Monday 26/7

Solid Targets ^{64}Cu Chairpersons: Nickles and Lapi

09:00-10:45

10 min presentations

31. Technical pitfalls in the production of ^{64}Cu with high specific activity

J. Rajander[1], J. Schlesinger[1], M. Avila-Rodriguez[1,2] and O. Solin[1]

[1]Turku PET Centre, Turku University and Åbo Akademi University, Finland

[2]Unidad PET/CT-Ciclotrón, Facultad de Medicina, Universidad Nacional Autónoma de México, Mexico-City, Mexico

20. OPTIMISATION OF AN ELECTROPLATING PROCESS TO PREPARE A SOLID TARGET FOR (p,n) BASED PRODUCTION OF COPPER-64

C. Jeffery[1,2], S. Chan[1], D. Cryer[1], A. Asad[1], RAPID Group[1]; R.I. Price[1,3]

[1]Medical Technology and Physics, Sir Charles Gairdner Hospital; [2]Chemistry & [3]Surgery, University of WA, Perth, Western Australia

17. Routine Production of Cu-61 and Cu-64 at the University of Wisconsin

Jonathan W Engle, Todd E Barnhart, and Robert J Nickles

University of Wisconsin, Madison, USA

29. PRODUCTION OF NO CARRIER ADDED ^{64}Cu & ^{55}Co FROM A NATURAL NICKEL SOLID TARGET USING AN 18 MeV CYCLOTRON PROTON BEAM

A. H. Asad[1,2], C. Jeffery[1], S.V. Smith [3], S. Chan[1], D. Cryer[1] & R. I. Price[1,4]

[1]Radiopharmaceutical Production & Development (RAPID) Laboratory, Medical Technology and Physics, Sir Charles Gairdner Hospital, Perth, Australia

[2]Imaging and Applied Physics, Curtin University of Technology, Perth, Australia

[3]Australian Nuclear Science and Technology Organisation (ANSTO), Sydney, Australia

[4]School of Physics, University of Western Australia, Perth, Australia

5. Mass Production of ^{64}Cu with ^{64}Ni(p,n)^{64}Cu Nuclear Reaction

Kwon Soo Chun*, Hyun Park, Jaehong Kim

Korea Institute of Radiological and Medical Sciences, Seoul, Korea

* Corresponding author: kschun@kcch.re.kr

44. PC-controlled radiochemistry system for preparation of NCA ^{64}Cu

Adam Rebeles R., Van den Winkel P., De Vis L., Waegeneer R.

Cyclotron Laboratory, Vrije Universiteit Brussel (VUB), Brussels, Belgium

23. Production of therapeutic quantities of ^{64}Cu and ^{119}Sb for radionuclide therapy using a small PET cyclotron

H. Thisgaard[a], M. Jensen[b], D. R. Elema[b]
[a] Odense PET Centre, Dept. of Nuclear Medicine, Odense University Hospital, Sdr. Boulevard 29, DK-5000 Odense C, Denmark.
[b] The Hevesy Laboratory, Radiation Research Department, Risoe National Laboratory for Sustainable Energy, Technical University of Denmark, P.O. 49, DK-4000 Roskilde, Denmark.

Solid Targets Chairpersons:Ruth and Nortier

11:00-12:00

10 min presentations

26. A solid $^{110, 111, 114m}$Indium target with online thermal diffusion activity extraction- Work in progress

Jonathan Siikanen[a,b] and Anders Sandell[b]
[a]Lund University, Medical Radiation Physics, Barngatan 2:1, 221 85 Lund, Sweden
[b]University Hospital in Lund, Radiation Physics, Klinikgatan 7, 221 85 Lund, Sweden

50. Operating RbCl Targets Beyond the Boiling Point? – Work in progress

F.M. Nortier[1], H.T. Bach[1], M. Connors[1], K.D. John[1], J.W. Lenz[2], F.O. Valdez[1], J.W. Weidner[1]
[1]Los Alamos National Laboratory, Los Alamos, New Mexico, USA
[2]John W. Lenz & Associates, Waxahachie, Texas, USA

13. CYCLOTECH – A method for Direct Production of ^{99m}Tc using Low Energy Medical Cyclotrons

Johnson RR[1], Wm. Gelbart[2], Benedict M[3], Cunha L[4], Metello LF[4]
[1] – Best Cyclotrons Systems Inc (BSCI - Team BEST), Ottawa, Canada and University of British Columbia, Vancouver, Canada;
[2] – Advanced Systems Design (ASD), Garden Bay, Canada;
[3] - Molecular Diagnostics and Therapeutics Inc. (MDTI), Longmont, Colorado, USA;
[4] – Isótopos para Diagnóstico e Terapêutica SA (IsoPor SA), Porto, Portugal and Nuclear Medicine Department of the High Institute for Allied Health Technologies of Porto, Polytechnic Institute of Porto (ESTSP.IPP), Porto, Portugal.

