

## **CONTENTS**

### **PLENARY LECTURE**

Disease as dissonance: PET/SPECT imaging in communication disorders (IAEA-SM-337/42) .....	3
<i>H.N. Wagner, Jr.</i>	

### **INSTRUMENTATION AND DATA ANALYSIS (Session 1)**

Instrumentation for PET and SPECT studies (IAEA-SM-337/38) .....	19
<i>E. Tanaka</i>	
Forward projection analysis and image surgery: An approach to quantitative tomography (IAEA-SM-337/4) .....	31
<i>V.U. Chengazi, C.C. Nimmon, K.E. Britton</i>	
Noise property of two dimensional reconstructed positron images of a concentrical uniform activity in a uniform attenuation disc (IAEA-SM-337/18) .....	45
<i>H. Murayama, N. Nohara</i>	
Stages in the development of a dedicated positron emission tomography system for imaging small animals (IAEA-SM-337/24) .....	59
<i>S. Rajeswaran, N.M. Spyrou, T. Jones</i>	
Contrast detail phantom for SPECT (IAEA-SM-337/3) .....	73
<i>M.L. de Cabrejas, J.G. Arashiro, C. Giannone, M. Camuyrano, G. Nohara</i>	
Strategy for creating accurate functional imaging with PET and its relevance to SPECT (IAEA-SM-337/39) .....	81
<i>T. Jones</i>	

### **TUMOURS AND INFECTION (Session 2)**

Imaging of tumours (IAEA-SM-337/40) .....	91
<i>K.E. Britton, M. Granowska</i>	
Evaluation of lumps in the breast using $^{99}\text{Tc}^m$ -MIBI tomography (IAEA-SM-337/2) .....	107
<i>A. Aziz, W. Hyder, N.A. Kizilbash</i>	
SPECT imaging for breast cancer staging (IAEA-SM-337/34) .....	119
<i>E. Piperkova, I. Gavrilov, A. Grueva, A. Milev</i>	

<sup>99</sup> Tc <sup>m</sup> -MIBI SPECT imaging in diagnosis of primary lung cancer (IAEA-SM-337/14) .....	129
<i>H. Hadjikostova</i>	
Detection of primary lung cancer by means of single photon emission computed tomography with <sup>99</sup> Tc <sup>m</sup> -MIBI (IAEA-SM-337/23) .....	135
<i>P. Pusawan, P. Pattaranuthaporn, W. Dejsomritrutai, R. Chanachai, R. Pleehachinda</i>	
Immunoscintigraphy in colorectal cancer (IAEA-SM-337/37) .....	141
<i>M. Poshyachinda, T. Chaiwatanarat, N. Saesow, S. Thitathan, N. Voravud</i>	
Role of SPECT immunoscintigraphy with radiolabelled monoclonal antibodies for the early detection of malignancy and infection (IAEA-SM-337/11) .....	155
<i>I.I. Garty, S.A. Bikov, A.N. Serafini</i>	
PET with <sup>18</sup> FDG and SPECT with <sup>99</sup> Tc <sup>m</sup> -SESTAMIBI for therapy management in patients with treated malignant lymphomas (IAEA-SM-337/30) .....	167
<i>L.G. Strauss, A. Dimitrakopoulou-Strauss, H. Goldschmidt, W.J. Lorenz, G. Van Kaick</i>	
PET studies in patients with liver metastases receiving chemotherapy (IAEA-SM-337/6) .....	177
<i>A. Dimitrakopoulou-Strauss, L.G. Strauss, F. Oberdorfer, P. Schlag, W.J. Lorenz, G. Van Kaick</i>	
PET studies with <sup>18</sup> F-deoxyglucose and <sup>15</sup> O labelled water in patients with liver metastases (IAEA-SM-337/7) .....	185
<i>A. Dimitrakopoulou-Strauss, L.G. Strauss, W. Tilgen, F. Oberdorfer, G. Van Kaick</i>	

### BONES AND JOINTS (Session 3)

Pinhole scan and single photon emission computed tomography in the diagnosis of bone and joint diseases (IAEA-SM-337/41) .....	197
<i>Yong Whee Bahk</i>	
Scintigraphy of spinal disorders: Comparison of bone SPECT with planar images (IAEA-SM-337/22) .....	215
<i>P. Orellana, E. Olea, J.C. Quintana, C. Fuentes, S. Astudillo</i>	
Valoración de articulaciones de miembros inferiores mediante SPECT óseo en el adulto y en el niño: Aspectos técnicos e indicaciones (IAEA-SM-337/12) .....	221
<i>J. Gaudiano, M. Figueredo, A. Prodanov, R. Dalenz, J.C. Hermida, C. Oliveira, S. Rodríguez, A. Paolino</i>	

