Cancer and Cancer Treatments on Cognitive Functions: At the Era of Comprehensive Mechanisms

Friday 8th, JULY 22, Paris, 9:00 AM - 6:15 PM

ESPACE VOCATION HAUSSMANN SAINT-LAZARE
92, rue Saint-Lazare 75009 PARIS Tél : 01 45 62 17 18

Call for abstracts : Abstract submission deadline extended to the 3rd of June 2022, 23:59 CET

Organizers: Hélène Castel (Univ Rouen, Inserm), Florence Joly (F. Baclesse Caen, Inserm), Bénédicte Giffard (Univ Caen, Inserm), Véronique Pancré (Cancéropôle Nord-Ouest, Lille)

Advances in diagnostic and therapeutic strategies in oncology have significantly increased the chance of survival of cancer patients, even those with metastatic disease. However, Cancer Related Cognitive Impairment (CRCI) is frequently reported in patients treated for non-central nervous system cancer, particularly during and after chemotherapy. These cognitive deficits, are characterized by impairment of short-term and working memory, attention, executive functions, and/or processing speed. First research have primarily focused on neuropsychological tests and clinical data with chemotherapy. Since then, a growing body of literature has highlighted the potential effects of cancer itself, and a new era is emerging on the role of other cancer treatments e.g., new modalities of radiotherapy, hormone therapies, targeted therapies, and immunotherapy on neurological functions, an important issue in terms of quality of life (QoL). Even now, it remains uncertain whether cognitive deficits result from the treatment, the cancer itself, and/or the psychological challenges of coping with cancer in the context of improved survival, or whether factors such as age, genetic polymorphisms, and psycho-social components or sleep disorders may predispose to a higher risk of cognitive impairment. To better understand the pathophysiology and neurobiological mechanisms of CRCI and the direct impact of the different cancer treatments, animal models have been developed to investigate selective and combined effects of the disease and treatment on neurocognitive function, the influence of parameters such as stress, mood and aging on cognitive impairment, while human brain imaging helped document mechanisms involved in CRCI. The growing demand for CRCI management from patients led to studies testing cognitive rehabilitation in cancer patients.

https://forum.fens.org/

Satellite FENS Meeting Conference Theme

Call for abstracts

This meeting organized by the Cancéropôle Nord-Ouest, The French Plateform Cancer and Cognition, and the University of Rouen Normandie deals with knowledge on translational research including clinical, imaging and animal models about CRCI. The objective is to bring together international specialists of the impact of cancer and treatments on brain function, addressing neuropsychological, neurobiological, and pathophysiological mechanisms, towards the search for predictive biomarkers and prevention tools.

Submit abstracts

Abstracts will be considered and included in the final scientific program after selection by the scientific committee, as oral communications (10 min) or flash communications (3 min).
Abstract submission deadline: 3rd of June, 2022, 23:59 CET

Registration Fees: 70 euros
Deadline for registrations : June 15, 2022

Maximum 100 attendees

Abstract submission and registrations from March 1, 2022
https://www.escape.canceropole-nordouest.org/#/manifestation/subscription/46

Access Map

https://www.espaces-vocation.com/
92, rue Saint-Lazare 75009 PARIS Tél : 01 45 62 17 18

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PROGRAM

9h00-9h15: Welcome and Introduction

9h15-10h00: Plenary Lecture PL1

Mélanie DOS SANTOS, *Baclesse Center and Caen CHU hospital, Inserm ANTICIPE, Cancer and Cognition Platform, Cancéropôle Nord-Ouest, France*

> Impact of new cancer therapies on cognition

10h00-12h15: Session 1: Cerebral mechanisms of cancer-related cognitive impairment
Chairman: Hélène CASTEL

• **10h00-10h30: Keynote Lecture KN1**

Sabine DEPREZ, *Translational MRI, LKI - KU Leuven Cancer Institute, Leuven, Belgium*

> Insights from neuroimaging on cancer-related cognitive impairment, brain changes and possible recovery

• **10h30-10h50: Invited Talk IT1**

Hélène CASTEL, *Inserm Director of Research, Université Rouen Normandie, Inserm CBG, Cancer and Cognition Platform, Cancéropôle Nord-Ouest, France*

> Meaningful preclinical models should establish the complex links between cancer, new therapies and brain function

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10h50-11h10: Coffee break- 20 min

