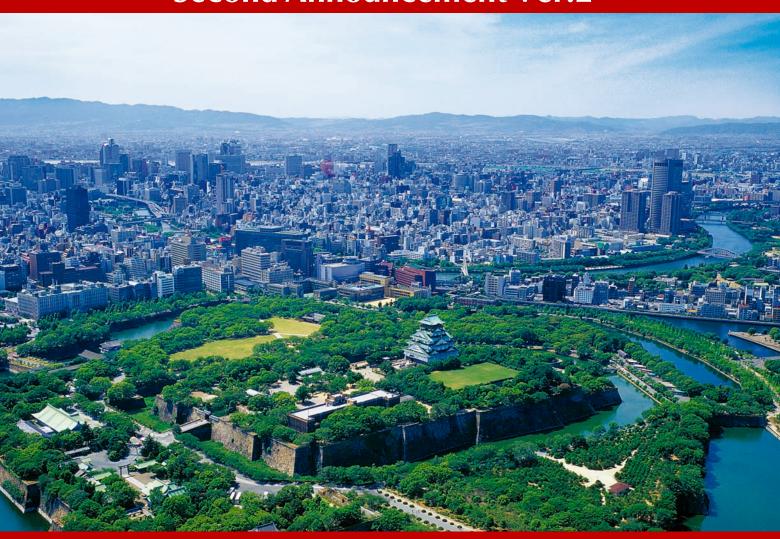
# **IUCr 2008** Osaka, Japan 23-31 August, 2008

XXI Congress and General Assembly of the International Union of Crystallography



### **Second Announcement Ver.2**



www.iucr2008.jp













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### **WELCOME**

The International Union of Crystallography (IUCr) was founded in 1948 to promote international cooperation in crystallography and the first General Assembly and Congress was held in Cambridge, USA. The Union has additional objects to contribute to advancement of crystallography in all its aspects including related topics concerning the non-crystalline states; to facilitate international standardization of methods, of nomenclature, and of symbols used in crystallography; and to form a focus for the relations of crystallography to other sciences.

Since then, the Union showed its activities in three fields. The first one is the organization of General Assembly and Congress every three years. The second one is the publication of eight crystallographic journals and many books in crystallography. The third one is the activities given by 17 scientific commissions.

The year 2008 is the 60th Anniversary. The number of the membership countries and Adhering bodies increased from 4 to 40. The crystallography became the basis of all the sciences studying inorganic, organic and biological substances. The 21st General Assembly and Congress will be held in Osaka, Japan, 23 - 31 August. We have a chance to see the full breadth of current crystallography and glimpse of what is to come.

Before the Opening Ceremony of the Congress, IUCr will have the 60th Anniversary Ceremony in the same place to celebrate the great advancement of crystallography and to aim at further development in crystallography.

It would give me great pleasure to welcome you to the active and modern city, Osaka, which is neighboring to Kyoto and Nara, the cities of cultural inheritance in Japan.

Yuji Ohashi President International Union of Crystallography



Even since the Middle Ages, the City of Osaka has been a crossroads for people, goods, culture and information. All have passed through and met in Osaka historically, giving birth to something new and valuable. The modern City of Osaka has played an even greater role as a crossroads of international exchange, where we are preparing for the IUCr-XXI Congress and General Assembly.

Its scientific program in 7 days, which has been prepared by the International Program Committee formed by 26 experts covering a wide field of crystallography, is very rich and exciting with 2 Plenary Lectures and 36 Keynote Lectures. As many as 98 Microsymposia will highlight topically hot as well as basically important crystallographic subjects with about 500 selected speakers. A special attention for programming has been paid to promote interdisciplinary fields in crystallography.

Crystallography plays a key role of bridging major fields such as biology, chemistry, physics, mineralogy, and earth science ranging from academic research to industrial/medical applications. In such a respect, crystallography has high scientific and technological potentials to introduce an innovation in the global issues such as health, environment, energy and information.

Our hearty invitation is extended to all crystallographers and their accompanying persons to attend IUCr-XXI and to enjoy scientific and social activities.

Yasuhiko Fujii
Chairperson
International Program Committee



Tomitake Tsukihara
Chairperson
Local Organizing Committee



### COMMITTEES

### **International Program Committee**

Y. Fujii, Japan, Chairperson

E. Arnold, USA

A. Bacchi, Italy

E. Boldyreva, Russia

L. Cranswick, Canada

R. Dinnebier, Germany

M. T. Fernandez-Diaz, Spain

H. Graafsma, Germany

N. Hamaya, Japan

T. Kamiyama, Japan

L. Marks, USA

A. Molenbroek

A. Nangia, India

K. Ogawa, Japan

M. O'Keeffe, USA

A. Podjarny, France

P. Thomas, United Kingdom

T. Tsukihara, Japan

E. Vlieg, The Netherlands

Yu Wang, Taiwan

R. Withers, Australia

N. Yagi, Japan

#### Ex-officio:

E. Gutierrez-Puebla, Spain

C. Mealli, Italy

### **Executive Committee Representative:**

G. Heger, Germany

I. Torriani, Brazil

#### **IUCr Executive Committee**

#### President:

Y. Ohashi, Japan

#### **Vice-President:**

I. Torriani, Brazil

#### **General Secretary and Treasurer:**

S. Lidin, Sweden

#### **Immediate Past President:**

W. L. Duax, USA

### Members:

P. M. Colman, Australia

G. R. Desiraju, India

C. J. Gilmore, UK

G. Heger, Germany

C. Lecomte, France

D. Viterbo, Italy

### **Local Organizing Committee**

T. Tsukihara, Chairperson, Osaka University

Y. Kai, Secretary General, Fukui University of Technology

Y. Fujii, Japan Atomic Energy Agency

T. Inoue, Osaka University

N. Kamiya, Osaka City University

T. Kamiyama, IMSS/KEK

K. Miki, Kyoto University

I. Miyahara, Osaka City University

A. Nakagawa, Osaka University

Y. Noda, Tohoku University

K. Ogawa, The University of Tokyo

M. Sakata, Nagoya University

S. Sasaki, Tokyo Institute of Technology

M. Sato, Yokohama City University

Y. Sugawara, Kitasato University

M. Takata, SPring-8/RIKEN

A. Takenaka, Tokyo Institute of Technology

S. Wakatsuki, IMSS/KEK

A. Yoshiasa, Kumamoto University

#### **Organizing Secretariat**

c/o Congress Corporation

Congress Bldg., 3-6-13 Awajimachi, Chuo-ku, Osaka 541-0047, Japan

Tel: +81-6-6229-2555 Fax: +81-6-6229-2556 E-mail: iucr2008@congre.co.jp

## **IMPORTANT DATES**

Deadline for bursary applications: March 7, 2008 (Postponed one week)

Deadline for submission of abstracts: April 20, 2008 (Postponed three weeks)

Poster presentations are acceptable as post-deadline papers

Deadline for payment of registration fees at 'Early Bird' rate: May 15, 2008

Deadline for payment of registration fees for validation and publication of submitted abstracts: June 30, 2008

Deadline for hotel reservations: June 30, 2008

Deadline for tour reservations: June 30, 2008

### **TIMETABLE**

Saturday, August 23, 2008	Registration Open (11:00) Pre-Congress Workshop The 60th Anniversary Ceremony (16:00-17:30)* Opening Ceremony (18:00-19:30) Welcome Reception (20:00-22:00) Rihga Royal Hotel
Sunday, August 24, 2008	Scientific Session Exhibition Evening: IUCr General Assembly
Monday, August 25, 2008	Scientific Session Exhibition Evening: IUCr General Assembly
Tuesday, August 26, 2008	Scientific Session Exhibition
Wednesday, August 27, 2008	Scientific Session Exhibition
Thursday, August 28, 2008	Scientific Session Evening: IUCr General Assembly
Friday, August 29, 2008	Scientific Session Late Afternoon: <b>IUCr General Assembly</b> Evening: <b>Social Banquet</b> (19:00-21:00) Rihga Royal Hotel
Saturday, August 30, 2008	Scientific Session Closing Ceremony (17:30-18:30)
Sunday, August 31, 2008	Congress Tours

<sup>\*</sup> Program of the 60th Anniversary Ceremony appears on p.22.

# SCIENTIFIC PROGRAM

Please note that the scientific program, elaborated by the International Program Committee and approved by the IUCr Executive Committee, is still subject to the confirmation of the invited speakers and chairs. **Please refer to the Web site for the revised information.** 

### Sunday, August 24, 2008

Time	Session	Theme (Speaker)	Chair	Co-Chair		
8:30- 9:30	PL1	Carbon nanotubes	Tomitake Tsukihara			
		Sumio Iijima				
9:30- 9:55		Break				
9:55-12:30	MS1	Large macromolecular complexes	Lucy Malinina Jianping Ding			
	MS2	Advances in grazing incidence, reflectivity and	Andrew Allen	Moonhor Ree		
		diffuse scattering				
	MS3	New algorithms for single crystal and powder diffraction	Fujio Izumi	Richard Cooper		
	MS4	Hydrothermal growth of crystals	Kullaiah Byrappa	Shouhua Feng		
	MS5	Modelization of structure of molecular compounds and implications for reactivity	Maria J. Calhorda	Nour E. Ghermani		
	MS6	Computational methods in macromolecular	Garib Murshdov	Vladimir Lunin		
	de la	crystallography				
	MS7	Water clusters in molecular crystals, coordination	Kumar Biradha	Lourdes Infantes		
		polymers and biological macromolecule				
12:30-14:45		Lunch Break and Post	er Display			
14:45-17:20	MS8	Protein-nucleic acid interactions	Nuria Verdaguer	Rajan Sankaranarayana		
	MS9	Macromolecular structural studies by powder diffraction, AFM, etc.	John Helliwell	Rob Thorne		
	MS10	Decision making and algorithms for automation of data acquisition	Jun Wang	James F. Britten		
	MS11	Pitfalls and successes in crystallographic teaching	David Watkin	Paola Spadon		
	MS12	Liquid crystals and crystallography: A tribute to	Bertrand Donnio	Alessandra Crispini		
		Pierre-Gilles de Gennes (1932.10.24-2007.5.18)	Bortiana Bonino	7.1100001101101011111		
	MS13	Growth of single crystals for neutron and X-ray	Hanna Dabkowska	Isao Tanaka		
16.9	2	investigation by the floating zone and other techniques				
4.0	MS14	Symmetry, asymmetry and chirality in molecular	Werner Kaminsky	Ichiro Hisaki		
	795	aggregation				
17:20-17:30		Break				
17:30-18:30	KN1	What protein data bank tells us about the past,	Stephen Burley			
		present and future of structural biology		( ) ( ) ( ) ( ) ( )		
		Helen Berman				
	KN2	Ab-initio powder diffraction studies of	Martin Schmidt			
		organometallics and coordination polymers		Silks -		
		Angelo Sironi				
	KN3	The growth of silica biomorphs: Self-assembled crystal	Katsuo Tsukamoto			
		aggregates with non-crystallographic morphologies	The state of the s			
		Juan M. García-Ruiz	1111000			

