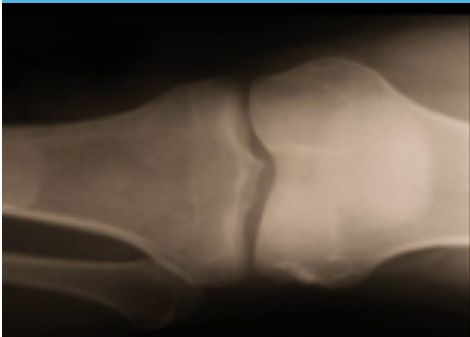# D-BOARD

European partnership for biomarker discovery

1/2014.

D-BOARD NEWSLETTER

Inside

Welcome by the Coordinator

Welcome to the first issue of the D-BOARD newsletter!

It is our intention to distribute a newsletter to the consortium members and stakeholders twice a year.

Our aim is to report news of recent and future events, details of forthcoming trainings, meetings of the consortium as well as to give an overview of the project progress.

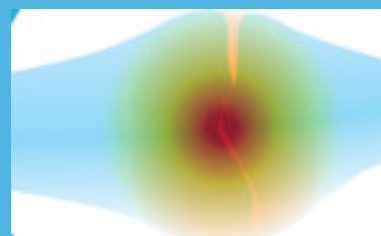We welcome contributions from all of you to make

Applying OMICs techniques to discover new OA biomarkers

D-Board Symposium

during the

2nd BMJD Conference

22. November, 2013.

D-BOARD SYMPOSIUM

With the title of **Applying OMICs techniques to discover new OA biomarkers** a D-Board symposium was organized on Friday, 22. November, 2013. in Brussels as part of the 2nd World Congress on Controversies, Debates & Consensus in Bone, Muscle & Joint Diseases. Around **35 people attended the event.**

AGENDA
Chairs: Yves Henrotin & Ali Mobasheri
16.30 Introduction/ A Mobasheri (University of Nottingham, UK)
16.35- 16.55 Chopping off chondrocyte proteome? /Mona Dvir-Ginzberg (Hebrew university of Jerusalem, Israel)
16.55- 17. 15 Membranome: source of new OA biomarkers/Richard Barrett- Jolley (University of Liverpool, UK)
17.15- 17.35 From "OMICS" to patients: a steep path/ Pierre Douette (Artialis SA, Belgium)

17.35- 17.55 Bioinformatic to help biomarker discovery/ Jaume Bacardit (University of Nottingham, UK)
17.55 Concluding remarks/ Yves Henrotin (University of Liège, Belgium)

PUBLICATIONS

Articles

Reynard LN, Loughlin J (2013) *Insights from human genetic studies into the pathways involved in osteoarthritis*. Nature Reviews Rheumatology 9:573-583.

Lewis, R., H. May, A. Mobasheri, and R. Barrett-Jolley. *Chondrocyte channel transcriptomics: Do microarray data fit with expression and functional data?* Channels, 2013. 7(6) published online 30. August 2013.

Lewis R, Feetham CH, Gentles L, Penny J, Tregilgas L, Tohami W, et al. (2013a). *Benzamil sensitive ion channels contribute to volume regulation in canine chondrocytes*. Br J Pharmacol 168(7): 1584-1596.

Mobasheri A, Lewis R, Ferreira-Mendes A, Rufino A, Dart C, Barrett-Jolley R (2012 *Potassium channels in articular chondrocytes*. Channels 6(6): 416-425

Staunton CA, Lewis R, Barrett-Jolley R (2013). *Ion Channels and Osteoarthritic Pain: Potential for Novel Analgesics*. Curr Pain Headache Rep 17(12): 1-9.

Presentations in Conferences

Jessica PhD, Kräft, Tabea ; Nitschke, Yvonne ; Hawellek, Thelonius; Hubert, Jan; Godmann, Lars BSc; Pap, Thomas MD. *Cartilage Matrix Remodeling and Activation Of Canonical Wnt-Signaling Precedes Calcification and OA-Like Changes In Mice*. October 27, 2013. ACR/ARHP MEETING, 2013, San Diego

Gronau, Tobias, Hansen, Uwe PhD; Seidler, Daniela PhD; Iozzo, Renato MD; Aszodi, Attila PhD; Prein, Carina ; Clausen-Schaumann, Hauke PhD; Krüger, Karsten PhD; Mooren, Frank MD; Bertrand, Jessica PhD; Pap, Thomas MD; Bruckner, Peter PhD; Dreier, Rita PhD. *Decorin-Deficiency Alters Cartilage Stiffness and Attenuates The Development Of Osteoarthritis In Mice*. October 27, 2013. ACR/ARHP MEETING, 2013, San Diego

Mobasheri A, *Overview od the D-Board and EURO-TEAM Consortia. OARSI Conference*. April 24-27. 2014. Paris, France.

Introduction: Anne Kozijn

Most of you already recognize me by now, but I haven't had the chance to go into detail on my background with everyone yet. In 2004 I started a BSc in Biotechnology. After finishing my bachelor in 2007, I had to decide on my master specialization. Having doubted about Medical Biotechnology I finally chose to study Cellar/Molecular Biotechnology, including as many immunological courses as possible. My internships were very immunological too, mainly focusing on T cells. I performed my MSc thesis at the Musculoskeletal Research Group at the Newcastle University, where I tried to clone and maintain human Th17 cells and.. where I met John Loughlin! It's a small world.

Right after my studies I started as a researcher in Rotterdam at the Erasmus Medical Center on a project concerning celiac disease (gluten intolerance). After having performed only cell cultures up until then, I became acquainted with working with mouse models during this project. This opened a new area of research for me, with lots of possibilities, as I tried to unravel the cause of celiac disease using a T cell-transfer mouse model. During this project I also learned a lot about mucosal immunology, which is very alike and yet very different from the "peripheral immunology" I was taught at the university.

After two years my husband and I bought a house and I found a nice workplace at TNO Metabolic Health Research. Here, after one year, an opportunity presented itself: a vacancy for a new PhD on an osteoarthritis project was opened.

At first I hesitated: little immunology or T cells seemed to be involved in this condition and I didn't know anything on lipid metabolism and adipokines… But my curiosity got the best of me and I must say I feel very fortunate to have been given this opportunity; every week I feel I learn more about the different subjects involved and my fun in doing this research grows! Also, even though I didn't anticipate this, I do feel I can benefit from my previously acquired knowledge.

Within D-BOARD, the goal of my project is to identify biomarkers for the early diagnosis of osteoarthritis, using a.o. metabolomic and lipidomic analyses. These past few years my department discovered that the mild systemic inflammation associated with obesity plays a role in the development of osteoarthritis.

For this reason we want to focus on the metabolic aspects of this condition, using a high fat diet mouse model with or without a surgical intervention (DMM). Once we identify potential biomarkers, we want to investigate the use of these biomarkers as a tool for prognosis and stratification.

Old habits die hard though, as I can't shake off my fascination for the immune system; so I will definitely incorporate some immunological readouts as well, like flow cytometry. However, for the upcoming few months I will be busy enough with histological analyses of several studies, including the rat study performed by Nordic Bioscience. Along with these analyses I will set up new studies with the surgical DMM mouse model and the high fat diet mouse model.

Upcoming Events, meetings

1 **EULAR European Congress of Rheumatology** 2014
   11-14 June, Paris

2 **Yearly Meeting**
   3-4 July, 2014
   Copenhagen, Denmark