11h10-12h10: Selected communication from abstracts SO1

- **11h10 – 11h20: Elodie PERES** *(Caen-France)* : Radiation-induced brain injury, animal model, cognitive deficits, fatigue, imaging biomarkers, blood biomarkers.
- **11h20 – 11h30: Renaud PARMENT** (*Rouen, France) :* Impact of circulating tumor exosomes on cognitive and/or emotional deficits associated with breast cancer.
- **11h30 – 11h40: Céleste NICOLA** (*Rouen, France) :* Immune check point inhibitors lead to cognitive and emotional deficits depending on cancer immunogenicity in mice.
- **11h40 – 11h50: Gina JOUE** *(Caen-France)* : Self-judgment modulates memory resources in breast cancer patients: a longitudinal fMRI study.
- **11h50 – 12h00: Pascal HILBER** *(Rouen-France)*: Influence of the cerebellum cancer-related cognitive and affective disorders: did we forget a key piece of the puzzle?
- **12h00 – 12h10: Gwen SCHROYEN** *(Leuven-Belgique)* : Cerebral metabolic glucose changes shortly after systemic chemotherapy and self-report complaints years later.

12h10-13h30: Lunch

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13h30-15h00: Session 2: Cancer and memory, sleep and cerebral correlates
Chairman: Bénédicte GIFFARD

- **13h30-14h00: Keynote Lecture KN2**
Alison MARY, *Center for Research in Cognition and Neurosciences (CRCN), Université libre de Bruxelles, Belgium.*

  Sleep and memory: contribution of functional neuroimaging

- **14h00-14h20: Invited Talk IT2**
Joy PERRIER, *Université Caen Normandie, U 1077, NIMH, France*

  Prospective memory consolidation and the impact of sleep in breast cancer

- **14h20-15h00: Selected communication from abstracts SO2**

  - **14h20 – 14h30: Mylène DUIVON** *(Caen-France)* : Cognitive change in breast cancer patients 18 months after cancer treatments: a two-year longitudinal analysis in a CANTO cohort subgroup.
  - **14h30 – 14h40: Giulia BINARELLI** (*Caen, France*) *:* A systematic review of digital physical and cognitive interventions for cancer-related cognitive impairment.
  - **14h40 – 14h50: Nathalie VANLAER** *(Belgique)* : Exploring cognitive impairment and the efficacy of integrative neurocognitive remediation therapy in metastatic melanoma survivors treated with immunotherapy or targeted therapy: a case series.
  - **14h50 – 15h00: Michelle MELIS** *(Leuven-Belgique)* : The impact of mindfulness on subjective and objective cancer-related cognitive impairment: A longitudinal randomized controlled trial.

15h00-15h20: Coffee break- 20 min

Session 3: Radiotherapy, brain tumors and cognition
Chairman: Samuel VALABLE

- **15h20-15h50: Keynote lecture KN3**
Damien RICARD, *Service de Neurologie Hôpital d'Instruction des Armées PERCY, Service de Santé des Armées, Clamart Centre Borelli UMR 9010/Université Paris-Saclay, France*

  Cognition in patients with brain tumors, how to care?

- **15h50-16h10 : Invited talk IT3**
Samuel VALABLE, *Directeur de Recherche CNRS, ISTCT UMR 6030-CNRS, CEA, Université de Caen-Normandie, France*

  Mutiparametric and multiscale assessment of the brain reactions to conventional and recently developed radiation therapies

- • 16h10-17h00: Selected communication from abstracts SO3

- 16h10 – 16h20: **Julie BECAM** *(Caen-France)* : The whole-brain irradiation induces skeletal muscle damage in the rat.
- 16h20 – 16h30: **Fatima-Azzahra DWIRI** *(Caen-France)* : Hemispheric versus whole-brain irradiation induced neurotoxicity: longitudinal studies in the rat.
- 16h30 – 16h40: **Martin PEDARD** (*Rouen, France*) : Chemoattraction of glioma cells in a therapeutic local hydrogel trap improves cognitive functions and survival in a mouse model of glioblastoma resection.
- 16h40 – 16h50: **Alice CAPUZ** (*Lille, France*) : Immunoglobulins expression in astrocytes and glioblastoma.
- 16h50 – 17h00: **Marie DUHAMEL** *(Lille-France)*: Spatial proteomics analysis of glioblastoma reveals molecular signatures and associates survival with specific markers of which the protein MAOB involved in depression.

17h10: Plenary Lecture PL2

S.B. Sanne SCHAGEN, *Division of Psychosocial Research & Epidemiology, The Netherlands Cancer Institute, Professor, Brain and Cognition Group, Psychology, University of Amsterdam, The Netherlands.*

How neuropsychology can impact cancer care

18h10: Closing event