

**Sixth International Symposium on BioPIXE
(BioPIXE 6)
Final Program**

Monday, June 16, 2008

Opening Session

6:00 – 8:00

Welcome Reception at Hampton Inn

Tuesday, June 17, 2008

Opening Session	
8:30 – 9:00	Registration
9:00 – 9:20	Opening Remarks
Oral Session 1	Biological Applications
9:20 – 10:00	Invited Talk: <i>J.R. Morales</i> Some Applications of PIXE in Biology, Environment, Archaeology, and Nuclear Science
10:00 – 10:30	Morning Break – Tea and Coffee
Oral Session 2	Biological Applications
10:30 – 11:10	Invited Talk: <i>L. Avoscan, H. Khodja, M. Carrière, J. Covès and B. Gouget</i> PIXE Analyses of the Soluble and Membrane Se- containing Proteins Extracted from <i>Cupriavidus Metallidurans</i> CH34 after Selenium Oxides Challenge
11:10 – 11:30	<i>P. Pelicon, P. Vavpetič, M. Budnar, K. Vogel-Mikuš, P. Pongrac, I. Kreft, T. Mrak, Z. Jeran, I. Falnoga, M. Merela, H. Poličnik and M. Regvar</i> Quantitative Elemental Mapping in Biomedical Research by Micro-PIXE: from Bulk Material to Thin Sections
11:30 – 12:10	Invited Talk: <i>T. Narusawa</i> On the Use of Glass Capillary Optics in PIXE Measurements
12:10 – 1:30	Lunch
Oral Session 3	Biological Applications
1:30 – 2:10	Invited Talk: <i>K.J. Kirkby, J.C. Jeynes, M. Barry, N. Kirkby, R. Jena</i> MeV Ion Beams – From Bench to Bedside
2:10 – 2:30	<i>H. Yamazaki, K. Ishii, S. Matsuyama, Y. Kikuchi, A. Terakawa, Y. Takahashi, Y. Kawamura, K. Yamanaka, M. Watanabe, S. Tsuboi, K. Tashiro, T. Satoh, and C. Inoue</i> PIXE Study on Absorption of Arsenate and Arsenite by Arsenic Hyperaccumulating Fern (<i>Pteris vittata</i>)
2:30 – 3:10	Invited Talk: <i>G. Glass</i> Recent Developments of New High Energy Focused Ion Beam (HEFIB) Systems for Biomaterials Analysis at The Louisiana Accelerator Center
3:10 – 3:30	Afternoon Break
Oral Session 4	Medical Applications
3:30 – 4:10	Invited Talk: <i>T. Pinheiro</i> Biological and Medical Applications of PIXE
4:10 – 4:30	<i>R. Giulian, C.E. Iochims dos Santos, S. de Moraes Shubeita, L. Manfredi da Silva, M.L. Yoneama and J.F. Dias</i>

Elemental Characterization of Commercial Mate Tea Leaves (*Ilex Paraguariensis* A. St.-Hil): From Industrial Processing to the Hot Water Infusion

4:30 – 5:10

Invited Talk: *S. Harada, S. Ehara, K. Ishii, H. Yamazaki, S. Matsuyama, T. Sato, S. Oikawa, T. Kamiya, K. Arakawa, K. Sera, and J. Ito*

Medical Applications of Particle-Induced X-Ray Emission

5:30-7:00

BioPIXE international advisory committee meeting

Wednesday, June 18, 2008

Oral Session 5

8:30 – 9:30	Plenary Talk: <u><i>A. Markwitz and J.V. Kennedy</i></u> BioPIXE in the 21st Century
9:30 – 10:30	Poster Previewers
10:30 – 12:00	Poster Presentations
12:00 – 1:00	Lunch
1:00 – 6:00	Winery Tour
6:00 – 9:00	Dinner at Terra Blanca

