

Session 2.4

Supporting Human Health through Radiopharmaceutical Production

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Nuclear and Energy Research Institute (IPEN) is a state autarchy managed technically and administratively by the Brazilian National Nuclear Energy Commission (CNEN) affiliated with the ministry of Science, Technology, Innovation and Communications and for Education purposes is associated with the University of Sao Paulo.

MISSION IPEN

Our commitment is to improve the quality of life of the population by producing scientific knowledge, developing technology, generating products and services, and training human resources.

MISSION Radiopharmacy Center

Develop and produce radioisotopes and radiopharmaceuticals for diagnosis and therapy in nuclear medicine, contributing to the improvement of the quality of life of patients.



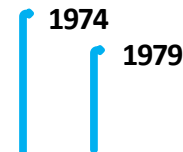
^{131}I labelled molecules

Lyophilized production for labelling with $^{99\text{m}}\text{Tc}$



INTERNATIONAL ATOMIC ENERGY AGENCY
20th REGULAR SESSION OF THE GENERAL CONFERENCE
september 1976 rio de janeiro BRAZIL

BRA6005 Nuclear Medicine 1976



^{131}I MIBG

^{51}Cr Labelled molecules

$^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ Generator

^{67}Ga

^{123}I

BRA6006 - Radiopharmaceuticals 1980

RLA - Quality Control of Nuclear Medicine

Procedures in Vivo 1980

BRA 6008 - Radioisotopes in Clinical Medicine 1981

BRA6009 - Radioisotopes in Medicine 1982

BRA6010 - Radioisotopes in Medicine 1983

**RLA - TC on production and control of
radiopharmaceuticals 1983**

BRA4039 - Production of Molybdenum-99 1989

1980

1981

1989



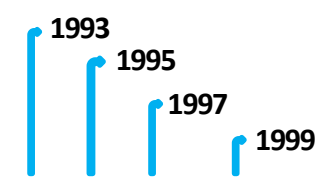


^{201}Tl
 $^{153}\text{Sm-EDTMP}$
 $^{18}\text{F-FDG}$
 ^{131}I capsule



BRA4040 - Radioisotope Production with a Cyclotron **1991**
RLA - Quality Assurance in Nuclear Medicine **1993**
RLA - TC on Radiopharmacy **1993**
BRA6013 - Traceability of Radionuclide Measurements and QA in Medicine **1999**

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^{131}I Iodide dry distillation technique

^{111}In -Octreotide

^{177}Lu Dotatate

^{18}F -NaF

CRP - Optimization of synthesis and quality control procedures for the preparation of fluorine-18 and iodine -123 labelled peptides

2000

RLA - Preparación, controle de calidad y validación de radiofármacos de $^{99\text{m}}\text{Tc}$, basados em anticuerpos monoclorares

2004

CRP - Development of Generator Technologies for Therapeutic Radionuclides (^{188}W - ^{188}Re e ^{90}Sr - ^{90}Y)”

2004

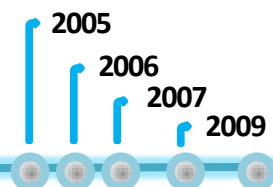
CRP - Development of therapeutic radiopharmaceuticals based on ^{177}Lu for radionuclide therapy

2005

RLA - Strengthening Quality Assurance in Nuclear Medicine

2009

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^{68}Ga -DOTATATE

^{18}F -Choline

^{18}F -FLT



CRP – Development of Therapeutic Radiopharmaceuticals Based on ^{188}Re and ^{90}Y for Radionuclide Therapy – **2008**

CRP - Developing Techniques for Small-Scale Indigenous Mo-99 Production using LEU Fission or Neutron Activation **2009**

CRP – Preclinical Evaluation and Formulation of ^{177}Lu and ^{90}Y – Labelled and Monoclonal Antibodies for Cancer Therapy **2010**

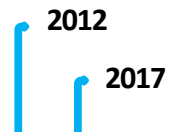
CRP - Development of ^{68}Ga based PET radiopharmaceuticals for management of cancer and other chronic diseases - **2013**

RLA - Curso Regional de Capacitación sobre Validación **2016**

BRA6027 - Improving protocols in nuclear medicine services and in the development of new radiopharmaceuticals **2016**

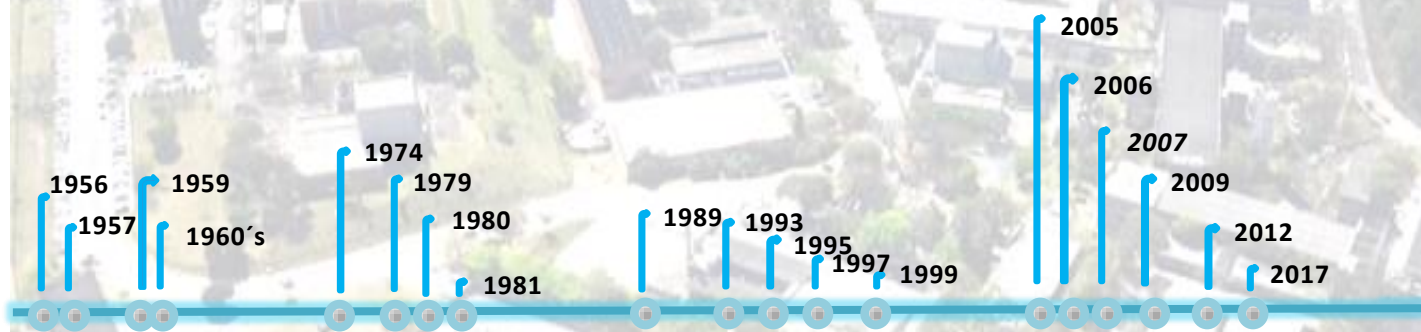
CRP - Copper-64 Radiopharmaceuticals for Theranostic Application **2017**

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^{64}Cu

^{68}Ga -PSMA



To be continued...

^{177}Lu -PSMA

^{18}F -FES



Thank you

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