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### Monday, August 25, 2008

Time	Session	Theme (Speaker)	Chair	Co-Chair
8:30- 9:30	KN4	Using protein microcrystals combine with	(to be announced)	
		synchrotron session on microfocus and other		
		advanced technologies		
		Sine Larsen		
	KN5	Photochromic crystals: From a single molecule to	Sergei M. Aldoshin	
		a crystal morphology change		
		Masahiro Irie		
	KN6	Quantum simulations of liquids and solids under	Artem R. Oganov	
		pressure: Synergy between theory and experiment		<u> </u>
		Giulia Galli		
9:30- 9:55		Break		
9:55-12:30	MS15	Protein "microcrystallography": Methods and	Quan Hao	Takashi Tomizaki
	2.0	results for tiny crystals at 3rd generation sources		
	MS16	Structure-based drug design	Johan Wouters	Rolf Hilgenfeld
	MS17	Photochemistry and solid-state transformations of	Hidehiro Uekusa	Menahem Kaftory
		molecular solids		
	MS18	In-situ & time-resolved powder diffraction studies	Claudia Weidenthaler	Jonathan Hanson
	MS19	Structure simulation under extreme condition	Rajeev Ahuja	John Tse
	MS20	Time resolved and coherent X-ray scattering	Pappannan Thiyagarajan	Shuji Akiyama
	MS21	Crystallographic algorithm libraries: In honor of P.	Jon Wright	Lukas Palatinus
	WIOZI	Jane Brown	oon wiight	Editas i diatirias
12:30-14:45	MS22	Catherine Lawson		
14.45-17.20	MS23	Interface between cryo-EM and crystallography Crystallizing macromolecular complexes and	Wah Chiu Claude Sauter	Gen Sazaki
	101020	engineering crystallization	Claude Sauter	Gen Sazaki
	MS24	Photo-excited state crystallography	Sebastien Pillet	Yoshiki Ozawa
	MS25	Crystallographic teaching using new computer	T. N. Guru Row	Armel Le Bail
	101020		1. N. Gara now	Airriei Le Daii
	MS26	and internet based approaches	Francesca P. A.	Roland Winter
	101526	Biological and soft condensed matter under pressure	Francesca P. A. Fabbiani	Roland Winter
1000	MS27	NA. Itian along the property for the plateurs in the set		Orietiana Farraria
	IVI527	Multitechnique approach for the determination of	Hartmut Fuess	Cristiano Ferraris
	MCOO	inorganic structures	Javier Ellena	Hoken Aralan
	MS28	Uncommon organic and organometallic structures and functions	Javier Elleria	Hakan Arslan
17:20-17:30		Break		
17:30-18:30	KN7	Electron crystallography of 2D crystals: Interface	(to be announced)	
17.50-10.50	IXIV	between cryo-EM and crystallography	(to be announced)	
	7/2			
	KN8	Wolfgang Baumeister  Advances in direct-space structure determination of	René de Gelder	
	IVINO	molecular materials from powder diffraction data	Helle de deldel	The same
100	X	Kenneth Harris		Value A
and Principles of the Control of the	To Tours	Kenneul Hailis	The state of the s	A COLUMN TO THE REAL PROPERTY.
3	KNIO	Powder diffraction studies of proteins	Pohort B von	
	KN9	Powder diffraction studies of proteins  Irene Margiolaki	Robert B. von Dreele	



### Tuesday, August 26, 2008

Time	Session	Theme (Speaker)	Chair	Co-Chair						
8:30- 9:30	KN10	Virus structures	Jack Johnson							
		Zihe Rao								
	KN11	Crystallochemical basis of synthetic mineral	Giovanni Ferraris							
		immobilization								
		Timothy John White								
	KN12	Imaging of quantum dots and metallic	John C. H. Spence							
		nanoclusters at diffraction-limited resolution from								
		electron diffraction patterns								
	1 1	Jian-Min Zuo								
9:30- 9:55		Break								
9:55-12:30	MS29	Virus structure and antiviral strategies	Jack Johnson	Mark J. van Raaij						
	MS30	From minerals to materials	Rainer Hock	Gerard Ferey						
	MS31	Electric and magnetic properties of molecular	Masahiro Yamashita	Andrea Cornia						
		crystals								
	MS32	Nanostructure refinement and solution	Cinzia Giannini	Francesco Matteucci						
	MS33	Liquids and amorphous systems at high pressure	Malcom Guthrie	Yoshinori Katayama						
	MS34	Advanced electron microscopy	Randi Holmestad	Angus Kirkland						
	MS35	Combined XAFS and diffraction of inorganic structures	Kiyotaka Asakura	Andrea Di Cicco						
12:30-14:45	5 Lunch Break and Poster Display									
14:45-17:20	MS36	Biological electron diffraction, electron	(to be announced)	(to be announced)						
		microscopy, and general imaging								
	MS37	Crystal properties and bonding: What we really	Mark Spackman	Kiyoaki Tanaka						
		learn from accurate charge density studies and	1 725 16							
		quantum calculations?								
	MS38	Self-organization and self-assembly: From nucleation	Dorota Pawlak	(to be announced)						
		to crystal growth, from eutectics to photonic and								
		liquid crystals, and from theory to application								
	MS39	PDF/RDF analysis from pulsed-neutron and X-ray	Takeshi Egami	Matt Tucker						
		scattering	rancom Egam	Matt racket						
	MS40	Crystallography of planetary materials at extreme	Takehiko Yagi	John Parise						
	101010	conditions	ranorimo ragi	0011111 41100						
	MS41	Precession electron diffraction and electron	Stavros Nicolopoulos	Jon Gjønnes						
	WIGHT	crystallography	Ctavico i vicolopoulos	borr ajørines						
	MS42	Decision making and algorithms for automation in	Harry Powell	Rob Hooft						
	WOTE	macromolecular structure solution	Tiany rowen	Hob Hook						
17:20-17:30		Break								
17:30-18:30	KN13	Biological electron crystallography	(to be announced)	State State of						
11.00 10.00	14110	Yoshinori Fujiyoshi	(to be announced)							
		Charge density studies on the photo-excited states	Philip Coppens							
	KN14			The County of th						
	KN14			The state of the s						
		Claude Lecomte	Thomas Proffen							
	KN14 KN15	Claude Lecomte  Nanostructure refinement and solution	Thomas Proffen							
19:00-21:35		Claude Lecomte	Thomas Proffen  Massimo Nespolo	Kazumasa Ohsum						

# XXI Congress of the International OSAKA. Union of Crystallography



### Wednesday, August 27, 2008

Time	Session	Theme (Speaker)	Chair	Co-Chair						
8:30-9:30	KN16	Large macromolecular complexes (Immunology)	(to be announced)							
		Piet Gros								
	KN17	Structure-properties relationships	Oscar Au-Alvarez							
		Judith A. K. Howard								
	KN18	Electron diffraction intensities and structure	Laurence Marks							
		analysis								
		Jon Gjønnes								
9:30-9:55		Break								
9:55-12:30	MS43	Structural biology of the cell	Pedro Alzari	Hanna S. Yuan						
	MS44	Teaching macromolecular crystallography	Katherine Kantardijeff	Bernard D. Santarsiero						
	MS45	Crystal design from hydrogen bond to halogen	Alicia Beatty	Mohan Bhadbhade						
		bond and beyond								
	MS46	Powder diffraction studies of hydrogen storage	Martin O. Jones	Pamela Whitfield						
		materials	A 15							
	MS47	High pressure studies on advanced and nano-	Natalia Dubrovinskaia	Vladimir Solozhenko						
		materials								
	MS48	Physical properties from integrated electron	Anatoly Avilov	Kenji Tsuda						
		diffraction and X-ray diffraction								
	MS49	Wide-gap semiconductors for health, energy and	Koichi Kakimoto	David Bliss						
	46	environment								
10.00 14.45	11 1	Luck Dead and Dead	District	100						
12:30-14:45	Lunch Break and Poster Display									
14:45-17:20	MS50	Hot structures	Pang Chui Shaw	Seong Eon Ryu						
	MS51	Complementarity of SAXS and SANS with other	Jill Trewhella	Tetsuro Fujisawa						
		structural methods in molecular biology								
	MS52	Host-guest crystal chemistry	Susan A. Bourne	Petra Bombizc						
	MS53	Developments in structure solution and refinement	Hideo Toraya	Peter W. Stephens						
		from powders		7 1124						
	MS54	Shape memory alloys	Kurt R. A. Ziebeck	Takeshi Kanomata						
	MS55	Surfaces	Dilano K. Saldin	Federico Boscherin						
	MS56	Phase transitions and physical properties at high	Laura R. Benedetti	Guoyin Shen						
A CONTRACTOR OF THE PARTY OF TH		pressure								
17:20-17:30		Break	The second second second							
17:20-17:30 17:30-18:30	KN19	Combined methods: SAXS/NMR,	(to be announced)							
	KN19	Combined methods: SAXS/NMR,	(to be announced)							
	KN19		(to be announced)							
	KN19	Combined methods: SAXS/NMR, SAXS/crystallography	(to be announced)  Osamu Shimomura							
	-	Combined methods: SAXS/NMR, SAXS/crystallography Jill Trewhella Frontiers in high pressure neutron diffraction								
	-	Combined methods: SAXS/NMR, SAXS/crystallography Jill Trewhella								



### Thursday, August 28, 2008

Time	Session	Theme (Speaker)	Chair	Co-Chair					
8:30-9:30	KN22	Recent and future advances in neutron diffraction	(to be announced)	ĺ					
		Nobuo Niimura							
	KN23	Crystallography and mechanisms of structural	Anthony M. Glazer						
		phase transitions: A modern perspective							
		J. Manuel Perez-Mato							
	KN24	Nanostructures: From ensemble average to single	Sol M. Gruner						
		object properties							
		Till Hartmut Metzger							
9:30-9:55		Break							
9:55-12:30	MS57	Recent and future advances in neutron structural	Dean Myles	Ichiro Tanaka					
		biology							
	MS58	Structure-property correlations and phase	Jens Kreisel	Wolfgang Kleemann					
		transition in inorganics							
	MS59	Chemical recognition and supramolecular	Mir W. Hosseini	Paola Paoli					
		architectures							
	MS60	Microstructure and structural imperfections	Andres Leineweber	Tamas Ungar					
	MS61	New algorithms for magnetic crystallography and	Sean Cadogan	Maxim Avdeev					
	East.	understanding magnetic structures							
	MS62	Real space direct methods	Patrick Combettes	Jian-Min Zuo					
	MS63	XAFS in biocrystallography	Isabella Ascone	Thierry Prangé					
12:30-14:45	Lunch Break and Poster Display								
14:45-17:20	MS64	New membrane protein structures	Robert Stroud	Atsuko Yamashita					
	MS65	Recent progress in synchrotron data collection	Ruslan Sanishvili	Clemens Schulze-Briesse					
	MS66	Co-crystals: Theory, synthesis and use	Miao Du	Andrew Bond					
	MS67	Quantum phase transitions	Bella Lake	Michel Kenzelmann					
	MS68	Extraction of physical and chemical properties	Ullrich Pietsch	Wolfgang Scherer					
		from charge density maps	The same						
	MS69	Use of coherence in life and physical sciences	Ivan Vartaniants	Henry Chapman					
	MS70	Crystal chemistry and crystallography of aperiodic	Yuichi Michiue	Luca Bindi					
		crystals							
17:20-17:30	1	Break							
17:30-18:30	KN25	Incommensurate and composite modulated	Sander van						
1	ME.	structures	Smaalen						
		Gervais Chapuis							
	KN26	Advances in micro and nano-SAXS	Dmitri Svergun						
		Peter Fratzl							
	KN27	Synchrotron X-ray and neutron scattering	Michael Steiner	Aller Man Con Co					
	-	investigations of metal oxides							
	Sec. 32	Alan Tennant							