## THE BRAIN (Session 4)

Brain studies using SPECT and PET (IAEA-SM-337/43) .....	233
<i>K. Uemura</i>	
$^{201}\text{Tl}$ and $^{99}\text{Tc}^m\text{-HMPAO}$ SPECT imaging in brain lesions (IAEA-SM-337/17) .....	259
<i>H. Moustafa, W.M. Omar, A.H. Sadik, S.M. Moustafa, S. El-Haddad</i>	
SPECT imaging of secreting pituitary adenomas using $^{99}\text{Tc}^m$ isonitriles (CPI and SESTAMIBI) (IAEA-SM-337/19) .....	269
<i>F. Mut, C. Aboal, A. Aznárez, M. Núñez, M. Briano, B. Borovich</i>	
Clinical investigation of elderly patients with central nervous system diseases using SPECT and $^{99}\text{Tc}^m\text{-HMPAO}$ (IAEA-SM-337/15) .....	277
<i>Wen Xing Chen, Xiang Tong Lin, Yong Chang Liu, Yi Hui Guan</i>	
Regional cerebral blood flow by brain SPECT $^{99}\text{Tc}^m\text{-HMPAO}$ in patients with Parkinson's disease before and after foetal tissue transplantation: Report of four cases (IAEA-SM-337/29) .....	281
<i>C. Sánchez-Catasus, N. Rodríguez, L. Alvarez, H. Molina, J. Muñoz</i>	
Evaluación del flujo sanguíneo cerebral regional con ECD en consumidores de pasta básica de cocaína (IAEA-SM-337/1) .....	289
<i>N. Alvarado-Ruiz, S. Eskenazi</i>	
Hábito regional del mascado de coca: Estudio de la perfusión cerebral (IAEA-SM-337/28) .....	295
<i>V.E. Soroa, M. Melero, O.J. Degrossi, H.G. del Río,         J. Higa, I. Casas-Parera</i>	
Experience with $^{99}\text{Tc}^m\text{-HMPAO}$ brain SPECT in epileptic patients (IAEA-SM-337/33) .....	309
<i>J. Záhlava, Z. Salcmanová</i>	
Ictal $^{99}\text{Tc}^m\text{-HMPAO}$ SPECT compared with video EEG monitoring and MRI in localizing the neocortical epileptogenic region (IAEA-SM-337/35) .....	315
<i>June-Key Chung, Eun Sil Kim, Kyung Han Lee,         Sang Gun Lee, Myung Chul Lee, Chang-Soon Koh</i>	
Estudio de perfusión cerebral con SPECT en epilepsia focal, con utilización de $^{99}\text{Tc}^m$ (IAEA-SM-337/21) .....	321
<i>J.C. Quintana, J. Lasso, E. Olea, J. Godoy,         P. Orellana, F. Sanhueza, J. Nagel</i>	
Interictal brain $^{99}\text{Tc}^m\text{-HMPAO}$ SPECT study in cases of epilepsy with single ring enhancing CT lesion (IAEA-SM-337/8) .....	329
<i>P. Dougall, S.K. Jha, G.K. Ahuja, M. Behari</i>	

Contribution of $^{99}\text{Tc}^m$ -HMPAO SPECT in the evaluation of temporal lobe epilepsy (IAEA-SM-337/32) .....	335
<i>L.Y.I. Yamaga, E.M. Yacubian, R. Valerio, C. Jorge, C.A. Buchpiguel, F.H. Hironaka, A.L. Dias Neto</i>	
Método automático para la reorientación y centrado de imágenes tomográficas de perfusión cerebral (IAEA-SM-337/25) .....	347
<i>L.A. Torres, J.L. Rodríguez, O. Pereztol, A. Perera</i>	

#### RADIOPHARMACEUTICALS AND THE KIDNEYS (Session 5)

Radiopharmaceuticals for PET studies (IAEA-SM-337/44) .....	359
<i>B. Långström, M. Bergström, P. Hartvig, A. Sundin, R. Takola, S. Valind, R. Torstenson, G. Antoni, P. Bjurling, K.-J. Fasth, G. Westerberg, Y. Andersson, T. Kihlberg, G. Jacobson, M. Ögren, H. Neu, Y. Watanabe</i>	
Método para el procesamiento de SPECT renal con $^{99}\text{Tc}^m$ -DMSA (IAEA-SM-337/26) .....	377
<i>J.L. Rodríguez, A. Perera, R. Fraxedas</i>	

#### THE HEART (Session 6)

Comparison of SPECT and planar images of $^{99}\text{Tc}^m$ -tetrofosmin labelled myocardium using ROC analysis (IAEA-SM-337/5) .....	387
<i>R.S. Khattar, B. Sridhara, U. Raval, J.C.W. Crawley, A. Lahiri</i>	
Effect of myocardial perfusion abnormalities measured by SPECT on left ventricular function (IAEA-SM-337/13) .....	395
<i>A. Gawlik, M. Wypych, S. Patyra, J. Busz, B. Bogdanska, B. Chrapko, A. Tarkowska</i>	
Myocardial revascularization assessment using diastolic quantitative SESTAMIBI perfusion SPECT and 2-D echocardiography pre- and post-procedure (IAEA-SM-337/16) .....	403
<i>T. Massardo, P. González, A. Muñoz, J. Jofré, P. Humeres, J. Yovanovich, E. Maiers, P. Hidalgo</i>	
Four point segmental perfusion scoring for myocardial scintigraphy: Validation using quantitative SPECT analysis (IAEA-SM-337/31) .....	415
<i>A.O. Martínez, R.V. Ogbac, J.M. Obaldo, O.P. Monzon, J.F. Torres, Jr.</i>	
Estudio de viabilidad miocárdica con talio 201 en el paciente infartado: ¿Es necesaria la reinyección? (IAEA-SM-337/20) .....	427
<i>C. Fuentes, E. Olea, P. Orellana, J.A. Rodríguez, P. Casanegra, P. Frangini, O. Acuña</i>	

## **PANEL SUMMARY**

The future and direction of tomography in nuclear medicine for developing countries .....	437
Chairpersons of Sessions and Secretariat of the Symposium .....	441
List of Participants .....	443
Author Index .....	451
Index of Papers by Number .....	453