

IC HDX

WORKSHOP

15th May 2017



HDX
HYDROGEN DEUTERIUM EXCHANGE
MASS SPECTROMETRY

 **cost**
EUROPEAN COOPERATION IN
SCIENCE AND TECHNOLOGY

Monday May 15th 2017: IC HDX Workshop co-organised together with COST

08:00	Transport from Gothia Towers Hotel to AstraZeneca Conference Center
08:30–09:00	Arrival and Registration
09:00–09:05	Rebecca Rae (AstraZeneca R&D) – Welcome (<i>Alpha</i>)
09:05–09:15	Glenn Masson (MRC Laboratory of Molecular Biology) – Opening of workshop (<i>Alpha</i>)
09:15–09:50	Grp 1: Session A (<i>Epsilon</i>), Grp 2: Session B (<i>Kappa</i>), Grp 3: Session C (<i>Lambda</i>)
09:50–10:05	Coffee
10:05–10:40	Grp 1: Session B (<i>Kappa</i>), Grp 2: Session C (<i>Lambda</i>), Grp 3: Session A (<i>Epsilon</i>)
10:40–10:55	Coffee
10:55–11:30	Grp 1: Session C (<i>Lambda</i>), Grp 2: Session A (<i>Epsilon</i>), Grp 3: Session B (<i>Kappa</i>)
11:30–12:00	Glenn Masson & Kasper Rand – Summary of workshop (<i>Alpha</i>)
12:00–13:00	Lunch
13:00–15:00	Overview Academic Software Solutions (<i>Alpha</i>), contribution of: MEMHDX by Sébastien Brier HDX Workbench by Bruce Pascal ExMS by Zhong-Yuan Kan Mass Spec Studio by David Schriemer
15:00–15:30	Coffee
15:30–17:30	Data Workshop Academic Software (Gamma) & Workshops by gold sponsors: <ul style="list-style-type: none">• Waters (<i>Lambda</i>)• HDEaminer by Sierra Analytics (<i>Kappa</i>)• LEAP technologies by Trajan (<i>Epsilon</i>)
17:30	End of Workshop: Transport to Gothia Towers Hotel

Session A: Sample preparation

What proteins are applicable to HDX-MS?

How many samples are required to assess reproducibility of the experiment?

What are the advantages of different quench buffers?

Under what circumstances should a fully deuterated sample be produced, and where can it be foregone?

What are the advantages and disadvantages of using automated sample preparation?

What how many time points should I aim for, and what should be their range?

Session B: Instrumentation, Fluidics, and Data Collection

Overview of mass spectrometry instruments, and their merits and disadvantages.

What are the advantages of an integrated fluidics system compared to homemade?

Optimisation of chromatography, elution gradients, & back-pressures for the most efficient digestion – reduction of disulphide bridges.

What are the advantages of various proteases – which are commercially available?

How do the various data collection methods compare (MS^E vs. HDMSE & UDMSE)?

Session C: Data Analysis Overview of Available Software

Overview of all the data analysis avenues available.

Peptide identification using PLGS/Mascot.

Discussion of software suites available, how they differ.