PROGRAM

6TH INTERNATIONAL SYMPOSIUM ON RADIOHALOGENS

Saturday, September 6, 2008

18:00-20:00 Registration and Reception

Sunday, September 7, 2008

08:30 Welcome
Michael Adam, TRIUMF/UBC, Vancouver, B.C., Canada

SESSION I: ISOTOPE PRODUCTION
Chairperson: M. Adam

08:45 Invited Talk (IS1)
Production, Use and Application of the PET Radiohalogens $^{76}$Br and $^{124}$I.
Jason S. Lewis, PhD

Contributed Talks

09:30 CS1 New Cross Section Measurements for Production of the PET Nuclides $^{75}$Br and $^{76}$Br via Intermediate Energy Induced Reactions
I. Spahn¹, G.F. Steyn², C. Vermeulen², Z. Kovács³, F. Szelecsényi³, H.H. Coenen¹, S.M. Qaim¹
¹Institut für Neurowissenschaften und Biophysik (INB 4): Nuklearchemie, Forschungszentrum Jülich GmbH, D-52425 Jülich, Germany
²Radionuclide Production, iThemba LABS, Somerset West 7129, South Africa
³Cyclotron Department, Institute of Nuclear Research of the Hungarian Academy of Sciences (ATOMKI), Debrecen H-4026, Hungary
Automation of a method for $^{124}\text{I}$ production irradiating $\text{Al}_2\text{Te}_3$ on 16-18MeV cyclotrons; prospective for the production of other halogens


$^1$Comecer, Castel Bolognese, Italy
$^2$Emory University, Atlanta GA
$^3$Turku University, Turku, Finland
$^4$Stanford University, Palo Alto, CA
$^5$Department of Medical Physics, University of Wisconsin, Madison, WI, USA

Discussion

10:15  Break

SESSION II: FLUORINE / BASIC CHEMISTRY
Chairperson: M. Adam

10:30 Invited Talk (IS2)

Application of transition metals for the synthesis of $^{18}\text{F}$-labeled radiotracers

Frank Wuest, Division of Oncologic Imaging, Department of Oncology, Cross Cancer Institute, University of Alberta, Canada

Contributed Talks

11:15 CS3  Alpha Selective Epoxide Opening to Introduce $^{18}\text{F}$ into Organic Molecules

Ralf Schirrmacher*, Carmen Waengler and Esther Schirrmacher$^1$
McConnel Brain Imaging Centre, Montreal Neurological Institute, McGill University, Quebec, Canada
$^1$Lady Davis Institute for Medical Research, Jewish General Hospital, McGill University, Quebec Canada

11:30 CS4  Synthesis, Radiofluorination and First Evaluation of (±) $[^{18}\text{F}]\text{MDL 100907 as a Serotonin 5-HT}_2\text{A Receptor Antagonist for PET}$

Ute Mühlhausen*, Johannes Ermert, Heinz H. Coenen
Institute of Neurosciences and Biophysics (INB-4): Nuclear Chemistry, Research Center Jülich, Germany
Radiosynthesis and bioconjugation of [18F]FPy5yne, a prosthetic group for the labeling of bioactive peptides.
James A. H. Inkster¹, Brigitte Guérin², Thomas J. Ruth¹, and Michael J. Adam¹

¹TRIUMF, 4004 Wesbrook Mall, Vancouver, BC, Canada V6T 2A3
²Université de Sherbrooke, Département de Médecine Nucléaire et Radiobiologie, 3001 12ième

New [18F]Fluorobenzoylation Reagents via Isotope Exchange of Trifluoroarylborates
Rosalie D. Moorlag †, Thomas J. Ruth‡, Mike J. Adam‡ and James A.H. Inkster‡* and David M. Perrin**
†University of Groningen, Department of Pharmacy and Pharmaceutical Sciences, Antonius Deusinglaan 1, 9713 AV, Groningen, The Netherlands; ‡TRIUMF, 4004 Wesbrook Mall, Vancouver, BC, Canada V6T 2A3; **UBC Department of Chemistry, Vancouver, BC, V6T 1Z3.

