A. Introduction

The International Atomic Energy Agency is organizing the second International Conference on Clinical PET and Molecular Nuclear Medicine (IPET 2011), following the successful IPET conference held in 2007 in Bangkok, Thailand. Medical imaging technologies have undergone rapid growth over the past two decades. Today, imaging is at a crossroads, with molecular targeted imaging agents expected to significantly expand the capabilities of conventional anatomical imaging methods.

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. They also make it possible 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, individualized 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 18F-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, 18F-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.

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 18F labelled molecules including peptides and agents for tracking gene therapy has resulted in new
radiopharmaceuticals such as 18F-FLT, 18F-FET etc. The quest for newer and more specific 18F and 68Ga labelled radiopharmaceuticals keeps PET chemists busy all over the world. Other short-lived PET radionuclides such as 11C, 13N and 15O, 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.

**B. Objective of the Conference**

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

- To evaluate the current status of clinical PET, molecular nuclear medicine and related radiopharmacology with emphasis on cancer;
- To reflect on the challenges of establishing PET in emerging countries;
- To deliver supporting know-how via continuing medical education (CME) programmes in the field of rapidly growing molecular imaging, including educational activities;
- To improve the performance of clinical practice through read with experts (RWE) sessions and workshops;
- To interact with the user group (nuclear physicians, radiologists, technologists, radiographers, radiopharmacists, radiochemists, medical physicists 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.

**C. List of Topics**

The IAEA welcomes high quality contributions in all aspects of PET and molecular nuclear medicine services. Recognizing 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 and 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 PET and SPECT with emphasis on oncology, neurology, cardiology and infection;
• Cancer management and treatment planning with PET;
• Cyclotrons and generators for PET tracers;
• Radiopharmaceutical production, good manufacturing practices (GMP) and quality assurance;
• PET in translational research;
• PET and SPECT physics, instrumentation and data analysis;
• Quality systems, quality control, quality assurance and audits in nuclear medicine practice;
• Radiation protection for personnel and dose reduction for patients;
• Training and education in PET and molecular nuclear medicine.

D. Target Audience

This international conference IPET 2011, under the auspices of the International Atomic Energy Agency, will give clinicians, scientists and professionals an international opportunity to review the exciting developments in all aspects of clinical PET and molecular nuclear medicine with a view to addressing the health challenges common to many Member States.

E. Programme Structure

The opening ceremony will take place in the morning of Tuesday, 8 November 2011. The scientific programme will start early each day with CME sessions covering selected topics of general interest to all participants, providing a journey from the basics of PET to its clinical applications, comprising all the components involved in today’s PET practice. After lunch, breakout sessions for physicians, physicists, technologists and radiopharmacist/radiochemist, will be conducted in parallel. The clinical sitting will include a main lecture and a related read with experts session; the Radiopharmacy and Physics and Instrumentation sessions will include workshops in selected topics.
F. Abstracts, Papers and Proceedings

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

Persons who wish to present a poster at the conference must submit an abstract of 500 words maximum on one of the topics listed under Section C. The abstract should give enough information on the contents of the proposed paper to enable the selection committee to evaluate it. Introductory and general matters should not be included.

F.1. Submission of abstracts

Persons who wish to present a poster at the conference must submit an abstract in accordance with the guidelines below:

- It should be written in English;
- It should indicate to which of the topics outlined in Section C above it relates;
- It should be a maximum of 500 words (including title);
- It should not use more than one figure, graph or table;
- It should not use references;
- It should be written using the abstract template on the conference website (see Section Q);
- It should be submitted by **15 February 2011** in hard copy through a competent national authority of the participant’s country (Section N) together with the attached Form B (Paper Submission Form) and Form A (Participation Form). In addition, the abstract should be submitted electronically in Microsoft Word format to ipet2011@iaea.org.

F.2. Acceptance of abstracts for poster presentations

Only papers that have been received by the above deadline and through the appropriate official channels will be considered by the selection committee. The Secretariat reserves the right to exclude papers that do not comply with its quality standards and do not apply to one of the topics in Section C above.

Authors will be informed by **15 May 2011** if their abstracts have been accepted for poster presentation. The abstracts, if accepted by the selection committee, will also be reproduced unedited in the Book of Abstracts which will be distributed to all participants at the conference.

Furthermore, selected abstracts will be published as full papers in the Proceedings of the Conference. Authors of selected papers will be notified accordingly by **15 May 2011** (deadline for submission of full paper: 15 August 2011).

F.3. Conference proceedings

The proceedings of the meeting will be published by the IAEA as soon as possible after the conference.
G. Participation

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

A participant will be accepted only if the Participation Form is transmitted through the government of a Member State of the IAEA or by an organization invited to participate.

Participants whose official designations have been received by the IAEA will receive further information on the conference at least three months before the meeting. This information will also be available on the conference website (see Section Q).

H. Expenditures

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of designated participants to the conference. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of selected specialists from Member States eligible to receive technical assistance under the IAEA's technical cooperation programme. Such assistance may be offered, upon specific request, provided that in the IAEA's view the participant will make an important contribution to the meeting. 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 are:

1. Submitted by 15 February 2011;
2. Accompanied by a duly completed and signed Grant Application Form (Form C);
3. Accompanied by a completed Participation Form (Form A).

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually covers only part of the cost of attendance.
I. Distribution of Documents

A preliminary programme will be posted on the IAEA conference website as soon as possible. The final programme and the Book of Abstracts will be available free of charge upon registration at the conference.

J. 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 email: ipet2011@iaea.org, before 31 January 2011.

K. Working Language

The working language of the conference will be English.

L. Accommodation

Detailed information on accommodation and other administrative details will be available on the conference website well in advance of the conference.

M. Visa

Designated participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least 4 weeks before entry into Austria. Please note that Austria is a Schengen State and therefore persons who require a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.
N. 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.

O. Key Deadlines

Submission of Form B and abstract (max 500 words): 15 February 2011
Submission of Form C: 15 February 2011
Notification of acceptance of abstract: 15 May 2011
Submission of full paper (only upon request by the IAEA): 15 August 2011

P. 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.

Q. 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=38296