

3rd International Conference on Analytical Science & Technology

20–21 November, Daejeon, Korea

SECOND CIRCULAR – Call for papers

You are most welcome to attend the 3rd International Conference on Analytical Science and Technology (ICAST), which will be held in Daejeon, Korea from 20th to 21st November, 2014. The purpose of this conference is to bring together scientists in the field of analytical science and technology and review recent development in analytical science.

The main purpose of this Second Circular is to issue the call for papers to invite presentation proposals. It also includes information on the conference's main features. Additional details will be forthcoming in the Third Circular.

Call for Papers :

Anyone interested to present his/her work is invited to submit a concise abstract. An abstract should reflect the general content of the presentation, including research question(s) and main results and conclusions in one page. Abstract template and example can be obtained from the last page of this circular. All abstracts will be edited by the organizers. Abstracts are submitted to mercurien@kbsi.re.kr. Please send your abstract as soon as possible, but not later than 30th September 2014.

Posters must fit within the space limits 120cmx120cm (4'x4'). ICAST Committee presents awards for outstanding posters. The winners will be announced at the Closing Ceremony. Details for the posters will be provided on the Third Circular.

Registration :

All the participation in the conference excursion requires a registration. Currently, Registration is only available via email. Please fill out the form in the last page of this circular and send to mercurien@kbsi.re.kr at your earliest convenience before 31st October 2014.

Topics :

Metabolomics	Metabolomics in human disease
	Metabolomics in nutrition and food
	Plant metabolomics
Imaging Analysis	Imaging science from cell to molecule
	Technical advances on imaging instrumentation
	Ultrastructural analysis of cell function
Omics & Imaging	Function proteomics in crop science
	Effective vaccines development
	Cell-based imaging in drug discovery
Protein MS (Mass Spectrometry)	Middle-down ECD
	Histone PTM analysis
Brain Science	Brain, from molecule to consciousness
Protein NMR	Structural dynamics of biomolecules
	Structure-functional relationship of proteins
	NMR spectroscopy in solution
Geosciences	Isotope geochemistry using <i>in situ</i> micro-beam techniques
	Application of <i>in situ</i> micro-beam techniques
Ion Beam Injector & Accelerator	State-of-the art of ion source
	Ion beam application
	Application on accelerator based system
FIB-STEM	Latest application of FIB-STEM

Program :

Nov 20 (Thu)	10:00 ~ 10:10	Opening Ceremony	
	10:10 ~ 10:50	Plenary Lecture 1	
	10:50 ~ 11:00	Break	
	11:00 ~ 12:40	Session 1	Session 2
	12:40 ~ 13:40	Lunch	
	13:40 ~ 14:20	Plenary Lecture 2	
	14:20 ~ 15:00	Plenary Lecture 3	
	15:00 ~ 15:10	Break	
	15:10 ~ 16:50	Session 3	Session 4
	16:50 ~ 17:00	Break	
	17:00 ~ 18:40	Session 5	Session 6
	18:40 ~ 20:40	Conference Dinner	
Nov 21 (Fri)	10:00 ~ 10:40	Plenary Lecture 4	
	10:40 ~ 12:40	Session 7	Session 8
	12:40 ~ 13:40	Lunch	
	13:40 ~ 15:20	Session 9	Session 10
	15:20 ~ 15:30	Break	
15:30 ~ 16:30	Young Scientist Festival (Closing)		

Plenary Speakers:

	<p><u>Prof. John Yates</u> <i>Scripps Research Institute</i> USA</p>		<p><u>Prof. Mark Cohen</u> <i>UCLA</i> USA</p>
	<p><u>Prof. Jeremy Nicholson</u> <i>Imperial College London</i> UK</p>		<p><u>Prof. Byeon-Gak Choi</u> <i>Seoul National University</i> Korea</p>

Venue :

The conference will take place in *Korea Basic Science Institute* :
169-148 Gwahak-ro, Yuseong-gu, Daejeon, Korea



Accommodation :

A block of rooms has been reserved in advance at the hotel [Lotte City Hotel Daejeon](#). Pre-decided room rate will be available for participants of the conference. A support for lodging is only available for the guest speakers. Please contact us at mercurien@kbsi.re.kr concerning this matter at your earliest convenience.