“Click” Radiochemistry for Rapid ¹⁸F-Labeling of Proteins
N. Lazarova*¹, K.A. Stephenson¹, and J.F. Vallaint¹
¹The McMaster Institute of Applied Radiation Sciences, McMaster University, Hamilton, ON, Canada L8S 4M1

SESSIOIII: FLUORINE / APPLICATIONS
Chairperson: M. Adam

Invited Talk (IS3)
Synthesis of Fluorine-18 Labeled Imaging Agents
Department of Radiology, Psychiatry and Behavioral Sciences, Hematology and Oncology, Emory University School of Medicine, Atlanta GA USA 30322.

Contributed Talks
New approach to the nucleophilic synthesis of 6-[¹⁸F]fluoro-L-DOPA
F. M. Wagner, J. Ermert, H. H. Coenen*
Institute of Neurosciences and Biophysics (INB-4): Nuclear Chemistry, Forschungszentrum Jülich, Germany
14:30 CS9 Synthesis and biological evaluation of (1S2S, 1R2R)-anti-2-[18F]FACBC for brain tumor imaging with PET  
Weipeing Yu, Larry Williams, Vernon M. Camp, Eugene Malveaux, Zhaobin Zhang, Mark M. Goodman  
1Department of Radiology,  
2Department of Neurosurgery School of Medicine, Emory University, Atlanta, GA 30322 USA

14:45 CS10 Targeting the Membrane-Type Serine Protease with 18F-Labeled Antibody Fragments  
S. E. Lapi*, M. R. Darragh, C. C. Craik, H. F. VanBroocklin  
1Department of Radiology and Biomedical Imaging, University of California  
2Graduate Group in Biophysics, University of California, San Francisco  
3Department of Pharmaceutical Chemistry, University of California, San Francisco

15:00 CS11 Automated Radiosynthesis of Hexadecyl-4-[18F]fluorobenzoate ([18F]HFB) Using the Explora Radio-synthesizer and a Solid-Phase Extraction/HPLC Procedure  
M. Jahan, T. Hadizad*, S. Mason, J. Collins, Y. Zhang, M. Ruel, R.S. Beanlands, E.J. Suuronen, and J.N. DaSilva  
National Cardiac PET Centre, University of Ottawa Heart Institute, Ottawa, Ontario, Canada, K1Y 4W7

15:15 CS12 18F Radiochemistry at Bristol-Myers Squibb  
Douglas Dischino, David Donnelly, Daniel Batalla, Walter Ruediger, James Mongillo, Edward Kuspiel, Bala Krishnan, Chris Bernard, Jeff Guss and Robert Ruediger  
Bristol-Myers Squibb, Lawrenceville, NJ

15:30 Discussion

15:45 Mid-Afternoon Break

SESSION IV: BROMINE CHEMISTRY / APPLICATIONS  
Chairperson: M. Adam

16:00 Invited Talk (IS4)  
Radiopharmaceuticals Labeled with Bromine Radionuclides  
Robert H. Mach, PhD. And Michael J. Welch, PhD.  
Washington University School of Medicine, St. Louis, MO 63110 USA
Contributed Talks

16:45 CS13 Synthesis and stability of $[^{77}\text{Br}]$-m-Bromobenzylguanidine ($^{77}\text{Br}$-MBBG)
S. Watanabe$^1$, N. S. Ishioka$^1$, J. X. Liang$^1$, H. Hanaoka$^2$, T. Iida$^{2,3}$, and K. Endo$^{3,4}$
$^1$Plant Positron Imaging Group, Qunatun Meam Science Directorate, Japan Atomic Energy Agency (JAEA), Takasaki, Gunma, Japan. (E-mail: watanabe.shigeki@jaea.go.jp)
$^2$Bioimaging Information Analysis, Gunma University Graduate School of Medicine, Mebashi, Gunma, Japan
$^3$21st century COE program, Gunma University Graduate School of Medicine, Maebashi, Gunma, Japan
$^4$Diagnostic Radiology and Nuclear Medicine, Gunma University Graduate School of Medicine, Maebashi, Gunma, Japan

17:00 Discussion

17:15 Session Ends

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Monday, September 8, 2008

SESSION V: IODINE CHEMISTRY
Chairperson: H. Coenen

08:30 Invited Talk (IS5)
Phospholipid Based Targeting Approaches to Cancer Detection and Radiotherapy.
Jamey Weichert
Radiology, Medical Physics and Pharmaceutics, University of Wisconsin-Madison, Madison, WI