Thursday, June 19, 2008

Oral Session 6	Medical Applications
8:30 – 9:10	Invited Talk: <i>T. Nagamine, K. Dobashi, T. Kusakabe, Y. Shimizu, M. Oikawa, and T. Sato</i> Relationship Between Disease Mechanisms and Elemental Distribution Determined Using in-air MicroPIXE
9:10 – 9:30	<i>J.V. Kennedy and A. Markwitz</i> Surface Migration of Copper, Chromium and Arsenic in CCA-treated Timber Using PIXE Analysis
9:30 – 10:10	Invited Talk: <i>K. Sera, J. Itoh, Y. Saitoh, A. Fujimura, Y. Noda, S. Nishizuka and G. Wakabayashi</i> Quantitative Analysis of Very Small Quantity of Organs Taken from Patients and Experimental Animals - Standard-free Method for Organ Samples -
10:10 – 10:30	Morning Break – Tea and Coffee
Oral Session 7	Environmental Applications
10:30 – 11:10	Invited Talk: <i>W. Maenhaut and N. Raes</i> Determination of Elemental Mass Size Distributions for Atmospheric Aerosols by Cascade Impactor Sampling and PIXE Analysis
11:10 – 11:50	<i>R. Correa, M.I. Dinator, P.A. Miranda, S.A. Cancino, J.R. Morales, and I. Requena</i> Determination of Elemental Concentrations in Organic Matter, Atmospheric Aerosols and Archaeological Material by Artificial Neuronal Network Analysis on PIXE Spectra
11:50 – 12:10	Invited Talk: <i>K. Saitoh, K. Sera, A. Fushimi, Y. Fujitani, S. Hasegawa, K. Takahashi, S. Kobayashi and K. Tanabe</i> PIXE Analysis of Atmospheric Nano- To Micrometer-Size Particles in Roadside Atmosphere
12:10 – 1:30	Lunch
Oral Session 8	Environmental Applications
1:30 – 2:10	Invited Talk: <i>J. Miranda</i> PIXE For Elemental Analysis of Atmospheric Aerosols: Beyond Determination of Elemental Concentrations
2:10 – 2:30	<i>B.P. Perley, D.J. Shadoan, M. Van de Water, and F. Latora</i> Development of an Automated Vacuum Spectrometer
2:30 – 3:10	Invited Talk: <i>S. Nava, G. Calzolari, M. Chiari, F. Lucarelli, F. Mazzei, P. Prati, G. Valli, R. Vecchi, R. Udisti</i> The Study of Atmospheric Aerosols by IBA Techniques at Labec: Overview and Examples of

	Recent Applications	
3:10 – 3:30	Afternoon Break	
Oral Session 9		Environmental Applications
3:30 – 4:00	Invited Talk: <i>A. Laskin</i>	
	Atmospheric Chemistry of Environmental Particles	
4:00 – 4:20	<i>Ryan C. Moffet, Yury Desyaterik, Rebecca J. Hopkins, Alexei V Tivanski, Mary K. Gilles, V. Shutthanandan, Luisa T. Molina, Rodrigo Gonzalez Abraham, Kirsten S. Johnson, Violeta Mugica, Mario J. Molina, Alexander Laskin and Kimberly A. Prather</i>	
	Characterization of Aerosols Containing Zn, Pb, and Cl from an Industrial Region of Mexico City	
4:20 – 4:40	<i>J. Flores M., F. Aldape and B. Garcia-Oliva</i>	
	Source Identification of Fine Airborne Particulate Matter Collected in Toluca, Mexico	
4:40 - 5:20	Invited Talk: <i>R.G. Flocchini</i>	
	Crocker Nuclear Laboratory, Protons, PIXE, and XRF Survival of the Small Accelerator	
5:25	Bus leaves for hotel	
6:30	Banquet – Boat Dinner (Bus will pick up participants from the hotel)	

Friday, June 20, 2008

Oral Session 10

Environmental Applications

8:30 – 8:50

F. Aldape, J. Flores M. and A.A. Martínez-Pontón
Evaluation of Fine Airborne Particulate Matter at Toluca, Estado De Mexico, Using PIXE

8:50 – 9:30

Invited Talk: *C. Solís, H. Celis, I. Romero, A.F. Eslava, J.H. Monroy, K. Isaac-Olivé and E. Andrade*
Identification and Quantification of Divalent Cations Bound to Inorganic Pyrophosphatases by Particle Induced X-Ray Emission

9:30 – 9:50

S. Shutthanandan, Y. Desyaterik, A. Laskin, K.S. Johnson, S. Thevuthasan, L.T. Molina, and M.J. Molina
Aerosol Characterization in the Mexico City Metropolitan Area (MCMA) 2006 Campaign by PIXE, PESA and STIM

9:50 – 10:30

Invited Talk: *K. Ishii, H. Yamazaki, A. Terakawa, S. Matsuyama, Y. Kikuchi, A. Fujiwara and K. Hitomi*
Resonance Peak of Atomic Bremsstrahlung Produced in Ion-Atomic Collisions

10:30 – 10:50

Morning Break – Tea and Coffee

Oral Session 11

Environmental Applications

10:50 – 11:30

Invited Talk: *H.E. Jamieson, M.C. Corriveau, M.B. Parsons, J.L. Campbell*
Characterization of Dust from Abandoned Mine Tailings to Assess Non-Occupational Environmental Exposure

11:30 – 11:50

G. Calzolari, E. Castellano, M. Chiari, F. Lucarelli, F. Marino, S. Nava, R. Udisti
Ice Core Dust Composition During Glacial Stages by PIXE-PIGE Measurements

11:50 – 12:30

Invited Talk : *H. Calvo del Castillo, F. Mathis, R.G. Moreno, G. Chêne, F.P. Hocquet, T. Dupuis, N. Deprez, G. Weber, H.P. Garnir, D. Strivay*
Archaeometry at the Centre Européen d'Archéométrie – Université de Liège