# XXI Congress of the International OSAKA. Union of Crystallography



### Friday, August 29, 2008

Time	Session	Theme (Speaker)	Chair	Co-Chair
8:30-9:30	KN28	Structural pharmacology and drug discovery: Using	(to be announced)	
		crystallography to explore biological and chemical		
		space		
		Tom Blundell		
	KN29	Crystal design and synthesis: Reticular chemistry	Mohamed Eddaoudi	
		Omar M. Yaghi		
	KN30	Studies of new multiferroic materials	Juan Rodriguez-	
		Paolo Radaelli	Carvajal	
9:30-9:55		Break		
9:55-12:30	MS71	Biophysical techniques for detecting ligand	Rod Hubbard	Roderick E.
		binding to pharmaceutical targets		Hubbard
	MS72	Micro-SAXS for nanoscience and medicine	Peter Fratzl	Jean Doucet
	MS73	Structure-functions relationships of MOF	Mohamed Eddaoudi	Stuart L. James
	MS74	Multiferroic materials	Tsuyoshi Kimura	Loreynne Pinsard-
			1 / // - 1 - 1 - 1 / / /	Gaudart
	MS75	Charge, spin and momentum density studies in	Beatrice Gillon	Piero Macchi
		material science		
	MS76	Diffractive imaging	Fu-Rong Chen	Helen Faulkner
	MS77	Diffuse scattering in partially ordered/disordered	Hiroshi Abe	Campbell Branton
3 4/ 12		systems		A CONTRACTOR
12:30-14:45	1/	Lunch Break and Post	ter Display	
14:45-17:20	MS78	Crystallization of membrane proteins	Eva Pebay-Peroula	Shinya Yoshikawa
	MS79	Motion in macromolecular machines	Michael Rossmann	Hao Wu
	MS80	Understanding and controlling polymorphism	Susan M. Reutzel-Edens	Urszula Rychlewska
	MS81	New neutron sources	Shane Kennedy	Yukio Noda
	MS82	Magnetic Compton scattering	Yoshiharu Sakurai	Hiroshi Kawada
	MS83	Femto-second diffraction: Time resolved studies	Simone Techert	Robert Feidenhans
	MS84	Quasicrystals and related giant crystalline alloys	Eiji Abe	Ronan McGrath
17:20-17:30		Break		
17:30-18:30	KN31	Bacterial membrane proteins (to be determined)	Brian Matthews	
	KN32	Crystal engineering for developing new materials,	Nair Rodriguez-	
	-	pharmaceutical	Hornedo	The state of the
		Michael John Zaworotko		
	KN33	Quasicrystals: Structures, properties and	Walter Steurer	CONTRACTOR OF THE PARTY OF THE
	No	applications		100
	471	An Pang Tsai		25



### Saturday, August 30, 2008

Time	Session	Theme (Speaker)	Chair	Co-Chair
8:30-9:30	KN34	Structural genomics, focused structural genomics	Liang Tong	
		Andrzej Joachimiak		
	KN35	XUV and X-ray free electron lasers	Akira Kira	
		Jochen R. Schneider		
	KN36	Structure refinement and structure modelling:	Wulf Depmeier	
		A chemical probe for complex mineral groups		
		Roberta Oberti		
9:30-9:55		Break		
9:55-12:30	MS85	Structural proteomics, focused structural proteomics	Raymond Stevens	Rebecca Page
	MS86	Perovskites and related materials	Dhanajai Pandey	Christpher J. Howard
	MS87	Design and applications of nanoscale materials	Satoshi Takamizawa	Jagadese J. Vittal
	MS88	Algorithmic developments for solving and refining	Hai-fu Fan	Martin Lutz
		periodic and aperiodic structures		
	MS89	Space groups and their generalizations: A tribute	Hans Grimmer	Massimo Nespolo
		to E. Ascher and J.J Burckhardt		
	MS90	New X-ray sources (ERLs, table top SR, (X)FELs)	Gerhard Materlik	Tadashi Matsushita
	MS91	Spinel - geometrically frustrated system-	Kazuhisa Kakurai	Bryan Chakoumakos
		Dedicated to Prof. Nishikawa		
12:30-13:45		Lunch Break		
13:45-16:20	MS92	Structural informatics and database	Zbigniew Dauter	Jane Richardson
	MS93	RNA and DNA structures	Akio Takenaka	A. C. Dock-Bregeon
	MS94	Complementary low-Z element absorption	Uwe Bergmann	Elizabeta Holub-
	711	spectroscopy by X-ray Raman scattering		Krappe
	MS95	Microanalysis of cultural heritage	Yasuko Terada	Winfried Kockelmann
	MS96	Programming for CIF and related filestructures	I. David Brown	Ilia Guzei
	MS97	New X-ray detectors: Pixel detectors	Mark Tate	Pablo Fajardo
	MS98	Knowledge-based applications in structural	Martyn Winn	J. van de Streek
	1	chemistry		W / AS
16:20-16:30	1	Break		1/10
16:30-17:30	PL2	NMR in solution and X-ray diffraction in crystals for	Eddy Arnold	
		postgenomic biology		
		Kurt Wüthrich		



### **WORKSHOPS**

### Workshop on Teaching Crystallography in the 21<sup>st</sup> Century

August 23, 2008 (9:00 - 15:30)

Grand Cube Osaka / Osaka International Convention Center, Japan

Organizer: Paola Spadon

(Chair of the Crystallographic Teaching Commission)

Elena Boldyreva

(Member of the International Program

Committee)

In view of the important opportunity, that will gather together crystallographers coming from all over the world to the IUCr, in recognition of the importance of teaching crystallography for the research community, and responding a large interest in the topics related to teaching, the Program Committee has allocated much time for discussing problems related to education. In addition to three MS (see the Program), a special will be dedicated specially to teaching.

All key-note lecturers from the IUCr Congress, the MS speakers, chairs and co-chairs, as well as the members of the Program Committee **are allowed and even welcome** to speak at the Workshop. There are no restrictions for the participation in the Workshop also for any of the key-note

lecturers, MS speakers, chairs and co-chairs, as well as the members of the Program Committee from the previous IUCr Meetings. In this way we really hope, that a great number of names, who would otherwise be excluded from the list on the formal basis, would contribute.

As tentative topics for the Workshop, we suggest "Teaching crystallography for non-crystallographers" ("Crystallography and Chemical Bonding", "Crystallography and Pharmaceuticals", "Crystallography and New Materials") and "Teaching Advanced Crystallography for Experts" ("Teaching Diffuse Scattering", "Teaching Crystallography of Modulated Structures"). Other suggestions are most welcome.

Please send the proposed titles of your contributions to the pre-Congress Workshop to:

Prof. Paola Spadon,

Chair of the Crystallographic Teaching Commission, paola.spadon@unipd.it

and

Prof. Elena Boldyreva, a member of the International Program Committee boldyrev@nsu.ru

## Workshop on New Routes to Crystallographic Data Publication

August 23, 2008 (10:00 -15:00)

Grand Cube Osaka/Osaka International Convention Center, Japan

Organizers: Simon Coles (Chair)
Mike Hursthouse

(University of Southampton, UK)

John Huffman

(Indiana University, USA)

Peter Strickland (IUCr)

Frank Allen (CCDC)

John Westbrook (PDB)

Aimed at initiating a wide-ranging debate on new routes for the effective and efficient dissemination of the ever-increasing volume of crystallographic raw and results data, as a complementary approach to the conventional route of publication of scientific journal articles, this event is aimed at:

- a) raising awareness of innovative procedures under development for data dissemination and the new opportunities they can provide for publication,
- b) enabling groups working in the area to compare approaches and develop a unified strategy for data management, including publication and preservation and
- c) inviting participation in this topic from interested parties.

Registration Fee: Free

URL: http://www.ncs.chem.soton.ac.uk/osaka2008.htm

Contact person: Simon Coles at s.j.coles@soton.ac.uk

# **EVENING SESSION Art and Crystallography**

August 26, 2008 (tentatively 19:00 - 21 :35)

Grand Cube Osaka / Osaka International Convention Center, Japan

Organizer: Massimo Nespolo (Chair) Kazumasa Ohsumi (Co-chair)

The special session is scheduled in the evening on August 26, 2008, the 3rd day of the scientific

program of the Congress. The intrinsic beauty of crystal and its symmetry inspires artists, while the crystallographic understanding of the beauty of art has been achieved after the great effort. Interesting topics will be presented in an enjoyable evening atmosphere. Its program will appear shortly.

### SATELLITE MEETINGS

## 2008 Kyoto Crystallographic Computing School

- Sharing our knowledge -

August 18-23, 2008

Kansai Seminar House, Kyoto

Organizers:

A. L. Spek (Utrecht University, Netherlands)

R. Grosse-Kunstleve (LBNL, USA)

M. Yao (Hokkaido University, Japan)

A. Nakagawa (Osaka University, Japan)

H. Powell (MRC, UK)

L. Cranswick (NRC, Canada)

The Kyoto Crystallographic Computing School aims to bring together developers and users interested in looking beyond the interface. The school is structured to foster the exchange of ideas via formal lectures, afternoon tutorials, coding challenges and code comparison sessions.

During the first conference on crystallographic computing held at the Pennsylvania State College, USA in April 1950, Ray Pepinsky's introduction noted that solving the major computing problems would "require many minds. Our aim here is to share what we know - to crosspollinate our minds."

Currently, there is a wide range of crystallographic software under development, including larger community projects such as Clipper/CCP4, CCTBX/Phenix, DANSE, and Age Concern. These do not only develop new methods, but also harvest the knowledge of previous generations.

The Kyoto Crystallographic Computing School invites the world-wide crystallographic community (including macro- and small-molecule crystallography, powder diffraction, and small-angle scattering) to an intensive session of working together and learning from each other.

Thanks to support from sponsors, we have been able to keep the registration cost (including accommodation and meals) below 70,000 YEN (ca. 430 EUR, 665 USD). The number of attendees is limited to 80 students. For more information visit the web site below.

The registration deadline is July 25th, 2008.

URL: http://www.iucr.org/iucr-top/comm/ccom/ schools.html

Contact person: Min Yao at

yao@castor.sci.hokudai.ac.jp

# XXI Congress of the International OSA Union of Crystallography



# The 6th International Conference on Borate Glasses, Crystals and Melts

August 18-22, 2008

Egret Himeji, Hyogo, Japan

Organizer: Dr. Norimasa Umesaki

(JASRI/SPring-8) (Chair)

International Organizing Committee:

Adrian C. Wright (UK) Alexis Clare (USA)

Yanko Dimitriev (Bulgaria)

Giuseppe Dalba (Italy)

Natalia M. Vedishcheva (Russia)

Alex Hannon (UK)

Efstratius Kamitsos (Greece)

Doris Ehrt (Germany)

Josef W. Zwanziger (Canada)

Steven A. Feller (USA)

The 6th International Conference on BORATE GLASSES, CRYSTALS AND MELTS follows the previous meetings held at Alfred, New York, USA (1977); Abingdon, England (1996); Sofia, Bulgaria (1999); Cedar Rapids, USA (2002) and Trento, Italy (2005). The conference will be dedicated to Professor Adrian C. Wright in order to honor his achievements in the Glass Science and in

particular Borate Glasses. This conference is also recognized as a satellite meeting of the 21st Congress of the International Union of Crystallography (IUCr2008, August 23-31 2008, Osaka, Japan).

Topics covered will include, but are not limited, to the following: Short and intermediate range order in borate glasses and melts; Structure and physical properties; Computer simulation and modeling; Phase separation and inhomogeneities; New spectroscopic techniques; EPR, XAFS, XPS, IR, NMR, and diffraction studies of borates; Novel borate glasses and crystals; Mineralogical crystals; Local thermal properties; Thermodynamics of borate systems; Industrial applications of borate and borosilicate glasses; Biomedical applications; Optical properties and materials; Superionic systems and ionic conductivity

URL: http://borate2008.spring8.or.jp/

Contact person: Dr. Norimasa Umesaki at

umesaki@spring8.or.jp,

Tel: +81-791-58-0834, Fax: +81-791-58-0830

# X-ray and Neutron Techniques for Nano-Structural Research

**August 20-22, 2008** SPring-8, Japan

Organizer: IUCr Commission on Small-Angle

Scattering

(http://www.iucr.org/iucr-top/iucr/csas.html)

Instrumentation and experimental techniques related to the following topics:

Applications of ASAXS in the structure of nanocomposites / Applications of GISAXS on thin films / Applications of XPCS and neutron spin echo on dynamics / Systems under flow and time resolved studies / Applications of scanning microbeam SAS / New Modeling methods of SAS / X-ray and neutron imaging - comparison with scattering / Advances in the studies of biological materials by SAXS and SANS / New Japanese neutron source

URL: http://xrm.spring8.or.jp/IUCr\_satellite.html Contact person: Naoto Yagi at yagi@spring8.or.jp

# **XAFS Tutorial for Crystallographers** and Beginners

August 20-23, 2008

Photon Factory, Tsukuba, Japan

Organizer: Kiyotaka Asakura

(Hokkaido Univ., Japan)

Combination of XAFS and diffraction techniques are important for the structure analysis of metal proteins, nanomaterials and catalysts. The purpose

of the meeting is to give the general introduction and analysis tutorials to crystallographers who are beginners of XAFS techniques.

