IAEA
Atoms for Peace: The First Half Century
1957–2007

International Conference on Clinical PET and Molecular Nuclear Medicine (IPET-2007)

10 – 14 November 2007
Bangkok, Thailand

Organized by the International Atomic Energy Agency

Hosted by the Government of Thailand
through the Chulabhorn Cancer Centre, Chulabhorn Research Institute

ANNOUNCEMENT AND CALL FOR PAPERS

1. INTRODUCTION

The International Atomic Energy Agency is organizing its first international conference on "Clinical PET and Molecular Nuclear Medicine". Medical imaging technologies have undergone explosive growth over the past two decades. Today, imaging is at a crossroad, with molecular targeted imaging agents expected to broadly expand the capabilities of conventional anatomical imaging methods.

Observing molecular interactions in the living body by the radiotracer technique has become known as "molecular nuclear medicine". Molecular nuclear medicine techniques analyze cellular biochemistry and its relationship to disease processes expressed in tissue and organ dysfunction, for diagnostic and therapeutic purposes. People can often have similar manifestations of disease, but no two patients will be the same. Functional radionuclide imaging and positron emission tomography (PET) provide excellent opportunities to follow the pathology in individual patients and therefore provide a means for tailored clinical management. These also provide the means to assess the response to treatment in a safe and non-invasive manner. Changes at molecular and cellular levels provide vital clues for evaluating the effectiveness of chosen clinical treatment plans. This information is expected to have a major impact on understanding disease, disease detection, individualised treatment, and drug development.

Recently, considerable attention has been drawn to nuclear medicine with the visualization of biochemical processes *in vivo* such as PET studies with ^{18}F-FDG in many different organs and in cancerous tissues. With the arrival of PET/CT systems there is a new era of accurate mapping of disease processes. Today, ^{18}F-FDG is the most useful PET tracer for the detection, staging, treatment planning and management of cancer. There is mounting evidence for its competitive advantage over conventional techniques in major medical areas including oncology, cardiology,

and neurology.

Nuclear medicine is unique among all diagnostic and therapeutic procedures because nuclear medicine techniques are increasingly based on molecular targeting. Molecular nuclear medicine and radiopharmacology are central to the growth of nuclear medicine. The targeting models include the receptor-ligand model, antigen-antibody model, transporter-substrate model (FDG and Glut-1 transporter), enzyme-substrate model and complex or hybrid models. Numerous developments in these areas e.g. antisense targeting, mutation detection, aptamers, tumour antigens, tumour receptors, tumour metabolism, tumour hypoxia, tumour proliferation, apoptosis, angiogenesis, neuroreceptors and neurotransmitters, abnormal proteins in brain, response to infection, multiple drug resistance, reporter genes - all employing radioactive labels and being specific to a disease - provide strategic advantages.

There is a very significant growth in the installation of cyclotrons and with a few exceptions, these new cyclotrons cater for the production of radionuclides for medical application. Research into other ^{18}F labelled molecules including peptides and agents for tracking gene therapy has resulted in new radiopharmaceuticals such as ^{18}F-FLT, ^{18}F-FET etc. The quest for newer and more specific ^{18}F labelled radiopharmaceuticals keeps PET chemists busy all over the world. Other short-lived PET radionuclides such as ^{11}C, ^{13}N and ^{15}O, despite the logistical disadvantage of their short half lives, are increasingly used in neurology and in new pharmaceutical developments. The short half life of most of these radioisotopes makes it essential that the process is automated from irradiation to the dispensing stage so that the final radiopharmaceuticals are in compliance with the approved guidelines of Good Manufacturing Practices (GMP). There is a need to evolve appropriate guidelines for short shelf life radiopharmaceuticals.

2. OBJECTIVE OF THE CONFERENCE

The conference will cover developments in the entire spectrum of activities related to molecular imaging. This conference will have the following objectives:

- To evaluate the current status of clinical PET, molecular nuclear medicine and related radiopharmacology globally,
- To reflect on challenges of establishing PET in emerging countries,
- To deliver supporting “know how” via CME (Continuing Medical Education) programmes in the field of rapidly growing molecular imaging,
- To interact with the user group (physicians, radiologists, radiopharmacists, radiochemists, medical physicists, pharmacologists and other scientists working in all aspects of molecular nuclear medicine) and bring them the most important information in the field,
- To exchange information on the current advances in the field among leading clinical scientists from developed and developing countries,
- To identify future challenges and directions.

3. LIST OF TOPICS

The IAEA welcomes high quality contributions in all aspects of PET and molecular imaging services. Recognising that many Members States are still in the planning stage of acquiring clinical PET, these countries can positively contribute with papers on applications using SPECT, SPECT/CT in oncology and cardiology. Both academic and practice based papers under the umbrella of the following topics will be welcomed:

- Member State experience with PET and newer applications in Molecular Nuclear Medicine,

- Applications of SPECT or SPECT/CT with emphasis on Oncology and Cardiology,
- Cancer management and treatment planning with PET,
- Cyclotron, radiopharmaceuticals and generators for PET tracers,
- Quality Systems, Quality Control and Audits,
- PET in Cardiology and Neurology,
- Training and Education in the new era of Molecular Nuclear Medicine.

This international conference IPET 2007, under the auspices of the International Atomic Energy Agency, will give clinicians, scientists and professionals a true international opportunity to review the exciting developments in all aspects of clinical PET and molecular nuclear medicine with view to addressing the health challenges common to many Member States.