12:30 – 1:00

Summary : *R.G. Flocchini*

1:00 – 2:00

Lunch

Poster Presentations:

- P.1 Cassiana Viau, Cristina Pungartnik, Johnny Ferraz Dias, Maria Lúcia Yoneama, Martin Brendel and João Antonio Pêgas Henriques
Study of Sn²⁺ Genotoxicity in the Yeast *Saccharomyces cerevisiae*
- P.2 Yoshinori Miura, Akira Suwabe, Ryujin Endo, Yuki Tomisawa, Kenichiro Ikeda, Koichiro Sera, Shigeki Yokoyama
Data Mining Analysis of Serum Trace Elements in Hospitalized Patients Supported by Nutrition Support Team
- P.3 H. C. Santos, N. Added, M. A. Rizzutto
Analysis of a PIXE Study of Trace Elements In Sediments of Toledo River, Paraná, Brazil
- P.4 S. Bernardes, M.H. Tabacniks, S. Andrade, M. Navarro, M. Martinez, J. Machado
Study of Trace Elements in Human Blood Serum Measured by PIXE And ICP-MS
- P.5 S. Sakurai, R. Asakawa, F. Hirota, T. Sato, K. Sera, and J. Itoh
Quantitative and Qualitative Analysis of Fluoride and Multi Elements or Shark's Teeth by PIXE
- P.6 Maria do Carmo Freitas, Adriano M.G. Pacheco
A Sequential-Step Procedure for Methodologies in Neutron Activation Analysis, and How It Compares with the Combined Use of INAA and PIXE
- P.7 Adriano M.G. Pacheco, Maria do Carmo Freitas
Assessment and Attribution of Airborne Elements in Aerosol and Lichen Samples From an Industrial-Suburban Neighborhood of Metropolitan Lisbon, Portugal
- P.8 M. Watanabe, K. Ishii, H. Yamazaki, S. Matsuyama, A. Terakawa, Y. Kikuchi, M. Fujiwara, Y. Kawamura, S. Tsuboi, K. Yamanaka, S. Okura, M. Fujikawa
Elemental PIXE Analysis of Oolong Tea
- P.9 S. Okura, K. Ishii, H. Yamazaki, S. Matsuyama, A. Terakawa, Y. Kikuchi, M. Fujiwara, Y. Kawamura, S. Tsuboi, K. Yamanaka, M. Watanabe, M. Fujikawa
Micron-CT For The Egg of the *Drosophila*
- P.10 M. Fujikawa, K. Ishii, H. Yamazaki, S. Matsuyama, A. Terakawa, Y. Kikuchi, M. Fujiwara, H. Sasaki, K. Maeda, Y. Kawamura, T. Yamamoto
PIXE Cyclotron
- P.11 K. Yamanaka, K. Ishii, H. Yamazaki, S. Matsuyama, A. Terakawa, Y. Kikuchi, M. Fujiwara, Y. Kawamura, R. Oyama, T. Yamamoto, M. Watanabe, S. Tsuboi, S. Okura, M. Fujikawa, K. Arao

PIXE Analysis of Yellow Sand Dust Particles

- P.12 A. Terakawa, K. Ishii, Y. Kawamura, T. Yamamoto, M. Fujikawa, K. Sera, H. Sasaki
PIXE Analysis of Peanuts Planted in Japan and Imported From Abroad
- P.13 S. Tsuboi, K. Ishi, H. Yamazaki, S. Matsuyama, A. Terakawa, Y. Kikuchi, M. Fujiwara, Y. Kawamura, M. Watanabe, K. Yamanaka, J. Arikawa, S. Okura, M. Fujikawa, Department of Quantum Science and Energy Engineering, Tohoku University
PIXE Analysis of Umeboshi (Dried Plum)
- P.14 W. Trompetter, P. Davy, A. Markwitz, T. Mitchell
Application of PIXE to Analyze Ambient Air Particulate Matter with Hourly Resolution
- P.15 Bernard Barry, John V Kennedy, Andreas Markwitz
PIXE Analysis of Sediments Affected by the December 2004 Indian Ocean Tsunami
- P.16 V. Shutthanandan, S. Thevuthasan, Y. Xie, R. S. Disselkamp, N. Laulainen, E. Smith
Multi-Technique Approach to Measure Size and Time Resolved Atmospheric and Radionuclide Aerosols
- P17 S.Matsuyama, K.Ishii, H.Yamazaki, Y.Kikuchi, Y.Kawamura, K.Yamanaka, M.Watanabe, S.Tsuboi, P.Primoz and M.Zitnik
Analysis of Single Aerosol Particles Collected in a Factory and a Laboratory
- P.18 B. J. Barry, A. Markwitz and B. David
Three Dimensional Scanning of Otoliths
- P.19 D.Joseph, A.Saxena, R.K.Choudhury and S.Kailas
Characterization of Indian Gem stones by External Proton Induced X-ray Emission Technique (PIXE)