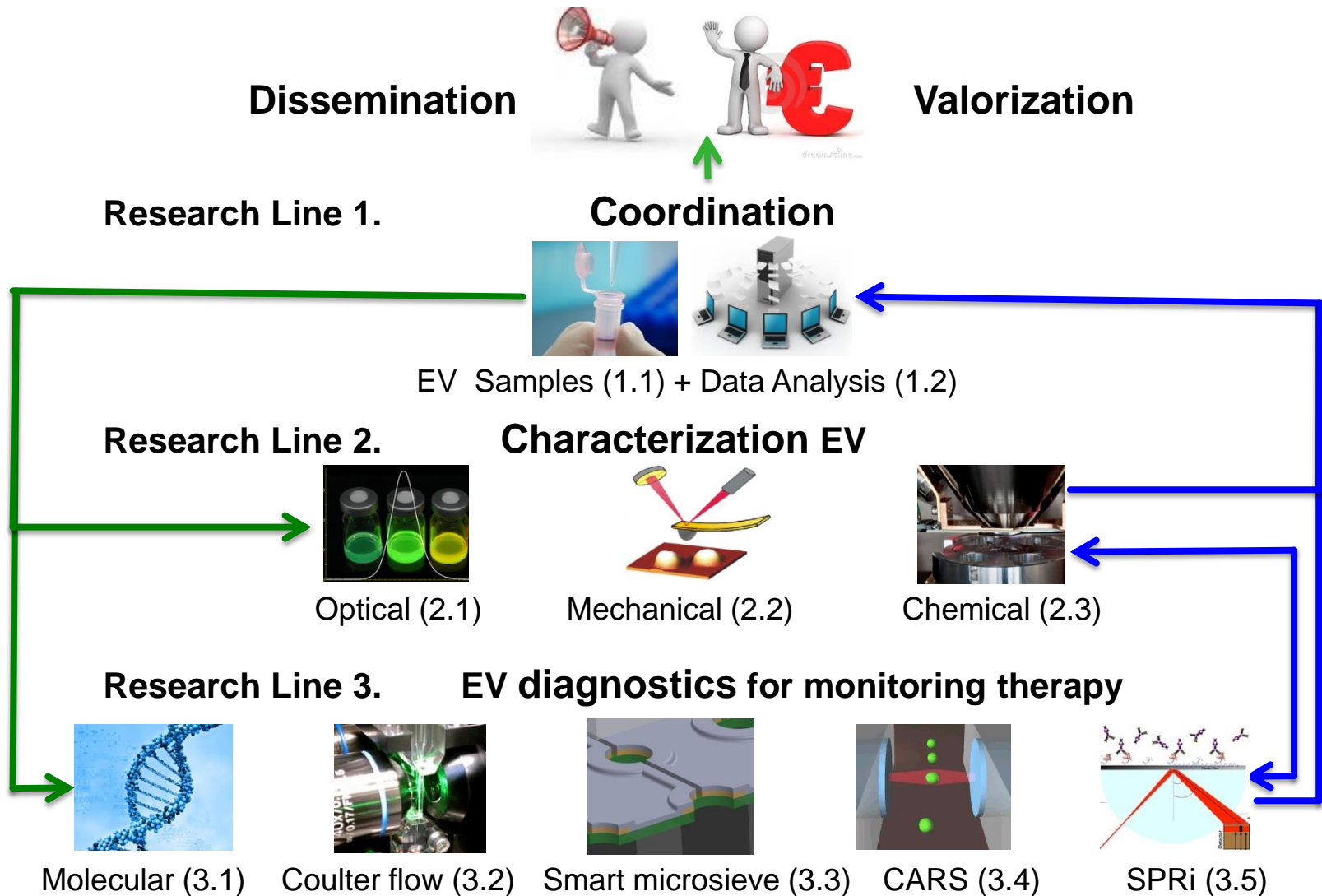
CARS (3.4)



SPRi (3.5)