09:15 Invited Talk (IS6)
Recent Studies Relating to Boron-Based, No-Carrier-Added Radiohalogenations
G. W. Kabalka
Department of Chemistry, University of Tennessee, Knoxville, TN
10:00 Discussion

10:15 Break

Contributed Talks

10:30 CS14 Synthesis of Radioiodinated Alkyl Phosphocholine Analogs and Structurally Related Compounds by Boron-Iodine Exchange Reaction.
Anatoly N. Pinchuk*1,2,a, Maria Banach2, Nathan J. Fleck2, Marc A. Longino1,2,a and Jamey P Weichert1,2,a
1Department of Radiology, University of Wisconsin, 600 Highland Ave, Madison, WI 53792-3252, USA
2Cellectar, 3301 Agriculture Dr, Madison, WI 53716, USA.

10:45 CS15 Study of the role of the acidity and redox properties of the reaction medium on the Cu⁺-assisted radioiodination
J.L.H. Eersels1, J. Mertens2, J.D.M. Herscheid1
1VU University Medical Center, Department of Nuclear Medicine & PET Research, Location Radionuclide Center de Boelelaan 1085c, 1081 HV Amsterdam, The Netherlands
2Department of Radiochemistry, BEFY, Vrije Universiteit Brussel, Laarbeeklaan 103, 1090 Brussel, Belgium

11:00 CS16 A Convenient Method for the Preparation of Highly Fluorinated Tin Derivatives for use with the Fluorous Labeling Strategy
Chitra Sundararajan*1-Jason W. McIntee1, Michael S. Kovacs2, Alfredo Capretta1, and John F. Valliant1,3
1Department of Chemistry, McMaster University, Hamilton, Ontario, Canada L8S 4M1;
2Lawson Health Research Institute, University of Western Ontario, London, Ontario, Canada;
3McMaster Institute of Applied Radiation Sciences (McIARS), McMaster University, Hamilton, Ontario, Canada

11:15 CS17 Soluble Supports and the Preparation of Radiolabeled Bioconjugates in High Effective Specific Activity
A. C. Donovan1, and J. F. Valliant1,2
1Department of Chemistry and the
2McMaster Institute of Applied Radiation Sciences (McIARS), McMaster University, Hamilton, Ontario, Canada

11:30 Discussion
SESSION VI: IODINE APPLICATIONS
Chairperson: B. Abeysekera

11:45 Invited Talk (IS7)
I-123 labeled small molecule for molecular imaging prostate cancer
John W. Babich
Development Department, Molecular Insight Pharmaceuticals, Cambridge, MA, USA

12:30 Lunch Break

Contributed Talks

13:30 CS18 Towards the Development of Novel β-Amyloid Targeting I-123 Radiopharmaceuticals
N. C. Lim1, S. -R. Choi1, W. Qu2, W. Zhang1, G. M. Golding1, T. E. Benedum1, Z. Zhuang1, A.D. Joshi1, R. Manchada1, M. J. Pontecorvo1, H. F. Kung2 and D. M. Skovronsky1
1Avid Radiopharmaceuticals, 3624 Market St. Philadelphia, PA 19104
2Department of Radiology, UPENN, 3700 Market St. Philadelphia, PA 19104

13:45 CS19 [124I]- β-CIT, new tracer for Parkinson’s disease.
Panichelli Paola*, Castignani Lorenzo, Colonna Mery, Dignani Simone, Fantuzi Mauro, Martini Domenico, Valentini Gianluca

14:00 CS20 Radioiodination of Pyridinones for in vivo Investigation as Potential Therapeutics for Alzheimer’s Disease
Meryn L. Bowen*, Michael Merkel, Michael J. Adam and Chris Orvig
Department of Chemistry, University of British Columbia, 2036 Main Mall, Vancouver, BC, V6T 1Z1, Canada and TRIUMF, 4004 Wesbrook Mall, Vancouver, BC, V6T 2A3, Canada