The meeting contains 1) general introduction of XAFS, 2) Theory of XAFS, 3) How to analyze EXAFS and practice, 4) Tour in Photon Factory, 5) Applications of XAFS

URL: http://www.hucc.hokudai.ac.jp/~q16691/ XAFS\_tut

Contact person: Kiyotaka Asakura at askri@cat.hokudai.ac.jp

### **Molecular Crystals Exhibiting Exotic Functions**

August 21-22, 2008

Senri Life Science Center Building, Osaka, Japan

Organizers: T. Enoki

(Tokyo Institute of Technology)

A. Kobayashi (Nihon University)

H. Kobayashi (Nihon University)

T. Sugawara

(The University of Tokyo)

T. Sugimoto

(Osaka Prefecture University)

J. Yamada (University of Hyogo)

M. Yamashita (Tohoku University)

This satellite meeting will cover the following topics:

- -Molecular conductors and superconductors
- -Molecule-based magnets
- -Molecular assemblies with other novel physical properties

### URL: http://www.chs.nihon-u.ac.jp/chem\_dpt/ lab/kobayashi/IUCr2008/

Contact person:

A.Kobayashi at akoba@chs.nihon-u.ac.jp &

T. Sugimoto at toyonari@c.s.osakafu-u.ac.jp

# Neutron Protein Crystallography (NPC) - Current Status and Future Prospect

#### August 21-22, 2008

JAEA Ricotti in Tokai, Ibaraki, Japan

Organizers: Nobuo Nilmura (Ibaraki University)

Ryota Kuroki

(Japan Atomic Energy Agency)

**Alberto Podjarny** 

(Institut de Genetique et de Biologie

Moleculaire et Cellulaire)

This satellite meeting will cover the following topics:

- 1) Hot topics, recent results of NPC
- Current status of new neutron sources, J-PARC, SNS, ISIS and others
- 3) Techniques and instrumentations such as fully deuterated proteins, crystallization of proteins, software of joint refinement of neutron and X-ray data, direct phasing of neutron data and so on
- 4) Future prospects of NPC

### URL: http://nsb.mat.ibaraki.ac.jp/2008iucr\_nsb.html

Contact person: Nobuo Niimura at niimura@mx.ibaraki.ac.jp

(The background of pages 11-13 are photos of J-PARC presented by JAEA.)



# **Symposium on Organic Micro- and Nano-Crystals**

August 22, 2008 (13:00-18:30)

IMRAM, Tohoku University, Sendai, Japan

Organizers: Hachiro Nakanishi

(IMRAM, Tohoku University, Japan)

Hidetoshi Oikawa

(IMRAM, Tohoku University, Japan)

During the past decade a certain concrete progress has been made in the field of organic small crystals. To evaluate and facilitate the growth of this emerging field in both science and technology, present status of fabrication, characterization, chemistry, applications etc. of organic micro- and nano-crystals will be presented mainly by invited speakers. Poster session will be held on demand.

URL: http://www.tagen.tohoku.ac.jp/labo/nakanishi/iucr2008.htm

Contact person: Hachiro Nakanishi at

hnakanis@tagen.tohoku.ac.jp

# Development of Advanced Instruments for New Electron Microscopy and Diffraction

September 1-2, 2008

Nagoya University, Nagoya, Japan

Organizers: Nobuo Tanaka (Nagoya Univ., Japan)

Laurence D. Marks (Northwestern Univ., US)

Koh Saitoh (Nagoya Univ., Japan)

In recent years, electron microscope instrumentation and techniques have achieved remarkable

progresses such as spherical aberration correction, monochromator, electron tomography, etc. This meeting is aimed at advanced instrumentation, newly developed techniques and their applications to nano-materials covering the following topics: Precession Electron Diffraction / Fast Diffraction / Advanced Electron Microscopy / Diffractive Imaging / Charge Density in the Electron Microscopy / Surfaces / EELS, atom by atom

### URL: http://microscopy.esi.nagoya-u.ac.jp/~iucrsatellite/

Contact person: Nobuo Tanaka at

a41263a@nucc.cc.nagoya-u.ac.jp

# Powder Diffraction on Proteins - Current Status and Future Prospect -

#### **September 1-2, 2008**

Central Hall in Kyoto Institute of Technology Kyoto, Japan

Organizers: Keiko Miura (SPring-8/JASRI)

Yuji Ohashi (SPring-8/JASRI) Masaki Takata (SPring-8/RIKEN)

Hajime Mori (KIT)

Shigeharu Harada (KIT)

Hiroyoshi Matsumura (Osaka Univ.) Midori Kamimura (Teijin Pharm.)

Kazushi Yokoyama (CAST)

International organizing committee:

Doebbler (USA)

William I.F. David (UK), Irene
Margiolaki (France), Andy Fitch
(France), Jonathan Wright (France),
Bob Von Dreele (USA), Marc Schiltz
(Switzerland), John Helliwell (UK),
Carmelo Giacovazzo (Italy), Peter
Stephen (USA), Gavin Fox (France),
Richard Kahn (France), Mathias
Norrman (Denmark), Jennifer

This satellite meeting will cover the following topics:

- Hot topics: Recent results of new structure determination from powder diffraction on proteins and so on
- 2) Software progress: Indexing, *ab-initio* structure determination from X-ray powder diffraction data, merging with software for protein crystallography and so on
- 3) Techniques and Instrumentation: High resolution X-ray powder diffraction data collection, Synchrotron and laboratory use, sample preparation
- 4) Application in industrial fields, cf. pharmaceutical companies
- 5) Future prospects of powder diffraction on proteins

URL: to be announced Contact person: Keiko Miura at miurakk@spring8.or.jp

### OPEN COMMISSION MEETINGS

Sunday, August 24, 2008 Commission on Journals (12:30-14:45)

Coordinator: G. Kostorz at gk-iucr@ethz.ch

Tuesday, August 26, 2008 Commission on International Tables (lunchtime)

Coordinator: H. Fuess at hfuess@tu-darmstadt.de

Wednesday, August 27, 2008 Commission on Biological Macromolecules (lunchtime)

Coordinator: E. Arnold at arnold@cabm.rutgers.edu

Friday, August 29, 2008 Commission on Aperiodic Crystals (lunchtime)

Coordinator: R. Withers at withers@rsc.anu.edu.au

Saturday, August 30, 2008 Commission on Mathematical and Theoretical Crystallography (lunchtime)

Coordinator: M. Nespolo at massimo.nespolo@lcm3b.uhp-nancy.fr

### CRYSTALLOGRAPHIC SOFTWARE FAYRE

#### August 26-29, 2008

Grand Cube Osaka / Osaka International Convention Center, Japan

Organizer: L. Cranswick (NRC, Canada)

Developers of not-for-profit crystallographic software are invited to present and discuss the latest features and algorithms with their programs

at the 2008 Osaka Crystallographic Software Fayre.

Contact person: L. Cranswick at

Lachlan. Cranswick@nrc.gc.ca

URL: http://www.iucr.org/iucr-top/ comm/ccom/2008softwarefayre/

## CONGRESS MAIN TOPICS

### 01 Instrumentation and Experimental Techniques

- 1. Conventional Sources of X-rays
- Synchrotron Radiation I: Instrumentation and Techniques
- 3. Synchrotron Radiation II: Applications
- 4. New X-ray Sources
- 5. Electron Diffraction (LEED, RHEED, PED, AED)
- 6. Cryo-Electron Microscopy
- 7. X-ray Imaging
- Neutron Scattering I: Techniques and Instrumentation
- 9. Neutron Scattering II: Applications
- 10. Area Detectors
  - (Multi-wire, Image Plate, CCD)
- 11. Data Accuracy and Detectors
- 12. Cryo-Crystallography:
  - Techniques and Instrumentation
- 13. Fast (pico-second) Crystallography14. Free Electron Lasers for X-rays

### **02 Methods for Structure Determination**

- 1. Difficult Structures
- 2. Direct Methods of Phase Determination
- 3. Maximum Entropy Methods
- 4. Anomalous Dispersion/MAD/MIR Phasing
- 5. Laue Time-Resolved Methods
- 6. Incommensurate Structure Solution
- 7. EXAFS and XANES
- 8. High Resolution NMR and Macromolecules
- 9. Liquid Structure Determination
- 10. Structure Prediction: Computational Methods
- 11. *Ab Initio* Powder Diffraction Solutions: Molecular Compounds
- 12. *Ab Initio* Powder Diffraction Solutions: Inorganic Compounds
- 13. Ab Initio Powder Diffraction Solutions: Electron Diffraction
- 14. Ab Initio Low Resolution Macromolecular Phasing
- 15. X-ray and Neutron Complementarity
- 16. Rietveld Refinement Methods

### 03 Computers in Analysis, Molecular Modelling and Molecular Design

- 1. Programs for Refinement and Analysis
- 2. Atomic Displacement Analyses and Variable Temperature Analyses
- 3. Graphics and Virtual Reality
- 4. Rational Drug Design
- 5. Materials Design
- 6. Structure Simulations: Inorganic Crystals
- 7. Structure Simulations: Protein Folding Studies
- 8. Map Fitting and Modification
- 9. Image Reconstruction
- 10. Homology Modelling, Structural Families and Docking
- 11. Use of Genetic Algorithms and Other Optimization Methods

### 04 Crystallography of Biological Macromolecules

- 1. Peptide and Protein Crystallization
- 2. Enzymes and Enzyme Catalysis
- 3. Metallo-Enzymes
- 4. Muscle and Motor Proteins
- 5. Nucleic Acids
- 6. Protein DNA Interactions
- 7. Protein RNA Interactions
- 8. Protein Design and Engineering
- 9. Protein Biosynthesis
- Cryo-Crystallography: Applications to Macromolecules
- 11. Proteins of the Immune System
- 12. Receptor and Signal Transduction Proteins
- 13. Viruses and Viral Proteins
- 14. Macromolecular Assemblies
- 15. Macromolecular Based Drug Design
- 16. Multidomain Proteins
- 17. Structural Motifs
- 18. Organelles
- 19. Diseases and Toxicity
- 20. NMR Applications to Macromolecules
- 21. Time Resolved Studies
- 22. Structural Genomics
- 23. High Resolution Protein Structures
- Water and Other Solvent Structures in Macromolecules
- 25. Hot Macromolecular Structures

### 05 Crystallography of Biological Small Molecules

- 1. Peptides
- 2. CNS Agents
- 3. Antibiotics
- 4. Steroids
- 5. Other Natural Products
- 6. Other Biosynthetic and Exotic Molecules
- 7. Hydrogen Bonding and Included Water Structure

### 06 Crystallography of Organic Compounds

- 1. Sugars
- 2. Lipids
- 3. Alkaloids
- 4. Fused Ring Systems
- 5. Fullerenes and Carbon Cages
- 6. Supramolecular Assemblies
- 7. Inclusion Compounds and Complexes
- 8. Intercalates
- 9. Clathrates

### 07 Crystallography of Organometallic, Coordination and Main Group Compounds

- Metal Atom Complexes (N = 1-3) and Metal Clusters (N>3)
- 2. Molecular Recognition Complexes
- 3. Fullerene Metal Complexes
- 4. Supramolecular Coordination Complexes
- 5. Main Group Chemistry
- 6. Cage and Metallo-Cage Structures
- 7. Bio-Inorganic Structures
- 8. Bio-Mineralization and Modifications
- 9. Inclusion Compounds and Clathrates
- 10. Molecular Magnets