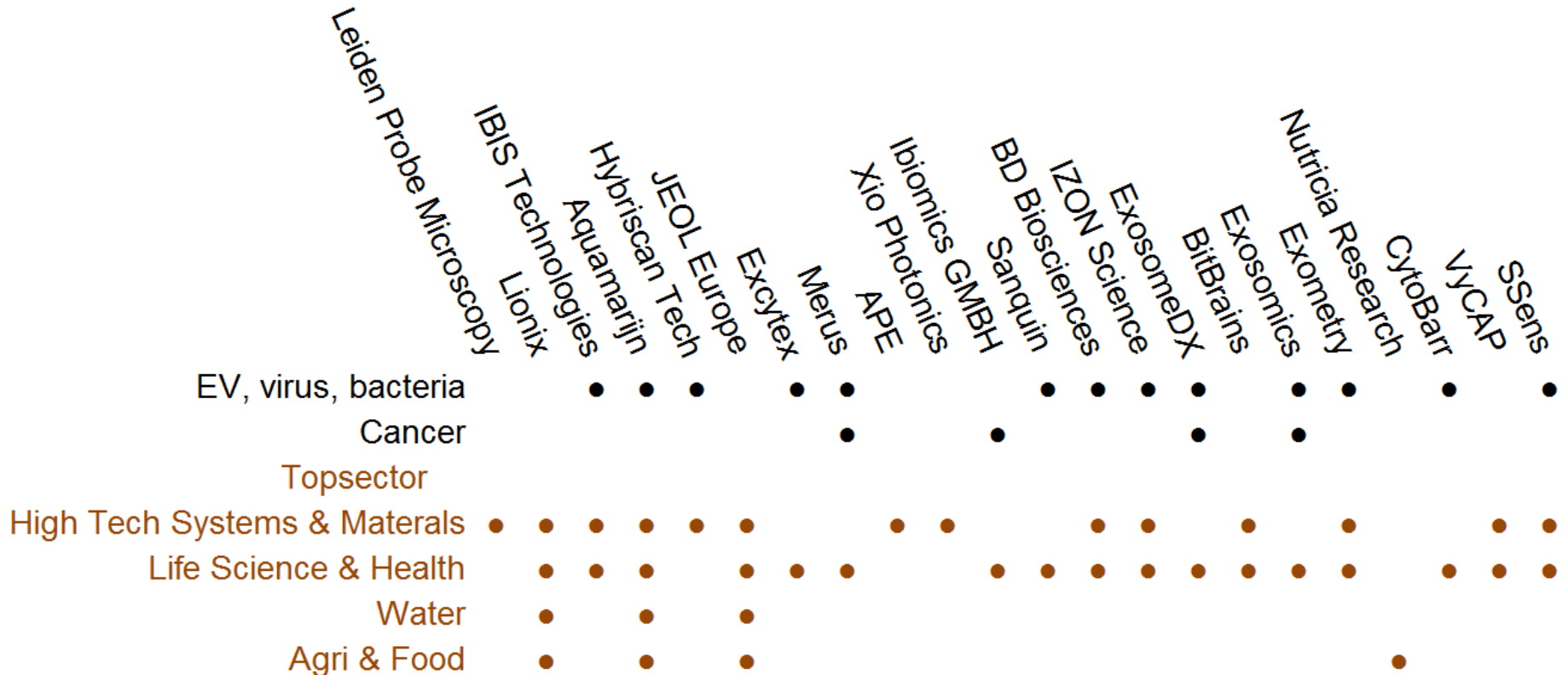
APPROACHES TO DECIPHER EXTRACELLULAR VESICLES

STRUCTURE AND GOVERNANCE CANCER-ID



VALUE TO INDUSTRY

€1,800,000 IN KIND CONTRIBUTION BY USERS (€ 750,000 CASH)

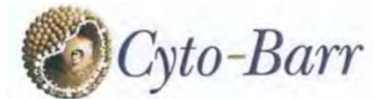
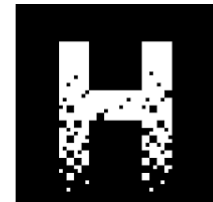


Shared interests: CellSpread, MEMPHIS II, Microscopy Valley, NANONext, IOP Photonic devices, CTCTrap, METVES, COST-MeHAD

VALUE TO INDUSTRY

€1,800,000 IN KIND CONTRIBUTION BY USERS (€ 750,000 CASH)

€ 3,999,000 CONTRIBUTION BY STW



DELIVERABLES

- ✓ Tumor EV platform
- ✓ Submicron particle detection
 - EV, bacteria, viruses, fly ash, etc.
- ✓ EV NL network:
- ✓ Valorization in top sectors
 - Food, water and health (Berenschot)

Second Annual Cancer-ID Meeting
Allard Pierson Museum, Oude Turfmarkt 127
Amsterdam, The Netherlands
March 27th 2017



THANK YOU



Tag cloud of reviewer feedback