42. Liquid target system for production of ^{86}Y

Jan Ráliš, Ondřej Lebeda and Josef Kučera
Nuclear Physics Institute of the Academy of Sciences of the Czech Republic, public research institution, Husinec-Řež 130, 250 68 Husinec-Řež, Czech Republic

Solid Targets Chairpersons: Schweickert and Mackay

14:15-15:00

10 min presentations

53. Using the neutron flux from p,n reactions for n,p reactions on medical cyclotrons

Jonathan Siikanen[a,b] and Anders Sandell[b]
[a]Lund University, Medical Radiation Physics, Barngatan 2:1, 221 85 Lund, Sweden
[b]University Hospital in Lund, Radiation Physics, Klinikgatan 7, 221 85 Lund, Sweden

11. Thermal modelling of a solid cyclotron target using finite element analysis: An experimental validation

K. Gagnon, J.S. Wilson, and S.A. McQuarrie
Edmonton PET Centre, Cross Cancer Institute, University of Alberta, Edmonton, AB, CANADA

52. Direct production of Ga-68 from proton bombardment of concentrated aqueous solutions of [Zn-68] Zinc Chloride.

Mikael Jensen[1] and John Clark[2]
[1]The Hevesy Laboratory, Risoe-Technical University of Denmark, kmje@risoe.dtu.dk
[2]University of Edinburgh, College of Medicine and Veterinary Medicine, UK, jcc240@gmail.com

Solid Targets

15:15-16:00

10 min presentations

37. Cyclotron production of ^{99m}Tc via the ^{100}Mo(p,2n)^{99m}Tc reaction

K. Gagnon[1], F. Bénard[2], M. Kovacs[3], T.J. Ruth[4], P. Schaffer[4], and S.A. McQuarrie[1]
[1] Edmonton PET Centre, Cross Cancer Institute, University of Alberta, Edmonton, AB, CANADA
[2] BC Cancer Agency, Vancouver, BC, CANADA
[3] Lawson Health Research Institute, London, ON, CANADA
[4] TRIUMF, Vancouver, BC, CANADA

39. Targets for Cyclotron Production of Tc-99m

E.J. van Lier[1], J. Garret[2], B. Guerin[3], S. Rodrigue[3], J.E. van Lier[3], S. McQuarrie[4], J. Wilson[4], K. Gagnon[4], M.S. Kovacs[5], J. Burbee[1], A. Zyuzin[1]
[1]Advanced Cyclotron Systems Inc., Richmond, BC, Canada
[2]Brockhouse Institute for Materials Research, McMaster University, Hamilton, ON, Canada
[3]Sherbrooke Molecular Imaging Center, Université de Sherbrooke, QC, Canada
[4]Dept Oncologic Imaging, Cross Cancer Institute, Edmonton, AB, Canada
[5]Department of Medical Biophysics, University of Western Ontario, London, ON, Canada

38. Cyclotron Production of ^{99m}Tc

A. Zyuzin[1], B. Guérin[2], E. van Lier[1], S. Tremblay[2], S. Rodrigue[2], J.A. Rousseau[2], V. Dumulon-Perreault[2], R. Lecomte[2], J.E. van Lier[2]
[1]Advanced Cyclotron Systems Inc., Richmond, BC, Canada
[2]Sherbrooke Molecular Imaging Center, Université de Sherbrooke, QC, Canada

Tuesday 27/7 *Chairpersons: Lewis and Gillings*

Chemistry

8:35-10:50,

10 min presentations

36. Comparison of [^{11}C]CH_3I yields from 2 in-house Methyl Iodide Production systems – Does size matter?

Salma Jivan, Ken R. Buckley, Wade English & James P. O'Neil[1]
UBC/TRIUMF PET Program, 4004 Wesbrook Mall, Vancouver, B.C., Canada
[1]Lawrence Berkeley National Laboratory, 1 Cyclotron Road, Berkeley, CA, U.S.A.

34. Evolution of a High Yield Gas Phase $^{11}CH_3I$ Rig at LBNL

James P. O'Neil, James Powell, Mustafa Janabi
Biomedical Isotope Facility, Lawrence Berkeley National Laboratory, Berkeley CA USA

21. Streamlined measurement of the specific radioactivity of in target produced [^{11}C]methane by on-line conversion to [^{11}C]hydrogen cyanide.