### 08 Structure/Property Relationships

- 1. Molecular Recognition
- 2. Chemical Crystallography of the Future
- 3. Dynamic Properties in Molecular Crystals
- 4. Solid State Reactions
- 5. Structural Thermodynamics and Kinetic Aspects
- 6. Phase Transitions
- 7. Analysis of Atomic Displacement Parameters
- 8. Intermolecular Interactions
- 9. Structure and Chemical Reactivity
- Polymorphism and Isomorphism: Identification and Characterization
- 11. Polymorphism: Applications
- 12. Time Resolved in situ Reactions
- 13. Hydrogen Bonding Studies
- 14. Structure-Property Relationships

### 09 Crystal Engineering

- 1. General Applications and Strategy
- 2. Organic Compounds
- 3. Inorganic Compounds
- 4. Organometallic Complexes
- 5. Intermolecular Interactions: Exploitation
- 6. Noncentrosymmetric Systems: Creation and Applications

#### 10 Inorganic Crystallography and Geosciences

- 1. General Geosciences
- 2. Systematics of Inorganic Compounds
- 3. Systematics in Geosciences
- 4. High Pressure and High Temperature Studies
- 5. Minerals: Characterization Methods and Structures
- 6. Zeolites (Natural and Synthetic)
- 7. Exotic Molecules

### 11 Crystallography in Material Science

- 1. Superconducting and Semi-Conducting Materials
- 2. Catalysis: In situ Studies
- 3. Giant Magnetoresistance Materials
- 4. Fullerene Complexes: Applications
- 5. Noncrystalline Materials
- 6. Ceramics, Glasses and Amorphous Materials
- 7. Aperiodic and Incommensurate Structures
- 8. Polymers
- 9. Liquid Crystals
- 10. Nonlinear Optical and Electronic Materials
- 11. Perovskite Materials
- 12. Ferroic and Ferroelectric Structures
- 13. Battery and Fuel Cell Materials
- 14. Residual Stress Measurements
- 15. Pore Framework Materials

### 12 Surfaces, Interfaces, Liquids and Thin Films

- Surface and Interface Crystallography by X-ray and Neutron Diffraction
- 2. Surfaces and Catalysis
- 3. Dynamic Diffraction Methods
- 4. X-ray Reflectivity: Instrumentation and Applications
- Neutron Reflectometry: Techniques and Applications
- 6. Recent Liquid Structure Determination
- 7. Small Angle Scattering
- 8. Diffuse Scattering
- 9. Interfacial Structures
- 10. Micelles
- 11. Thin Films and Multilayers
- 12. Magnetic and Conducting Properties of Thin Films

#### 13 Fibre Diffraction

- 1. Polymers: Synthetic Fibres
- 2. Structure Determination of Fibres
- 3. Biological Fibre Diffraction
- 4. Non-Periodic and Disordered Fibres

### 14 Charge, Spin and Momentum Density

- 1. Multipole and Other Modelling Methods
- 2. Software Developments
- 3. Applications of Synchrotron Data
- 4. Maximum Entropy Applications
- 5. Experimental Methods and Techniques
- 6. Topological Analyses
- Molecular and Crystal Properties from Charge Densities
- 8. Magnetization and Spin Densities
- 9. New Frontiers

### 15 Diffraction Physics and Optics

- 1. Interferometry
- 2. Inelastic Scattering
- 3. Neutron Optics
- 4. X-ray Optics: Lenses, Guides and Focusing
- 5. Resonant Magnetic X-ray Diffraction
- 6. Anisotropic Resonant Scattering
- 7. Polarization: Generation and Exploitation
- 8. Dynamical Diffraction
- 9. Extinction and Absorption
- 10. N-beam Diffraction
- 11. Grazing Angle Incidence

### 16 Crystal Growth: Techniques, Instrumentation and Applications

- 1. Systems that are Difficult to Crystallize
- 2. Industrial Mass Crystallization
- 3. Crystal Growth from Solution and Gels
- 4. Crystal Growth and Characterization from the Melt
- 5. Microgravity Crystallization
- 6. Epitaxial Growth
- 7. Crystal Doping and Imperfections
- 8. Self-Assembled Crystals
- 9. Exploitation of Chirality
- 10. Crystal Growth: Modelling, and Predicting Morphology
- 11. Morphology Modification: Theory and Experiment
- 12. Twinning: Acceptance and Avoidance
- 13. Polymorphism: Recognition and Applications
- 14. Low Temperature in situ Crystallization

### 17 Characterization of Defects, Microstructures and Textures

- 1. Techniques, Theory and Instrumentation
- 2. Electron Microscopy
- 3. X-ray Topography
- 4. Diffraction
- 5. STM and AFM Microscopy
- Other Techniques Including Polarized Light and Infrared Studies
- 7. Cathodo and Photo Luminescence

# XXI Congress of the International OSA Union of Crystallography



### **18 Electron Microscopy**

- 1. Applications to Macromolecules
- 2. Cryo-Microscopy
- 3. New Techniques and New Instrumentation
- 4. Applications

#### **19 Electron Diffraction**

- 1. New Techniques and New Instrumentation
- 2. High Resolution Results
- 3. Other Applications and Advances

### **20 Non-Ambient Conditions**

- 1. High Pressure Crystallography I: Extremes of Temperature and Pressure
- 2. High Pressure Crystallography II: Physical Properties Under Pressure
- 3. High Pressure Crystallography III: Phase Transitions and High Pressure
- 4. High Pressure Crystallography IV: Data Acquisition and Analysis
- High Pressure Crystallography V: Biological and Soft Matter under Pressure
- 6. High Pressure Crystallography VI: New Frontiers
- 7. High Temperature Crystallography: Instrumentation, Techniques and Applications
- 8. Low Temperature Crystallography: Instrumentation, Techniques and Applications
- 9. Phase Transitions I: Characterization and Applications
- 10. Phase Transitions II: Magnetic and Structural Identification
- 11. Applications of Light and Laser Irradiation
- 12. Crystallography of Excited States

### 21 Symmetry and its Generalizations

- 1. General Symmetry: Theory
- 2. Designer Symmetry: Theory and Practice
- 3. Pseudo-Symmetry: Recognition and Applications

### 22 Aperiodic and Incommensurate Structures

- 1. Data Collection and Structure Solution
- 2. Identification and Refinement
- 3. Results and Applications

### 23 Crystallographic Topology

- 1. Group Theory and Topology
- 2. Tiling
- 3. Quasicrystals
- 4. Networks
- 5. Critical Points

#### 24 Databases

- 1. Creation and Exploitation
- 2. Coping with Rapid Expansions of Data: The Next Generation of Databases
- 3. Research Applications of the CSD
- 4. Research Applications of the PBD/ NADB
- 5. Research Applications of the ICSD
- 6. Research Applications of the PDF
- 7. Data Mining and Knowledge Generation
- 8. Bioinformatics: The Future

### 25 Industrial Crystallography

- 1. Instrumentation and Techniques
- 2. Stress-Strain Analysis
- 3. On Line Diffraction Analysis
- 4. Line Broadening
- 5. Amorphous and SAS
- 6. Microporous Materials
- 7. Nanomaterials
- 8. High Temperature Crystallography
- 9. Thick Coatings
- 10. Pharmaceutical Crystallography

### 26 Crystallographic Teaching

- 1. Changes in Teaching Methods for the Future
- 2. Maintaining Standards Despite Automation
- 3. Cheap Computer Programs for Developing Countries
- 4. Preparation for Publication; CIF Files: How Much?
- 5. Crystallography on the World Wide Web

### 27 The History of Crystallography

1. History of Crystallography

## 28 Art, Cultural Heritage and Crystallography

- 1. Art, Cultural Heritage and Crystallography
- 2. Crystallography and Art

### 29 Other Topics

### **ABSTRACT SUBMISSION**

Deadline for Submission of Bursary Applications: February 29, 2008

### **Deadline for Submission of Abstracts:** March 31, 2008

Participants, who would like to make an oral or poster presentation at the congress, must submit an abstract for the consideration and approval of the International Program Committee (IPC). The presenting author must register and pay the registration fee. Abstracts must be submitted online by connecting to the Web site, http://www.iucr2008.jp. You can enter the Abstract Submission Page using the Registration Number and Password which you get when you complete on-line registration. Abstracts sent by mail or fax will not be processed by the Secretariat and will not be forwarded to IPC. Incorrectly prepared abstracts will not be considered for presentation. Once the abstract is submitted, an automatic confirmation will be sent to the author. Submitted abstract can be modified using the Registration Number and Password. In cases of difficulties please contact the Organizing Secretariat: iucr2008@congre.co.jp using the Registration Number.

The topics of the microsymposia (MS) are all defined and up to three speakers will be invited by the corresponding MS chairpersons. The minimum two additional speakers will be selected by the chairpersons, after the evaluation of the abstracts proposed by the authors as an oral contribution. The request with the identification of MS needs to be specified at the time of abstract submission. It will be responsibility of the chairpersons to complete the MS program by selecting the additional speakers among the applying participants. The contribution will be automatically redirected to the poster session if the request for an oral presentation cannot be fulfilled; the Topics & Sub-Topics should be specified by the authors for the identification. The instructions for the preparation of the abstracts (specified below) will be available on the web site. The presenting author is required to ensure that all co-authors are aware of the contents of the abstract before submission.

Acceptance as a speaker in a given MS will be communicated to the author after the decision has been made by the respective chairpersons, in the middle of May, 2008. Acceptance of the poster contribution will be also notified to the presenting authors in the middle of May, 2008.

The accepted contributions will be printed in the Book of Abstracts. They will also be published in a special issue of Acta Crystallographica Section A.

#### **ABSTRACT PREPARATION INSTRUCTIONS**

Abstract must be written in English and contain a brief, clear statement of conclusion. All abbreviations must be defined before being used in the text. The text body should be not more than 1,800 characters. The title should be not more than 100 characters. The Program and Abstract book will not be printed in color. The graphic should be considered as 600 characters in a text. Please remember that the area of the printed abstract is small and the graphic will be correspondingly smaller. Please save your diagrams at the correct size and in grey-scale (or at a much reduced color-depth) before including them in your abstract. About the restriction on a graphic file, please see the Web site.

The name of the presenting author must appear first in the list of authors. No one may be the first author on more than ONE contribution. Invited speakers are, however, permitted to submit a poster presentation in addition to their talk. Please specify the Topics & Sub-Topics for the poster sessions. For oral sessions, specify both MS and the Topics & Sub-Topics. Three keywords must be supplied as they will be used in indexing the Book of Abstracts. A list of suggested keywords is available online in the documentation section.

(http://wdc.iucr.org/user/help/scientific\_research\_interests.html)

Further detailed information will be available on the Web site, http://www.iucr2008.jp

# XXI Congress of the International OSA Union of Crystallography



### **Poster Prize Awards**

The following poster awards will be given to the excellent students' posters.

#### **IUCr**

Poster Prize is awarded to the best student in the field of physics, chemistry and biology.

#### **CrSJ**

Poster Prize is awarded to several students each in the field of physics, chemistry and biology.

#### **RCSB PDB**

The RCSB PDB Poster Prize is awarded for the best student poster presentation of macromolecular crystallography.

#### CCDC

Cambridge Crystallographic Data Centre (CCDC) is sponsoring three Poster Prizes in chemical crystallography to younger scientists. Posters should report original research in:

- Chemical crystallography, including advances in instrumental, experimental or computational techniques or,
- Applications of small-molecule crystallographic information in, e.g., structural chemistry, molecular modelling, materials design, structural biology or chemical informatics.

Candidates should not be more than 35 years of age on the 1st January 2008. Further details are given on the Congress web site.