Review Papers :

We are planning to publish the contributions to this conference in a refereed journal, JAST. Further details will be provided on the website of the conference shortly after.

Key Dates:

Abstract submission & registration until : 30th September, 2014

Speaker notification : 15th October, 2014

Conference hotel reservation until : 20th October, 2014

the Conference : 20th November ~ 21st November, 2014

Review Paper submission until : 31st December, 2014

We are looking forward to seeing you at the conference!

ICAST 2014 Organizing Committee

The 3rd International Conference on Analytical Science & Technology

November 20 ~21, 2014

Daejeon, Republic of Korea

Registration Form

Mark "O" where you want to mark.

Name	
Title	Prof. () Dr. () Mr. () Ms. ()
Affiliation	
E-mail	
Day of Participation	November 20 ()
	November 21 ()
Areas of Interest	Metabolomics ()
	Imaging Analysis ()
	Omics & Imaging ()
	Protein MS(Mass Spectrometry) ()
	Brain Science ()
	Protein NMR ()
	Geosciences ()
	Ion Beam Injector & Accelerator ()
FIB-STEM ()	
Comments or Requests	

*Please fill in the form and mail it to mercurien@kbsi.re.kr

Oral (), Poster ()

Title 16 pt bold Times. Centre on page

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Authors, 12pt Times^{a,*} Corresponding author denoted by *.

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^a Address of authors, identified by superscripted letters

^b These are on separate lines in 10 pt Times, centred, single space.

Email address 10 pt Times, centred

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Body of abstract in 12 pt Times. Single space. Aligned both sides (double justification). No line spacing between paragraphs. (Microsoft Word automatically adds a little space for aesthetics – auto line spacing.) Indent paragraphs using four spaces.

References and notes should be denoted by numbers in square brackets [4–6] and listed below the body text. The whole document should have a paper size of ‘A4’ which will be reduced for printing in the book of abstracts. Paper margins are 2.5 cm top, bottom left and right. Place figures and tables in the body text centred on page.

Note that the abstract should be written in the English language.

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[1] References in 10 pt Times

[2] J. Doe, A.N. Other, Journal of Physics, 12 (1999) 1024-1026.

Oral (), Poster ()

Quantitative surface analysis of Fe-Ni alloys by XPS and SIMS using C_{60} ion source

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Quantitative depth profiling is one of the most important research subjects in surface analysis. Generally, x-ray photoelectron spectroscopy (XPS) and Auger electron spectroscopy (AES) are used for the quantitative surface analysis of major elements in multi-component systems. Secondary ion mass spectrometry (SIMS) is a powerful technique for the in-depth analysis of solid materials. However, SIMS is difficult to apply for the quantitative analysis of major components due to severe matrix effects. Therefore SIMS is more commonly used for the quantitative analysis of minor impurities.[1]

Fe-Ni alloy thin films were developed as certified reference materials (CRMs) for quantitative surface analysis of major components. Three alloy films with different compositions for each binary system were grown on Si (100) wafers by ion beam sputter deposition. The compositions of Fe-Ni alloy thin films were certified by an isotope dilution method using inductively coupled plasma-mass spectrometry (ICP-MS). Ni/Fe multilayer was also grown by the same method.

An ion beam of buckminsterfullerene (C_{60}^+) has been reported to be useful for depth profiling of a metallic multilayer by lowering the effective sputtering energy and prohibiting surface topographic development. In this study, a C_{60}^+ ion beam was studied as a sputtering source for the quantitative analysis of binary alloy films and the quantitative depth profiling of multilayer films. Calibration curves were derived from linear fits between the nominal compositions and the SIMS compositions calculated using relative sensitivity factors from a reference alloy film ($Fe_{51}Ni_{49}$). SIMS depth profiling was performed with a magnetic sector SIMS system using 14.5 keV impact energy C_{60}^+ ions and negative ion detection. The calibrated SIMS compositions of Fe-Ni alloy films showed a slope of 1.034 and an offset value of -1.89 %. No interface artefacts were found in a depth profile of an Fe/Ni multilayer.

[1] K. J. Kim, D. W. Moon, P. Chi, D. Simons, Surf. Interface Anal. 37, 802-808 (2005)