14:15 CS21 Synthesis and characterization of 131I-MIP-1145 a novel therapeutic agent for the treatment of melanin-positive malignant melanoma
J. Chen1, J.F. Kronauge1, M Friebel8, and J.W. Babich1
1Development Department, Molecular Insight Pharmaceuticals, Cambridge, MA, USA, and 2Molecular Imaging Research, Bayer Healthcare, Berlin, Germany

14:30 Discussion
SESSION VII: DRUG DEVELOPMENT / COMMERCIAL ISSUES
Chairperson: H. Coenen

15:00 Invited Talk (IS8)
Use of exploratory IND for Early phase clinical trials using PET or SPECT imaging
Gilles Tamagnan
Molecular NeuroImaging LLC &
Institute for Neurodegenerative Disorders, New Haven, 06510, CT

15:45 Invited Talk (IS9)
To Be Announced
Brian Abeysekera
Development Department, Molecular Insight Pharmaceuticals,
Cambridge, MA, USA

16:30 Invited Talk (IS10)
Radiohalogen Molecular Imaging And Therapy Agents At MDS-Nordion
Dennis Wester
MDS-Nordion, Vancouver Operations, TRIUMF, Vancouver, V6T 2A3

17:15 Discussion

Tuesday, September 9, 2008

SESSION VIII: ASTATINE CHEMISTRY
Chairperson: S. Wilbur

08:30 Invited Talk (IS11)
Studies in At-211 Conjugation Chemistry
Martin W. Brechbiel
Radioimmune & Inorganic Chemistry Section, 2Molecular Imaging Program, CCR, NCI, NIH, Bethesda, MD 20892
09:15 Invited Talk (IS12)

An update of the use of boron cage molecules in pendant groups for $^{211}$At-labeling of biomolecules.

D. S. Wilbur, D. K. Hamlin, M.-K. Chyan and M. A. Perry
Department of Radiation Oncology, University of Washington, Seattle, WA 98105

10:00 Discussion

10:15 Break

Contributed Talks

10:30 CS22 Preparation and Identification of Astatinated Benzene Derivatives

G.-J. Meyer¹, S.S. Sriyapureddy¹, A. Hiller², D. Krull¹, J. Steinbach², W.H. Knapp¹
¹Nuclear Medicine, Medical School Hannover; ²Inst. for Interdisziplinary Isotope Research, Leipzig

10:45 CS23 Synthesis, radiohalogenation and in vivo evaluation of decaborate(2-) derivatives for $^{211}$At labeling that contain different functional groups

D. S. Wilbur, D. K. Hamlin, M.-K. Chyan and M. A. Perry
Department of Radiation Oncology, University of Washington, Seattle, WA 98105

11:00 CS24 Hydrazone linkers as functional groups for decreasing of kidney retention of radiohalogenated decaborate(2–)-Fab’ conjugates.

D. K. Hamlin, M.-K. Chyan, D. S. Wilbur
Department of Radiation Oncology, University of Washington, Seattle, WA 98105


M.-K. Chyan, D. K. Hamlin, D. S. Wilbur
Department of Radiation Oncology, University of Washington, Seattle, WA 98105

11:30 Discussion

12:45 MEET AT GONDOLA FOR PICTURES

13:15 BBQ ON MOUNTAIN
SESSION IX: THERAPY
Chairperson: B. Abeysekera

08:30 Invited Talk (IS13)
Therapeutic Radiohalogens: Biophysical and Radiobiological Principals
Amin I. Kassis
Harvard Medical School, Boston Massachusetts 02115, USA

09:15 Invited Talk (IS14)
Radiation Induced Biological Bystander Effect Elicited in vitro by Targeted Radiopharmaceuticals Labeled with α-, β- and Auger Electron Emitting Radiohalogens
Robert J, Mairs and Marie Boyd
Targeted Therapy Group, Division of Cancer Science and Molecular Pathology, Glasgow University, Cancer Research UK Beatson Laboratories, Glasgow, G61 1BD Scotland

10:00 Discussion

10:15 Break

10:30 Invited Talk (IS15)
Radiohalogenated nucleosides and nucleotides: molecular biology and imaging
Leonard I Wiebe
PET Centre, Cross Cancer Institute, Edmonton, Canada

11:15 Discussion

11:30 Closing Remarks