### STUDENT BURSARIES

The organizers are currently involved in raising funds to be redistributed as attendance bursaries to young scientists, especially those coming from the less favoured regions. It is a policy of IUCr to convey significant amounts of money to this purpose, by utilizing funds from various international institutions and by using part of the congress income.

In this respect, no reimbursements and honoraries of any sort are paid to the invited speakers and chairs of the Microsymposia.

The first requirement for obtaining a bursary is the submission of a regular abstract. Also an age limit of 35 applies.

Application form must be submitted online not later than February 29, 2008 and should be accompanied by the following documents (to be uploaded):

- -Curriculum Vitae
- -A headed paper letter from the Research Supervisor who certifies the student status of the applicant and whether the student has access to any source of funds to attend the congress.

The support of organizers, if granted, will include one or more of the following benefits (in a priority order):

- 1) waiving of the registration fee
- 2) accommodation in an inexpensive hotel
- lump sum to cover part of the travel expenses (only in exceptional cases)

In no case, funds will be anticipated to the applicant by the organizers.

## Travel Support for Senior Scientists from President's Fund

DEADLINE: March 23, 2008

The President's Fund supports senior scientists to attend IUCr Congresses. Details and an Application Form can be found on the following web site:

http://www.iucr.org/iucr-top/cong/index.html

### 60th ANNIVERSARY CEREMONY OF IUCT

60th Anniversary Ceremony of IUCr will be held just before the Opening Ceremony. The past Presidents, Theo Hahn (1984-1987), Andre Authier (1990-1993), Philip Coppens (1993-1996), Ted Baker (1996-1999), Henk Schenk (1999-2002) and Bill Duax (2002-2005) will attend the Ceremony. Since the Ceremony will be opened to the Japanese public, the simultaneous interpretation will be made at the second floor of the Main Hall. A. Authier, T. Hahn, H. Schenk and P. Coppens will give lectures (Aug 24, 25, 26 and 27, respectively)

give lectures (Aug 24, 25, 26 and 27, respectively) in the serial evening lectures for Japanese young students and general public. The lectures are aimed to introduce the history and scientific contribution of crystallography and furthermore to explain a close relation of crystallography with art and music. B. Duax will give an explanatory talk on Photo Exhibition at the luncheon seminar (Aug 28).

Date: August 23, 2008 Time: 16:00 – 17:30

#### Program:

- (1) Introductory Speech: Y. Ohashi (The President of IUCr)
- (2) Speech on Commemorative Publication: H. Schenk (Chair of Commemorative Publication Committee of IUCr)
- (3) Speech on Commemorative Photo Exhibition: Bill Duax (Chair of Commemorative Photo Exhibition of IUCr)
- (4) Congratulations: S. Sasaki (Chair of National Committee for Crystallography, Science Council of Japan)
- (5) Congratulations and Commemorative Gifts to the past Presidents and IUCr Officers: A. Takenaka (The President of Crystallographic Society of Japan)
- (6) Commemorative Lecture: T. Baker "Crystallography and the World around Us" Chair I. Torriani
- (7) Japanese Music

### **SOCIAL PROGRAM**

The following program will be organized for participants and accompanying persons.

### WELCOME RECEPTION Saturday, August 23, 2008 20:00 - 22:00

(Included in the registration fee)

The Welcome Cocktail will take place immediately after the Opening Ceremony. All the participants and accompanying persons are invited. Please join in the reception.



SOCIAL BANQUET Friday, August 29, 2008 19:00 - 21:00 (See REGISTRATION)

### CONGRESS EXCURSION TO SPring-8 Sunday, August 31, 2008

Congress Excursion to SPring-8 is arranged on August 31 (one day tour). Please reserve your sheets on the congress Web site. It costs 3000 Yen per person.

SPring-8 is the third-generation synchrotron radiation facility. Synchrotron radiation ranging from the soft X-ray (photon energy 300 eV) to hard X-ray region (300 keV) is available with the highest brilliance in the world. High-energy gamma rays (1.5-2.9 GeV) and infrared radiation are also available.

On the way to SPring-8, you will visit Himeji Castle, which was built in early 17th century. It is also called as "Egret Castle" due to the goodlooking. It was registered as the World Heritage in 1993.



### SIGHTSEEING BY AN AMHPIBIOS BUS August 25 & 27, 2008

Osaka was developed as a water front city. A sightseeing amphibious bus starts form Grand Cube Osaka. It takes about an hour and costs 500 Yen. There are seven buses per day.



#### Music Sessions August 24, 26, and 28, 2008 19:00 to 21:00

Grand Cube Osaka

Any participants of IUCr2008 are invited to join the sessions, as players or as part of the audience. Please see the Congress web page for details, and e-mail the session chair if you would like to join the performance.

Session chair:
IUCr2008 Local Organizing Committee
Secretary General
Yasushi Kai, Dr. Prof. kai@fukui-ut.ac.jp

### AWAJI PUPPET THEATER August 25, 2008

Puppet theater with the introductory lecture will be open in the evening on August 25 at Grand Cube Osaka.

Osaka was one of the trade and culture centers in Edo period (1603-1867). Bunraku, a traditional dramatic puppet performance, was created in Osaka area during the Edo period. Bunraku is the UNESCO's Intangible Cultural Humanity together with Noh & Kyogen and Kabuki.

Awaji Island is the birthplace of Bunraku. The Awaji puppet performance has been handed down from father to son through the centuries.

It takes about a half hour, and is free of charge.



### ACCOMPANYING PERSONS' PROGRAM

Three programs will be open to accompanying persons at Grand Cube Osaka during IUCr2008. Not accompany person can join it, but it costs around 300yen to 500yen.

#### The tea ceremony

The tea ceremony (Sado) is a ritual way of preparing and drinking tea. We will show you what the tea ceremony like and hope you to try.



#### Ippitugaki (Drawing on Japanese Paper)



With unique paint for Japanese paper, you actually draw pictures whatever you like on "Uchiwa" (round fan) made of Japanese paper. You can make an original Uchiwa maybe it would be good souvenir.

#### **Origami (Paper Folding)**

Paper folding, or "Origami", is one of Japan's unique traditional arts. It is the art of folding a sheet of paper into various figures such as birds, animals and many other things without using scissors or paste.



### REGISTRATION

#### **FEE**

FEE						
Payment received						
	Before May 15, 2008	After May 15, 2008				
Participant	55,000 Yen	65,000 Yen				
Student*	25,000 Yen	30,000 Yen				
Accompanying Person	10,000 Yen	10,000 Yen				
Social Banquet booking fee for registered persons	8,000 Yen	8,000 Yen				
Social Banquet booking fee for NOT registered persons	12,000 Yen	12,000 Yen				

<sup>\*</sup>A copy of a valid student card or a letter of the supervisor should be sent to the Organizing Secretariat by fax or mail.

#### **HOW TO REGISTER**

Registration should be made through the congress web site (www.iucr2008.jp) or by sending the attached Registration Form to the Organizing Secretariat.

#### **FEE INCLUDES**

**Participant or student:** participation at the congress scientific sessions, congress programs, Book of Abstracts and CD ROM. Invitation to the following social events: opening ceremony, welcome reception, and social banquet (with a booking charge of 8,000 Yen).

**Accompanying persons:** Opening ceremony, welcome reception, and social banquet (with a booking charge of 8,000 Yen). Accompanying persons are also invited to some Japanese cultural programs at the special price.

Social Banquet for those who are not registered has a fee of 12,000 Yen.

#### **METHODS OF PAYMENT**

Payment of fees must accompany all registrations. No registration will be confirmed until payment is received.

Payment can be made by the following methods: credit cards (Visa, MasterCard, American Express,

JCB and Diners Club) or bank transfer in favour

Bank Name: The Bank of Tokyo-Mitsubishi UFJ,

Ltd.

Branch Name: Senrichuo Ekimae Branch (Branch No. 577)

Address: 1-4-1 Shinsenri-higashimachi, Toyonaka, Osaka 560-0082, Japan

Account Type: Savings Account Account Number: 0399719 Account Name: IUCr2008Osaka

**SWIFT: BOTKJPJT** 

Those planning to pay the registration fee are strongly recommended to use your credit card. If you send your registration fee by bank transfer, all bank charges incurred will be borne by the payee, and please ensure that you enter your registration number before your name. Should you prefer to pay by bank transfer, you must send via fax (+81-6-6229-2556) a copy of the receipt within 5 working days, or the registration and all other services required will not be confirmed.

The secretariat will send a written confirmation to all the participants.

#### **CANCELLATION AND REFUND POLICY**

Cancellations of registrations shall be notified by sending a written and signed document to the secretariat: Fax +81-6-6229-2556.

100 % refund cancellation by: **May 15, 2008** 50% refund cancellation by: **June 30, 2008** No refund after: **July 1, 2008** 

In any case an administrative charge of 5,000 Yen applies. Refunds will be made using the same method chosen for the payment (i.e. payment by credit card will be refunded to the same credit card).

For cancellations after May 15, 2008 refunds will be made after the end of the congress.



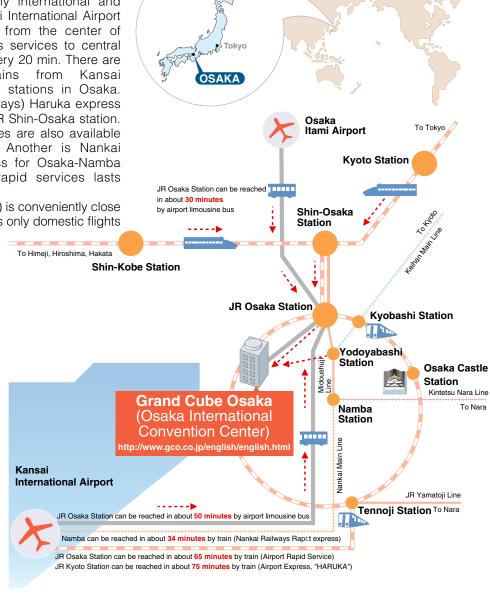
### HOW TO GET TO OSAKA

#### **BY AIR**

Osaka has two airports. Kansai International Airport (KIX) has many international and domestic flights. Kansai International Airport is situated 50 km far from the center of Osaka city. Shuttle bus services to central Osaka are available every 20 min. There are Airport express trains from Kansai International Airport to stations in Osaka. One is JR (Japan Railways) Haruka express for Kyoto stopping at JR Shin-Osaka station. JR Airport rapid services are also available to JR Osaka Station. Another is Nankai Railways Rapi:t express for Osaka-Namba station. The trip by rapid services lasts approximately one hour.

Osaka Itami Airport (ITM) is conveniently close to the downtown, but has only domestic flights

including connection flights from Narita International Airport located in Tokyo area. There are Airport Limousines to JR Osaka station every 10 min. It takes approximately 30 min. A taxi ride from Osaka Itami Airport to the downtown Osaka costs about 4,000 Yen.



### BY TRAIN FROM TOKYO OR OTHER CITIES

The main railway station in Osaka is JR & Subway Osaka/Umeda station. JR Osaka station is next to JR Shin-Osaka station, where Shinkansen superexpress and Haruka Airport express will stop. The Shinkansen line connects Shin-Osaka with Tokyo (approximately 2h. and 30min.), Nagoya (approximately 1h.) and Hakata (approximately 2h. and 30min.).

#### **BY FERRY**

A weekly ferry operates between Shanghai (China) and Osaka, Tianjin (China) and Kobe (30 min. from Osaka by train). International ferries arrive at Osaka Port International Ferry terminal apart from the domestic ferry terminal. It takes approximately 30min from the international Ferry terminal to central Osaka in combination with bus and subway lines.

### GENERAL INFORMATION

### **VENUE**

The site of the IUCr 2008 Congress and General Assembly is Grand Cube Osaka (Osaka International Convention Center), Osaka, Japan. This congress center is equipped with all the modern facilities. It takes 10 min. by taxi and 15 min. by City Bus from JR Osaka Station. The shuttle bus service is available between RIHGA ROYAL HOTEL (next to the site) and JR Osaka Station or Subway Yodoyabashi Station.