1) Jacek Koziorowski and 2) Nic Gillings
1) Herlev Hospital Copenhagen University, Denmark, 2) Copenhagen University Hospital, Rigshospitalet

24. The chemistry of high temperature gas phase production of methyliodide

L. van der Vliet, G. Westera*
Veenstra Instruments, Joure, The Netherlands, *University Hospital, Center for Radiopharmaceutical Science, Zurich, Switzerland,

48. Non-HPLC Methods for the Production of F-18, C-11 and Ga-68 PET Tracers

Alexander Yordanov[1], Damion Stimson,[2] Didier Le Bars,[5] Seth Shulman[1], Matthew J. Combs[1], Ayfer Soylu,[4] Hakan Bagci,[4] and Marco Mueller[3]
[1] Bioscan, Inc., Washington, DC, U.S.A.
[2] Royal Brisbane Hospital, Brisbane, Queensland, Australia
[3] ABX, Radeburg, Germany
[4] Ezcacibasi-Monrol, Ankara, Turkey
[5] CERMEP, Lyon, France

5 min presentations

7. Integrated GMP PET Radiotracer Production and Dispensing Facility

C. Lucatelli[1], D. B. Mackay[1], G. Mokosa[2], C. Arth[2], R.C. van Ham, M.A.B. Willemsen[3], J. C.Clark[1]

[1]University of Edinburgh, CRIC, [2]Millipore France, [3]Von Gahlen Nederland B.V

6. Activity Delivery System

D.B.Mackay[1], C.Lucatelli[1], R. van Ham[2], M. Willemsen[2], P. Thoonen[2], B. Kummeling[2], J.C.Clark[1]
[1]CRIC, University of Edinburgh, [2]Von Gahlen, Nederland B.V

28. New software for the TracerLab Mx

D. Fontaine[2], D. Le Bars[3], D. Martinot[1], V. Tadino[4], F. Tedesco[1], G. Villeret[4]
1. 49h, 23 Rue du Vieux Mayeur, 4000 Liège, Belgium
2. Eosis, 33 Rue Lefebvre, 7000 Mons, Belgium
3. Cermep, 59 Bvd Pinel, 69003 Lyon, France
4. ORA, 337 Rue de Tilleur, 4420 St Nicolas, Belgium

8. Synthesis of 4-[^{18}F]Fluorobenzaldehyde in a CPCU for Peptide Labeling

V.M. Lara-Camacho, J.C. Manrique-Arias, E. Zamora-Romo, A. Zarate-Morales, A. Flores-Moreno, M.A. Avila-Rodriguez
Unidad PET/CT-Ciclotrón, Facultad de Medicina, Universidad Nacional Autónoma de México, México, D.F., México
Objetives: Implement the synthesis of 4-[^{18}F]fluorobenzaldehyde ([^{18}F]FB-CHO) in a CTI/Siemens Chemistry Process Control Unit (CPCU) for peptide labeling.

16. Routine Automated Production of ^{18}F-Labelled Radiopharmaceuticals on IBA Synthera® Multi-Purpose Platform

Bernard Lambert[1] ; Jean-Jacques Cavelier[1], Guillaume Gauron[1], Christophe Sauvage[2], Cécile Kech[2], Tim Neal[3], M. Kiselev[3], David Caron[4], Anat Shirvan[4], Ilan Ziv[4]
[1]BP 32 91192 Gif sur Yvette Cedex France. [2]IBA RI SA, rue de l'Esperance, 1 6220 Fleurus Belgium. [3]IBA Molecular, 100 Executive Dr. Sterling VA USA; [4]Aposense Ltd, 5-7 Odem St., P.O Box 7119, Petach-Tikva 49170, Israel e-mail: christophe.sauvaget@iba-group.com.

15. Fully Automated System for the Production of [^{123}I] and [^{124}I]-Iodine Labelled Peptides and Antibodies

P. Bedeschi[a], S. Bosi[a], M. Montroni[a], G.Brini[b], S.Caria[b], M.Fulvi[b], G. Calisesi[b]
a Comecer, Castel Bolognese (RA), Italy
a Nuclear Specialists Associated, Ardea (Roma), Italy.