4. PROGRAMME STRUCTURE

Following the Opening and Reception on Saturday 10 November the scientific programme will start early each day with a Continuing Medical Education (CME) session. Each CME session will cover elements of the day's topic from basic principles to fundamentals of image/case evaluation under guidance of invited international lecturers and practitioners. The rest of the day is divided into three main sessions. Each session will have 2-3 keynote speakers who will be invited to present topical reviews or new developments. Each session will be closed after discussion following 2-3 oral presentations from contributed papers. The majority of contributed papers will be in the form of poster presentations to facilitate discussion and interaction. Two work-shops with panel discussion on "Challenges and setting up a PET programme: Developing countries-experience" and "Training and education" will be held.

5. CONTRIBUTED PAPERS AND POSTERS

All papers – other than invited review papers – must present **original** work and must not have been published elsewhere.

(a) Submission of synopses

Persons who wish to present a paper or poster at the conference must submit an extended synopsis (in English) of 800 words maximum (i.e. two A4 format pages of single spaced typing or the equivalent, including any tables or diagrams and a few pertinent references) on one of the topics listed under Section 3. The extended synopsis should be submitted together with the completed Form for Submission of a Paper **(Form B)**, and the Participation Form **(Form A)** to the competent national authority (see Section 15) for official transmission to the IAEA in time for them to be received by the IAEA by **12 March 2007**. In addition, the synopsis must be sent electronically to the IAEA scientific secretariat, Email: ipet2007@iaea.org

Authors are urged to make use of the Synopsis Template in Word 2000 on the conference web page (see Section 16). The specifications and instructions for preparing the synopsis and how to use the synopsis template are given in the attached instructions on "How to prepare the synopsis and how to submit it electronically". Also attached is a "Sample Extended Synopsis".

The synopsis should give enough information on the contents of the proposed paper to enable the selection committee to evaluate it. Key elements to be included are a brief introduction, methods, results, discussions, and conclusions. The synopsis – if accepted – will be reproduced in **unedited** form in the Book of Extended Synopses; the original must therefore be submitted as a camera-ready copy in a form in which the author will wish to have the work presented. The general style and presentation should be as in the attached sample.

(b) Acceptance of Papers for Oral Presentation and Poster Presentation

Given the number of papers anticipated and the need to provide ample time for discussion, the number of papers that can be accepted for oral presentation is limited. Authors who would prefer to present their papers in a poster session are requested to indicate this preference on **Form A** with which they send the extended synopses.

Authors will be informed by **20 May 2007** whether their papers/posters have been accepted for presentation on the basis of the extended synopsis. Guidelines for the preparation of the papers and the deadlines for their submission will be provided at that time.

The IAEA reserves the right to decline to present or publish any paper that does not meet expectations based on the information in the extended synopsis.

Further details about the preparation of papers and oral presentation at the conference will be sent to the authors of the papers accepted together with notification of acceptance.

6. EXPENDITURES

No registration fee is charged to participants.

As a general rule, the IAEA does not pay the cost of attendance, i.e. travel and living expenses, of participants. However, limited funds are available to help meet the cost of attendance of selected specialists mainly from **developing countries with low economic resources**. The grants awarded will be in the form of lump sums usually covering only part of the cost of attendance. In general, not more than one grant will be awarded to any one country.

If governments wish to apply for a grant on behalf of one of their specialists, they should address specific requests to the IAEA to this effect. Governments should ensure that applications for grants:

(a) are submitted by **12 March 2007**;

(b) are accompanied by a duly completed and signed Grant Application Form (as attached).

Applications that do not comply with the conditions mentioned under (a) and (b) cannot be considered.

The costs for the organization of the meeting are borne by the IAEA and the Host Government.

7. KEY DEADLINES

Submission of synopses (800 words): 12 March 2007
Notification of paper/poster acceptance: 20 May 2007
Submission of full papers: 15 September 2007

8. CONFERENCE PROCEEDINGS

The proceedings of the meeting will be published by the IAEA as soon as possible after the conference. It will contain edited versions of invited keynote lectures, selected contributed papers and a CD-ROM containing all the posters.

9. DISTRIBUTION OF DOCUMENTS

A preliminary programme of the conference will be sent to participants in advance. The final programme and the book of abstracts will be distributed at registration.

10. PARTICIPATION

All persons wishing to participate in the conference are requested to **register in advance online**. In addition they must send a completed Participation Form (Form A) and if relevant, the Paper Submission Form (Form B) and the Grant Application Form (Form C) through the competent official authority (Ministry of Foreign Affairs or national atomic energy authority) to the IAEA.

Participants will be accepted only if the Participation Form is transmitted through the competent official authority of a Member State of the IAEA or by an organization invited to participate. Participants whose official designation has been received by the IAEA will receive further information on the conference approximately three months prior to the conference. This information will also be posted on the conference website.

11. EXHIBITIONS

A limited amount of space will be available for commercial vendors' displays/exhibits during the Conference. Interested parties should contact the scientific secretariat by e-mail: ipet2007@iaea.org, before **31 January 2007.**

12. WORKING LANGUAGE

The working language of the conference will be English**.**

13. ACCOMMODATION

Detailed information on accommodation and other conference related information will be sent to all designated participants well in advance of the conference. This information will also be available at the conference web site.

14. VISA

Designated participants who require a visa to enter Thailand should submit the necessary application to the nearest diplomatic or consular representative of Thailand as soon as possible. Participants are recommended to refer to the conference web site where relevant information will be made available.

15. CHANNELS OF COMMUNICATION

The Participation Form and as applicable, the Form for Submission of a Paper/Poster, and the Grant Application Form, should be sent to the competent national authority (Ministry of Foreign Affairs, national atomic energy authority) for official transmission to the IAEA.

16. CONFERENCE SECRETARIAT

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary and correspondence on administrative matters to the IAEA Conference Services Section.

17. CONFERENCE WEB PAGE

Please visit the IAEA conference web page regularly for new information regarding this conference:
http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=157