### OPENING HOURS OF THE REGISTRATION DESK ON-SITE

Registration desk will open at 11:00am on Saturday 23, August 2008. Opening hours are 08:00 - 19:00 from Sunday 24 to Sunday 31, August 2008.

#### **OFFICIAL WEB SITE**

The official Web site of the congress is: www.iucr2008.jp.

In the Web site, participants will be able to submit abstracts, to register at the congress, to make reservations for hotels and tours and to find the updated version of the Scientific Program. Any news on the congress will be announced in the official Web site.

#### LANGUAGE

The official language of the congress is English. Sessions and posters will be presented in English.

#### **EXHIBITION**

A professional exhibition is scheduled to take place in conjunction with the congress, from Sunday 24 to Wednesday 27, August 2008. For more detailed information please visit the Web site www.iucr2008.jp.

#### INTERNET AND FAX

Internet connection will be provided during the congress hours. A FAX machine is available at the Business Center located on the 11th floor in the venue. Opening hours are 8:30am - 7:00pm.

#### **CLIMATE**

August temperatures in Osaka range from 24°C at night to 32°C during the daytime. Sometimes it reaches 35°C, but all trains, buses, hotels and the Congress venue are fully air conditioned.

#### **CLOTHING**

Informal for all the occasions.

#### **CURRENCY & BANKS**

The currency in Japan is the yen. You can exchange major currencies or travellers' cheques at international airports, major branches of major banks, and some of the large hotels. A passport may be required for currency exchange services. These are easy to find in downtown Osaka. Banks are open from Monday to Friday, 9:00-15:00 and closed on Saturday and Sunday. Some automated teller machines (ATMs) are available for withdrawing from 9:00 to 19:00 at almost all major banks. Visa, MasterCard, American Express, and Diners Club cards are widely accepted at hotels, department stores, shops, and restaurants as well as at major train stations.

### LUNCHES

In the Congress Venue, there are a restaurant, a open cafeteria, and a tea room with a total of ca.500 seats. Inexpensive lunch boxes, sandwitches and hotdogs are also available.

### **ELECTRICITY**

The Japanese electric current is 100 V, 60-cycle AC (in western Japan including Nagoya, Kyoto and Osaka). The plugs are flat two pin, identical to US and Canadian plugs.

### TIME

Japan is all on the same timezone, 9 hours ahead of Greenwich Mean Time (GMT). Daylight-saving time is not used in Japan.

#### **BUSINESS HOURS and SHOPS**

Shops are typically open seven days a week from around 10 am to 8 pm. There are many shops and restaurants in Osaka area. Please find more information at the information desk.

#### **POST OFFICE**

The main post office is located next to JR Osaka station. Post offices are open from Monday to Friday, 9:00-17:00. Hotels often provide simple postage services.

#### TIPPING AND CONSUMER TAX

Tipping is not customary in Japan. However, major restaurants or hotels may add a 10% to 15% service charge. Japan has a 5% consumer tax.

# XXI Congress of the International OSA Union of Crystallography



#### **VISAS**

Entry visas are not required for citizens of South Korea, Hong Kong, Taiwan, Australia, New Zealand, most European countries, the USA and Canada. Citizens of other countries and regions are reguired to obtain a visa.

For details, please visit the website of The Ministry of Foreign Affairs of Japan.

(http://www.mofa.go.jp/j\_info/visit/visa/index.html)

#### **CITY TRANSPORTATION**

Osaka is the center of an extensive rail network that spreads across the Kansai region. Ancient capitals, Kyoto and Nara, are each about 50 min.,

and Himeji Castle is about 70 min. from Osaka. JR and some private railways (Hankyu, Keihan and Kintetsu lines) offer easy access from Osaka to Kyoto, Nara and Himeji. Osaka city has a good subway network and a JR loop line that circles the city area. You can reach the Osaka Castle and Shitennoji Temple using the train network. Subways and JR stations are clearly marked in English as well as Japanese. Osaka has a bus system as easy as the rail network, though it has fewer English signs. For general transport, taxis are plentiful but are relatively more expensive.

### HOTEL ACCOMMODATIONS & CONGRESS TOURS

Kinki Nippon Tourist Co., Ltd. (KNT) will be the official agent for hotel accommodations and tours. Please address all inquiries regarding accommodations and tours to:

IUCr2008 Hotel & Tour Desk Kinki Nippon Tourist Co., Ltd. (KNT) Event & Convention, Kansai 2-4-10, Imabashi, Chuo-ku, Osaka 541-0042, Japan Phone: +81-6-6202-9057 Fax: +81-6-6202-7921 E-mail: eckansai2@or.knt.co.jp

#### HOTEL ACCOMMODATIONS

### Deadline for Hotel Resevations: Monday, June 30, 2008

#### **RESERVATION AND PAYMENT**

Rooms at these selected hotels have been blocked under the congress and offered at special reduced rates for the convenience of the congress participants. Please note that room numbers are limited. We recommend you to reserve as soon as possible.

Reserved period Friday, August 22 - Sunday, August 31, 2008 (10 nights)

Hotels can be reserved on the Congress web site (www.iucr2008.jp) or by sending the attached Hotel & Tour Reservation Form. Hotel reservations must be accompanied by payment of a deposit (10,000 Yen per room) and handling charge (500 Yen per room).

Payment by overseas attendees should be made by credit card (Visa, MasterCard, American Express,

JCB and Diners Club).

Domestic attendees are asked to pay by bank transfer to:

Bank Name: The Bank of Tokyo-Mitsubishi UFJ, Ltd.

Branch Name: Furikomi Daini Branch Account Type: Savings Account Account Number: 0723428

Account Name: Kinki Nippon Tourist Co., Ltd.

Note that bank transfer to the above account from overseas is NOT AVAILABLE.

Confirmation will be e-mailed for overseas attendees or posted for domestic attendees when the reservation and payment are completed.

### CANCELLATION AND REFUND POLICY

Please notify cancellation in writing by fax or by email. The following restrictions apply to cancellations:

Hotel handling charge will not be refunded when you cancel hotel reservations. Failure to check in on the arrival date without prior notice may result in automatic cancellation of the entire reservation.

Cancellation notice received:

8 days or more before the date of arrival

No cancellation fee

2 to 7 days before the date of arrival

30% of one night fee

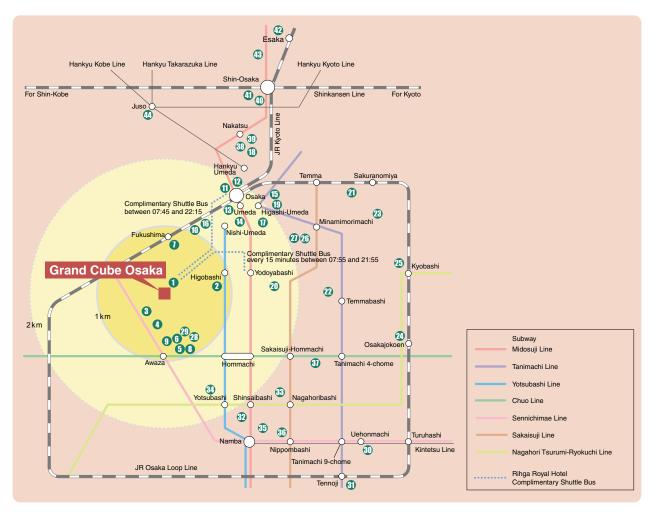
1 day prior to the date of arrival

50% of one night fee

On the date of arrival or no notice given

100% of one night fee

Refunds will be made using the same method chosen for the payment (i.e. payment by credit card will be refunded to the same credit card).



NIo	Hetel Neme	Hotel Name Single		Twin		Twin (single use)		Damarka	A
No	Hotel Name	Code		Code	Rate	Code	Rate	Remarks	Access
1	RIHGA Royal Hotel	1S	12,600	1T	12,075	1U	19,425		10min. by shuttle bus from JR Osaka
L'	HITIGA HOYAIT TOLET	13	12,000	11	12,075	10	19,423		station
2	RIHGA Nakanoshima Inn	2S	8,400	2T	6,825				1 min. walk from Subway Higobashi station
3	Hotel NCB	3S	5,000						7 min. walk from Subway Awaza station
4	Super Hotel City Osaka Natural Hot Springs	4S	6,280						5 min. walk from Subway Awaza station
5	New Oriental Hotel	5S	5,565	5T	4,410				1 min. walk from Subway Awaza station
6	Hotel Sunlife	6S	6,300						1 min. walk from Subway Awaza station
7	Hotel Hanshin	7S	10,185	7T	9,660	7U	14,910		1 min. walk from JR Fukushima station
8	Hotel Route Inn Osaka Hommachi	8S	6,500						1 min. walk from Subway Awaza station
9	Hotel Okuuchi Osaka	9S	5,000						2 min. walk from Subway Awaza station
			26,103					MonThu.	
10	The Ritz-Carlton Osaka	10S	28,476					Friday	7 min. walk from JR Osaka station
			34,408					Saturday	
11	The Westin Osaka			11T	14.490	11U	20.790		5 min. by shuttle bus or 10 min. walk from
					,	110	-,		JR Osaka station
12	Hotel New Hankyu Osaka	12S	10,500	12T	9,450		15,750		2 min. walk from JR Osaka station
			10,500		8,400			MonFri.	
13	Hotel Granvia Osaka	13S	9,450	13T	7,350			Sunday	Connected to JR Osaka station
			12,600		12,075			Saturday	
14	Osaka Dai-ichi Hotel	14S	11,550	14T	9,450				3 min. walk from JR Osaka station
15	Osaka Tokyu Inn	15S	8,925	15T	7,875				5 min. walk from JR Osaka station
16	Hearton Hotel Nishi Umeda	16S	8,925	16T	8,400				5 min. walk from JR Osaka station
17	Umeda OS Hotel	17S	7,980						5 min. walk from JR Osaka station
18	Hotel Sunroute Umeda	18S	8,820	18T	7,875	18U	15,750		10 min. walk from JR Osaka station or 3
	Tioter durindité difféda	100	0,020	101	1,075	.50	10,700		min. walk from Subway Nakatsu station



