

CBC SEMINAR ANNOUNCEMENT



Dr. Marie-Paule Teulade-Fichou
Institut Curie

Imaging Fluorescent DNA interactive probes in cells
Where is the drug gone?

For many years our research efforts have been focused on the design of structure and fluorescent probes for nucleic acids.^{1,2} In particular we are interested in targeting DNA domains containing base repeats likely to form secondary structures that are involved in dysfunctions related to cancer developments. Our aims are two-folded i) providing mechanistic tools and imaging probes ii) identifying new anticancer drug candidates.

We will present last developments in this field using two examples of DNA-targeted drugs e.g. phenanthroline derivatives binding quadruplex DNA and triphenylamine derivatives binding minor groove of B-DNA. Synthesis, chemical methodologies for drug labelling² and drug localisation using various imaging microscopies (one and two-photon fluorescence and chemical imaging)^{3,4} will be presented. We will also address in both cases the issues related to drug localisation in live cells.⁵

1. E. Largy, A.Granzhan, D.Verga, F.Hamon, M.-P. Teulade-Fichou Topics in Current Chem. 2013, Vol 330, 111-177, Special issue Quadruplex Nucleic Acids. Springer Berlin Heidelberg, Berlin, Heidelberg.
2. B. Dumat, G. Bordeau, E. Faurel-Paul, F. Mahuteau-Betzer, N. Saettel, G. Metge, C. Fiorini-Debuisschert, F. Charra, M.-P. Teulade-Fichou. J.Amer.Chem.Soc. 2013, 135, 12697-12706 .
3. J. Lefebvre, F.Poyet, C.Guetta, F.Mahuteau-Betzer, M.-P. Teulade-Fichou. Angewandte Chemie Int.Ed. 2017, vol 57, 2017, Vol 56, 1-16.
4. D.Verga, T.D. Wu, J.-L. Guerquin-Kern, M.-P. Teulade-Fichou, S.Marco, J. Molecular Biology and Molecular Imaging 2017, in press.
5. R. Chennoufi , H. Bougherara, N. Gagey-Eilstein, B. Dumat, E. Henry, F. Subra, S. Bury-Moné, F. Mahuteau-Betzer, P.Tauc, M.-P. Teulade-Fichou, E. Deprez. Scientific Reports 2016 , 6 (21458), 1-12.

Date: 15th September 2017 (Friday)
Time: 11:00am – 12:30pm
Venue: SPMS MAS Executive Classroom 1
Host: Asst Professor Shao Fangwei