Lab Reports Chairpersons: Sandell and Barnhart

11:35-12:25
5 min presentations

2. Development of a target system at the baby cyclotron BC1710 for irradiation of solids and gases and the adaptation of existing target systems to the external beamline at the injector of COSY

B. Scholten, S. Spellerberg, W. Bolten, H. H. Coenen
Institute of Neurosciences and Medicine, INM-5: Nuclear Chemistry, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany

18. Sustainable PET tracer production at Wisconsin

Todd E Barnhart[1], Jonathan W Engle[1], Peter Larsen[2], Bradley T Christian[3], Dhanabalan Murali[1], Dustin Wooten[1], Onofre T DeJesus[1], Ansel Hillmer[1], and Robert J Nickles[1]
[1]University of Wisconsin, Madison, USA
[2]Scansys, Copenhagen, Denmark
[3]Waisman Institute for Brain Imaging and Research, Madison, USA

30. Reportback from iThemba LABS: Some tales of broken targets, split beams and particle tracking

C. Vermeulen, G.F. Steyn, N. Stodart, J.L Conradie, A Buffler, I Govender
iThemba Laboratory for Accelerator Based Sciences, Cape Town, South Africa

45. Production of ^{124}I, ^{64}Cu and [^{11}C]CH_4 on an 18/9 MeV cyclotron

M.Leporis, M.Reich, P.Rajec, O.Szöllős
Biont a.s., Karloveska 63, SK-842 29 Bratislava, Slovakia

54. Repairing water leaks in the TR-19 cyclotron: A case study in what not to do

MJ Schueller, DJ Schlyer
Medical Department, Brookhaven National Laboratory, Upton, NY 11973, USA.

Water Targets Chairpersons: Buckley and Jensen,M

13:40-15:10

10 min presentations

40. A further exploration of the merits of a Niobium/Niobium vs Niobium/Havar target body/foil combination for [^{18}F]Fluoride production: A detailed HP γ-spectrometry study

John Sunderland, G Leonard Watkins, Colbin E Erdahl, Levent Sensoy, Arda Konik
PET Imaging Center, University of Iowa Health Care, Iowa City, IA 52242, USA

9. A comparison of Nb, Pt, Ta, Ti, Zr, and ZrO_2-sputtered Havar foils for the high-power cyclotron production of reactive [^{18}F]F^-

K.Gagnon, J.S. Wilson, and S.A. McQuarrie
Edmonton PET Centre, Cross Cancer Institute, University of Alberta, Edmonton, AB, CANADA

51. [18O]Water Target Design for Production of [18F]Fluoride at High Irradiation Currents

Alex D. Givskov[1,2], Mikael Jensen[1]
[1]Radiation Research Division, Risø National Laboratory for Sustainable Energy, DK-4000 Roskilde, Denmark
Email: [2]algi@risoe.dtu.dk

14. Effects of the Tantalum and Silver Targets on the Yield of FDG

Production in the Explora and CPCU Chemistry Modules

J.C. Manrique-Arias, E. Zamora-Romo, A. Zarate-Morales, A. Flores-Moreno, M.A. Avila-Rodriguez
Unidad PET/CT-Ciclotrón, Facultad de Medicina, Universidad Nacional Autónoma de México, México, D.F., México

5 min presentations

35. One Year Experience With a IBA 18/9 Cyclotron Operation for F-18 FDG Rutin Production

Nicolini J; Ciliberto J; Nicolini M A; Nicolini M E; Baró G; Casale G; Caro R; Guerrero G; Hormigo C; Gutiérrez H; Pace P; Silva L
Laboratorios Bacon S.A.I.C. Uruguay 136 –B1603DFD- Villa Martelli, Bs. As. Argentina

32. Supported Foil Solution for Legacy Helium-Cooled Targets When An Alternative to Havar Foil Material is Desired

Benjamin R Bender and G. Leonard Watkins
PET Imaging Center, University of Iowa Health Care, Iowa City, IA 52242, USA

12. RDS-111 to Eclipse HP Upgrading with Improvement in ^{18}F Production

A. Zarate-Morales, A. Flores-Moreno, J.C. Manrique-Arias, E. Zamora-Romo, M.A. Avila-Rodriguez
Unidad PET/CT-Ciclotrón, Facultad de Medicina, Universidad Nacional Autónoma de México, México, D.F., México

Wednesday 28/7

Gas Targets Chairpersons: Dick and O'Neil

9:20-10:10

10 min presentations

25. Target Performance – $[^{11}C]CO_2$ and $[^{11}C]CH_4$ Production

Semi Helin[1], Eveliina Arponen[1], Johan Rajander[2], Jussi Aromaa[2], Olof Solin[1,2]
Turku PET Centre, University of Turku[1] and Åbo Akademi University[2], Turku, Finland

19. Production of Cl-34m via the (d,α) reaction on Ar-36 gas at 8.4 MeV

Jonathan W. Engle, Todd E. Barnhart, Onofre DeJesus, and Robert J. Nickles
University of Wisconsin, Madison, USA