		Sin	ale	Twin		Twin (single use)				
No	Hotel Name	Code		Rate	Code			Rate	Remarks	Access
19	Hotel Hokke Club Osaka	19S	6,825						10 min. walk from JR Osaka station	
20	Mitsui Garden Hotel Osaka	000	7.500	007	0.500	0011	10 500		3 min. walk from Subway Yodoyabashi	
	Yodoyabashi	20S	7,500	20T	6,500	20U	10,500		station	
21	APA Hotel Osaka-Temma	21S	8,700						5 min. walk from JR Temma station	
22	Hotel Osaka Castle	22\$	7,500	22T	6,500				2 min. walk from Subway Temmabashi station	
23	Imperial Hotel Osaka	23S	18,900	23T	14,700	23U	25,200		5 min. walk from JR Sakuranomiya station	
24	Hotel New Otani Osaka	24S	14,175	24T	9,975	24U	18,375		3 min. walk from JR Osakajo Koen station	
25	Hotel Keihan Kyobashi	25S	8,715	25T	7,875	25U	12,600		1 min. walk from JR and Keihan Kyobashi stations	
26	Toko City Hotel Umeda	26S	7,350						1 min. walk from Subway Minamimorimachi station	
27	Hotel II Grande Umeda	27S	6,000						3 min. walk from Subway Minamimorimach station	
28	Cityroute Hotel	28S	6,000	28T	5,500	28U	7,600		5 min. walk from Subway Hommachi station	
29	Hotel Schon Belle Court Osaka	29S	8,000						5 min. walk from Subway Hommachi or Awaza station	
30	Sheraton Miyako Hotel Osaka	30S	9,450						Connected to Kintetsu Uehommachi station	
31	Tennoji Miyako Hotel	31S	12,075	31T	9,450				1 min. walk from JR & Subway Tennoji stations	
32	Hotel Nikko Osaka	32S	13,125 13,650	32T	12,075 14,175	32U	17,325 24,675	SunFri. Saturday	Connected to Subway Shinsaibashi station	
33	Chisun Hotel Shinsaibash	33S	7,350	33T	6,300				5 min. walk from Subway Shinsaibashi station	
34	Toyoko Inn Shinsaibashi Nishi	34S	6,930					Breakfast included	1 min. walk from Subway Yotsubashi station	
35	Cross Hotel Osaka	35S	11,025	35T	8,925	35U	14,700		3 min. walk from Subway Namba station	
36	Hotel Metro The 21	36S	6,930						5 min. walk from Subway Nihonbashi station	
37	Toyoko Inn Osaka Tanimachi 4-chome	37S	5,880					Breakfast included	5 min. walk from Subway Tanimachi 4- chome or Sakaisuji Hommachi station	
38	Mitsui Urban Hotel Osaka	38S	7,350	38T	6,300				Connected to Subway Nakatsu station	
39	Ramada Osaka	39S	11,550						Connected to Subway Nakatsu station	
40	New Osaka Hotel	40S	7,000	40T	6,500	40U	10,000		3 min. walk from JR & Subway Shin-Osaka stations	
41	Chisun Hotel Shin-Osaka	41S	7,350	41T	5,775				6 min. walk from JR & Subway Shin-Osaka stations	
42	Chisun Inn Esaka	42S	5,775	42T	5,250			Single room with shower	7 min. walk from Subway Esaka station	
43	Hotel Daito	43S	5,775	43T	5,250	43U	7,350		5 min. walk from Subway Esaka station	
44	Hotel Plaza Osaka	44S	6,825						5 min. walk from Hankyu Juso station	

<sup>\*</sup> Above rates are per day per person in Japanese Yen, including service charge, and consumption tax. Handling charge is not included. \* Breakfast is not included in these rates except for two Toyoko Inns (34 & 37).

### **CONGRESS TOURS**

### **Deadline for Tour Resevations:** Monday, June 30, 2008

Various tours are offered to congress delegates and accompanying persons to give a chance to experience the history, culture and environments of Osaka and its surrounding areas. The tours can be reserved on the Congress web site (www.iucr2008.jp) or by sending the attached Hotel & Tour reservation Form.

The tours are based on the participation of minimum 20 persons. If a minimum number of participants is not obtained by June 30, 2008, the tour may not be operated. KNT will suggest alternative tours or refund the paid tour fare.

Please note that the combinations of (1) Morning Tour and Afternoon Tour, (2) Afternoon Tour and Night Tour and (3) One Day Tour and Night Tour on the SAME DAY are NOT POSSIBLE. Tour application must by accompanied be payment of tour fare.

As for payment by and cancellation, please refer to HOTEL ACCOMMODATIONS and the Congress web page (www.iucr2008.jp).

Cancellation notice received:

8 days or more before the date of tour 2 to 7 days before the date of tour 1 day prior to the date of tour On the day of tour or no notice given

No cancellation fee 30% of tour fare 50% of tour fare 100% of tour fare

Approx. time schedule (Tour details are available on the web site.)

Morning Tours 08:00-13:00 Afternoon Tours 13:00-18:00 Night Tours 17:00-22:00 One Day Tours 09:00-18:00



	Code	Tour Name	Tour Fare		
Sunday, Augus					
Afternoon Tour	T24A	World Heritages in Kyoto (Golden Pavilion and Nijo Castle)	8,000 Yen		
Night Tour	T24N	Gangara Fire Festival in Ikeda City	8,500 Yen		
Monday, Augus	t 25, 200	08			
Morning Tour	T25M	Osaka Castle and River Cruise	7,500 Yen		
Afternoon Tour	T25A	World Heritages in Nara (Todaiji Temple and Kasuga Shrine)	7,500 Yer		
One Day Tour	T25F	World Heritages in Kyoto (Golden Pavilion, Nijo Castle and Shimogamo Shrine)	15,000 Yer		
Night Tour	T25N	Osaka (Floating Garden Observatory and Hep Five Ferris Wheel)	14,000 Yer		
Tuesday, Augus	st 26. 20	08			
Morning Tour	T26M	Factory Tour (Asahi Breweries in Suita City)	5,500 Yer		
Afternoon Tour	T26A	World Heritages in Kyoto (Golden Pavilion and Nijo Castle)	8,000 Yer		
One Day Tour	T26F	World Heritages in Nara (Todaiji Temple, Kasuga Shrine) and Naramachi merchant town	16,500 Yer		
Night Tour	T26N	Osaka River Cruise with dinner	12,500 Yer		
Wednesday, Au	aust 27	. 2008			
Morning Tour	T27M	Osaka Castle and River Cruise	7,500 Yer		
Afternoon Tour	T27A	World Heritages in Nara (Todaiji Temple and Kasuga Shrine)	7,500 Yer		
One Day Tour	T27F	World Heritages in Kyoto (Golden Pavilion, Nijo Castle and Shimogamo Shrine)	15,000 Yer		
Night Tour	T27N	Osaka (Floating Garden Observatory and Hep Five Ferris Wheel)	14,000 Yer		
Thursday, Augu	st 28. 20	08			
Morning Tour	T28M	Hakutsuru Sake Brewery Museum & Disaster Reduction and Human Renovation Institution	5,900 Yer		
Afternoon Tour	T28A	World Heritages in Kyoto (Golden Pavilion and Nijo Castle)	8,000 Yer		
One Day Tour	T28F	Kaiyukan (Aquarium), Osaka Castle and Osaka Museum of History	13,000 Yer		
Night Tour	T28N	Dotonbori (Osaka downtown) with dinner	8,500 Yer		
Friday, August	29, 2008				
Morning Tour	T29M	Osaka Mint Bureau and Osaka Museum of History	6,000 Yer		
Afternoon Tour	T29A	Bridge World (Guided tour to climb Akashi Strait Bridge)	9,500 Yer		
Saturday, Augus	st 30. 20	08			
Morning Tour	T30M	Osaka Castle and River Cruise	7,500 Yer		
Afternoon Tour	T30A	Bridge World (Guided tour to climb Akashi Strait Bridge)	9,500 Yer		
One Day Tour	T30F	World Heritages in Nara (Todaiji Temple, Kasuga Shrine) and Naramachi merchant town	,		
Night Tour	T30N	Osaka River Cruise with dinner	12,500 Yer		
Sunday, August	31, 2008				
Morning Tour	T31M	Kaiyukan (Osaka Aquarium) and Osaka downtown (Dotonbori & Doguya-suji)	8,000 Yer		
Afternoon Tour	T31A	Nissin Instant Ramen Noodle Museum and Takarazuka Revue *Programs of Takarazuka Revue are subject to change.	15,800 Yer		
One Day Tour	T31G	World Heritages in Kyoto (Golden Pavilion, Nijo Castle and Shimogamo Shrine)	15,000 Yer		
	T31H World Heritages in Nara (Todaiji Temple, Kasuga Shrine) and Naramachi				
One Day Tour	T31H	World Heritages in Nara (Todaiji Temple, Kasuga Shrine) and Naramachi merchant town	16,500 Yer		

### XXI Congress of the International Union of Crystallography Hotel & Tour Reservation Form

### On-line Registration (http://www.iucr2008.jp) will be available from January 15, 2008

Deadline for reservation: June 30, 2008

Please PRINT in BLOCK LETTERS and FAX, EMAIL or AIRMAIL to:

IUCr2008 Hotel & Tour Desk

Kinki Nippon Tourist Co., Ltd. (KNT), Event & Convention, Kansai

2-4-10, Imabashi, Chuo ku, Osaka 541-0042, Japan

Phone: +81-6-6202-9057 Fax: +81-6-6202-7921 E-mail: eckansai2@or.knt.co.jp

All columns marked v	with *must b	e filled in.										
[ ]Prof. [ ]Dr. [ ]M	Ir. [ ]Ms.*	Family N	lame*					Given Na	me*			
Organization/Institut	ion			·								
Department												
Contact*	Please	Please check [ ] Organization/Institution [ ] Home										
Postal address*												
ZIP/Postal Code*						Country*						
Phone*						FAX						
E-mail address												
ACCOMMODATIO	NS											
Reservation Period	: Friday,	August 22	2 – Su	nday, A	Augus	st 31, 2008	(10 nig	ghts)				
1st choice Hotel Code						2nd choice	Hotel	Code				
Arrival Date	Augus	it				, 2008	N	umber of r	night(s)			night(s)
(If twin room) shared	with [ ]Pro	f. [ ]Dr. [	]Mr.	]Ms.	Fan	nily Name			Given l	Name		
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PAYMENT All requests must be a	accompanied	by paymen	t of ho	tel depo	osit an	nd/or tour fai	·e.					
[ ] Credit Card F Type of Card: Card Number:	Please charge [ ] VISA					it card. an Express	[ ]10	СВ []П	iners Clu	ıb		
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Holder's Signature:												
[ ] Bank Transfer ( I have remitted the a					_Yen	on (date)						
Bank Name: The Ban Branch Name: Furiko Account Type: Saving	omi Daini Bra		FJ, Lto			Number: 072 Name: Kinki		n Tourist (	Co., Ltd.			
Date:		Signa	ture									

### XXI Congress of the International Union of Crystallography Registration Form

### On-line Registration (http://www.iucr2008.jp) will be available from January 15, 2008

Deadline for advance registration: May 15, 2008

Please PRINT in BLOCK LETTERS and send the completed form to the Organizing Secretariat by fax or mail.

IUCr 2008 Secretariat, c/o Congress Corporation
3-6-13, Awajimachi, Chuo-ku, Osaka 541-0047, Japan

		6-6229-2556 egistration will be returned within ne	xt 72 hours.			
		First Name	Middle Initial			
	le		emale			
			ty			
			Zip Code			
		1 dx				
	Accompanying Person Information					
			Middle Initial(s) □Mr. □Ms.			
		First Name				
	Registration Fees - Please chec		Middle illitation Livis.			
	Category	Advance Registration Before May 15, 2008	On-site Registration After May 15, 2008			
1	Participant	55,000 Yen	65,000 Yen			
	Student*1	25,000 Yen	30,000 Yen			
-	Accompanying Person(s)		10,000 Yen×Person(s)			
	Social Banquet booking fee					
	for registered persons	8,000 Yen ×Person(s)	8,000 Yen×Person(s)			
	Total Amount of Payment		Yen			
,		etter of the supervisor should be sent to the registered persons are available on-site a				
		re limited to registered participants and	students only.			
	Terms of Payments (Please che					
	I agree to pay the total amount o	fYen by the	following credit card:			
		Card	JCB   Diners Club			
	Card Number :					
	Expiration Date :	/ (mm/yy) Security(CVC	<u> </u>			
	the right side of the signatu	number to verify the authorized user) can are line or on the front of the card above th	be found on the back of your credit card on he last 4 digits of the card number.			
	Cardholder's Name :	(ir	n block letters)			
	Cardholder's Signature :					
	Bank Name: The Bank of Bank Address: 1-4-1 Shin Toyonaka	senri-higashimachi, , Osaka 560-0082, Japan Acco	nch Name: Senrichuo Ekimae Branch (Branch No. 577) ount Type: Savings Account			
	Account Number: 039971 SWIFT: BOTKJPJT	S Acco	ount Name: IUCr2008 Osaka			

### **Second Announcement Ver.2**

# www.iucr2008.jp



### Organizing Secretariat

c/o Congress Corporation Congress Bldg., 3-6-13 Awajimachi Chuo-ku, Osaka 541-0047, Japan E-mail: iucr2008@congre.co.jp