

AiPBAND NT-4 Workshop on brain

Rome 24-28 September 2018

Monday 24th September

09.00 - 09.30 **Arrival**

09.30 - 09.45 Welcome speech by Scientific Director IRE

09.45 - 09.55 AiPBAND introduction and ESR recruitments (Xinzhong Li, Plymouth University, UK)

09.55 - 10.55 **Alessandro Olivi** (Neurosurgery Catholic University-Rome)

Opening keynote lecture:

Translational research for the development of new therapies for Brain Tumors in an Academic Center: the experience at the Johns Hopkins Hunterian Neurosurgical Laboratory

10.55 - 11.20 **Coffee Break**

SESSION ONE

Current clinical diagnosis/treatment of Brain cancer

Chairman: R. Boccaletti – A. Pace (neurosurgery & neuroncology-IRE)

11.20 - 12.00 **Yongji Tian** (Paediatric Neurosurgery, Beijing TianTan Hospital, China)

The clinical and research works for brain stem gliomas in Beijing TianTan Hospital.

12.00 - 12.40 **Sebastian Brandner** (Institute of Neurology, University College London-UK)

Molecular diagnostics of brain tumours: The pathway of innovations into advanced clinical diagnostics and the use of data to complement research studies

12.40 - 13.40 **Lunch**

13.40 - 14.20 **Antonello Vidiri** (Radiology and Diagnostic Imaging, IRE-Rome)
Advanced MR Imaging Techniques in Daily Practice

14.20 - 15.00 **Laura Marucci** (Radiation Oncology, IRE- Rome)

Simultaneous stereotactic treatment of multiple brain metastases with CyberKnife: rationale and feasibility

15.00 - 15.20 **Coffee Break**

SESSION TWO

Innovative bioinformatics tools (Big data in personal medicine & medical science Machine learning for biomarker discovery)

15.20 - 16.00 **Yike Guo** (Data Science Institute; Imperial College Of Science Technology And Medicine, UK)

The challenge of big data in biomedical research

16.00 - 16.40 **Ward Weistra** (Data Warehousing The Hyve)

Cohort selection on family relationships, absolute and relative time with Glowing Bear 1.0

16.40 - 17.20 **Pierpaolo Greco** (SCRIBA)

Microfluidic devices and functionalized electrodes for detection of biomarkers (TNF- α)

Tuesday 25th September

09.30 - 10.30 **Marc Sanson** (Neuroncology Pitié-Salpêtrière hospital & neurology at Pierre & Marie University, Paris, France)

Keynote lecture: Genetic landscape of gliomas: from molecular classification to precision medicine

SESSION THREE

Brain cancer and fundamental research: genomic, genetics and epigenomics in personal medicine

Chairmen: MG Rizzo – P. Giacomini

10.30 - 11.10 **Giovanni Blandino** (Oncogenomic & Epigenetic Unit –IRE- Rome)

Aberrant expression of non-coding RNA factors features brain metastasis

11.10 - 11.30 **Coffee Break**

11.30 - 12.10 **Gaetano Finocchiaro** (Molecular neuro-oncology–Istituto Neurologico C Besta- Milan)

Brain, gliomas and the immune system: defogging the tumor, deploying fresh troops

12.10 - 12.50 **Oliver Hanemann** (Neurologist, Plymouth University-UK)

Meningiomas; the most common intracranial brain tumour

12.50 - 14.00 **Lunch**

14.00 - 14.40 **Experiences from young IRE Researchers on Brain cancer**

Giulia Regazzo (Experimental Researcher, Oncogenomic & Epigenetic Unit; IRE- Rome)

Sara Donzelli (Experimental Researcher, Oncogenomic & Epigenetic Unit; IRE- Rome)

Veronica Villani (Neuro-oncology; IRE- Rome)

14.40 - 15.20 **Janne Lehtiö** (Cancer Proteomics Mass Spectrometry group, Karolinska Institute Stockholm-Sweden)

Connecting genotype with phenotype by deep proteome analysis of tumor tissue and plasma

15.20 - 15.40 **Coffee Break**

15.40 - 16.20 **Jeroen Lammertyn** (Leuven University, Belgium)

Microfluidic technologies for single-entity detection

16.20 - 18.00 **Supervisory Board Meeting & ESRs visit of Translation Area Laboratories**

20.00 **Social Dinner**

Wednesday 26th September

Chairmen : Xinzhong Li & Oliver Hanemann

09.30 - 10.30 **Henk Stunnenberg** (Molecular Biology - Radboud University, Nijmegen The Netherlands)

Partially methylated domains are hypervariable in breast cancer and fuel widespread CpG island hypermethylation.

10.30 - 11.00 **Coffee Break**

11.00 - 12.00 **Patrizio Giacomini** (Oncogenomic & Epigenetic Unit; IRE - Rome)
Fundamentals of Liquid Biopsy: a short introduction and a few examples”

12.00 - 13.30 **Lunch**

13.30 - 14.30 **ESRs Project presentations**

R. Fonseca (ESR-8: S Brander)

E. Samuelsson (ESR-9: M. Nilsson)

M. Ruiz (ESR-7: H. Stunnenberg)

A. B. Díaz Méndez (ESR-6: MG. Rizzo)

H. Babacic (ESR-5: J. Lehtiö)

A. Ali (ESR-14: C. Morelli)

14.30 - 15.30 **Xinzhong Li** (Plymouth University)

Machine learning and its application in biomarker discovery

15.30 – 16.00 **Break and free discussion**

16:00 - 17.00 **Genhua Pan** (Plymouth University-UK)

Introduction to graphene biosensors and their applications in disease diagnosis

Thursday 27th September

Chairmen : Xinzhong Li & Shaofeng Liu

09.30 - 10.00 **ESRs Project presentations**

B. Prasad (ESR-10: X. Li)

M. Safarzadeh (ESR-1: G. Pan)

P. Chytas: (ESR-13: S.Liu)

10.00 - 11.00 **Giuseppe Spoto** (Catania University)

Introduction to plasmonics and its use for the ultrasensitive detection of nucleic acids for advanced diagnostics applications

11.00 - 11.30 **Coffee Break**

11.30 - 12.30 **ESRs Project presentations**

V. Jungbluth (ESR- 2: G.Spoto)

Y. Yildizhan (ESR-3: J. Lammertyn)

M Selvaraj (ESR-4: P. Greco)

X. Zhang (ESR-11: Y. Guo)

J. Georges-Filteau (ESR-12: H. Van Haaften)

12.30 - 14.00 **Lunch**

14.00 - 15.00 **Mats Nilsson** (Molecular Diagnostic Research Group - Stockholm)

Characterizing intratumoral heterogeneity using spatially resolved next generation sequencing

15.00 - 16.00 **Break and free discussion**

Friday 28th September

Chairmen : Xinzhong Li & Genhua Pan

09.30 - 10.30 **Prof. Shaofeng Liu** (Business School, University of Plymouth, UK)
Innovative and sustainable business models: key aspects and our vision

10.30 - 11.00 **Coffee Break**

11.00 - 12.00 **Sarah Kearns** Vitae RDF for ESR's – (Researcher Development Manager; University of Plymouth) VIA SKYPE

12.00 **Conclusive Remarks**