5 min presentations

47. Three years experience in operation and maintenance of the [^{18}F]F_2 proton target at the Rossendorf Cyclone® 18/9 cyclotron

St. Preusche, F. Fuechtner, J. Steinbach
Forschungszentrum Dresden-Rossendorf, Institute of Radiopharmacy, P.O. Box 51 01 19, 01314 Dresden, Germany

4. New Gaseous Xenon Target for ^{123}I Production

Jožef J. Čomor[1], Duro Jovanović[1], Jean-Michel Geets[2], Bernard Lambert[3]
[1]ELEX Commerce, Hilandarska 28, 11000 Belgrade, Serbia
[2]IBA Molecular, Chemin du Cyclotron 3, 1348 Louvain-la-Neuve, Belgium
[3]IBA Molecular Europe, Le christ de Saclay B.P. 32, 91192 Gif-Sur-Yvette, France

Technical Reports Chairpersons: Clark and Jensen, H

13:35-15:00

10 min presentation

10. A simple calibration-independent method for measuring the beam energy of a cyclotron

K. Gagnon[1], M. Jensen[2], H. Thisgaard[2+], J. Publicover[3++], S. Lapi[3+++], S.A. McQuarrie[1] and T.J.Ruth[3]
[1]Edmonton PET Centre, Cross Cancer Institute, University of Alberta, Edmonton, AB, CANADA
[2]Hevesy Laboratory, Risoe-DTU, Technical University of Denmark, Roskilde, DENMARK
[3]TRIUMF, Vancouver, BC, CANADA
[+]Presently at PET and Cyclotron Unit, Odense University Hospital, Odense, DENMARK
[++]Presently at University Health Network, Toronto, ON, CANADA
[+++]Presently at Mallinckrodt Institute of Radiology, Washington University, St. Louis, MO, USA

22. Recent advances and developments in IBA cyclotrons

Jean-Michel Geets, Benoit Nactergal, Michel Abs, Claudy Fostier, Eric Kral
IBA Molecular, IBA Technology group, www.iba-group.com

43. Can Half-life Measurements Alone Determine Radionuclidic Purity of F-18 Compounds?

Thomas J_rgensen1, Mille Ankerstjerne Micheelsen2, and Mikael Jensen1
1Hevesy Lab, Risoe-DTU,Technical University of Denmark, DK-4000 Roskilde, Denmark
2Dept.Clinical Physiology and Nuclear Medicine, Koege Hospital, DK-4600 Koege, Denmark

5 min presentations

33. A Simple Target Modification to Allow for 3-D Beam Tuning

J.S. Wilson, K. Gagnon and S.A. McQuarrie
Edmonton PET Centre, Cross Cancer Institute, University of Alberta, Edmonton, AB, CANADA

1. Extending a Scintillation Counter's Dynamic Range

Lewis Carroll
Carroll & Ramsey Associates
Berkeley, CA, USA

41. A multi-wire proportional counter for measurement of positron-emitting radionuclides during on-line blood sampling

H. T. Sipila[1], A. Roivainen[1] and S-J. Heselius[2]
[1] Turku PET Centre, Turku University Hospital, P.O. Box 52, FI-20520 Turku, Finland
[2] Turku PET Centre, Accelerator Laboratory, Porthansgatan 3, FI-20500 Turku, Finland

3. Search for the ideal cyclotron stripper foil

John O. Stoner, Jr.
ACF-Metals, The Arizona Carbon Foil Co., Inc.
2239 E. Kleindale Road
Tucson, Arizona 85719-2440 U.S.A.
metalfoil@cox.net

46. A simple and flexible device for LabView applications

A. Hohn, E. Schaub, S. Ebers, R. Schibli
Paul Scherrer Institut, 5232 Villigen PSI, Switzerland

Only Poster Presentations on request from the authors

49. Evaluation on metallic Sc as target for the production of ^{44}Ti on high energy protons

K. Zhernosekov[1,2], A. Hohn[1], M. Ayranov[2], D. Schumann[2], R. Schibli[1], A. Türler[1,2]
[1] Center for Radiopharmaceutical Science, Paul Scherrer Institute, 5232 Villigen, PSI, Switzerland
[2] Labor für Radio- und Umweltchemie Departement Chemie und Biochemie Universität Bern Switzerland

27. Upgrade of a Control System for a Scanditronix MC 17 Cyclotron

Jonathan Siikanen[a,b] Kaj Ljunggren[b] and Anders Sandell[b]
[a]Lund University, Medical Radiation Physics, Barngatan 2:1, 221 85 Lund, Sweden
[b]University Hospital in Lund, Radiation Physics, Klinikgatan 7, 221 85 Lund, Sweden