The Sixteenth International Symposium on Artificial Life and Robotics 2011(AROB 16th '11), B-Con Plaza, Beppu, Oita, Japan, January 27-29, 2011

		Room A	Room B	Room C	Room D			
1/26	13:00							
(Wed)	17:00	.00 Registration (Registration Desk)						
		Welcome Party (at Hotel Shiragiku)						
1/27	8:00	Registration (Registration Desk)						
(Thu)	9:10	OS 1 (5)	OS 18 (4)	OS 2 (4)	GS 4 (4)			
		Chair M. Uchida	Chair K. J. Mackin	Chair H. Tanaka	Chair S. Nakayama			
		will end at 10:25						
	10:10							
	10:30	Opening Ceremony (Room G) Chair J. M. Lee						
	10:55							
		Plenary Talk (Room G) PT1 J. H. Oh Chair Y. G. Zhang						
	11:45							
		Lunch						
	12:40	IT1 M. Imai	GS 10 (7)	GS 21 (7)	PS 1 (8)			
		IT2 T. Arai	Chair H. Yamamoto	Chair B. Fu	Chair J. J. Lee			
		Chair M. Nakamura			will end at 14:40			
	14:25	25 Coffee Break						
	14:45	OS 5 (5)	GS 16 (5)	OS 24 (4)	OS 17 (5)			
		Chair S. Sagara	Chair K. Ikeda	Chair M. Imai	Chair K. Naitoh			
				will end at 15:45				
	16:00							
	16:05	OS 3 (5)	OS 4 (5)	GS 3 (5)	GS 19 (6)			
		Chair M. Yokomichi	Chair Y. M. Jia	Chair D. E. Kim	Chair A. Nakamura			
					will end at 17:35			
	17:20							

TIME TABLE (1/27)

GS: General Session OS: Organized Session PS: Poster Session

- GS1 Artificial intelligence
- GS2 Artificial life I
- GS3 Artificial life II
- GS4 Chaos & Complexity
- GS5 Control techniques
- GS6 Data mining
- GS7 Evolutionary computations
- GS8 Human-machine cooperative systems & Human-welfare robotics I
- GS9 Human-machine cooperative systems & Human-welfare robotics II
- GS10 Image processing I
- GS11 Image processing II
- GS12 Learning
- GS13 Mobile vehicles
- GS14 Neural networks I
- GS15 Neural networks II
- GS16 Pattern recognition & Visualization
- GS17 Robotics I GS18 Robotics II
- GS18 Robotics II GS19 Robotics III

- GS20 Robotics IV
- GS21 Robotics V
- PS1 Poster Session
- OS1 System sensing and control I
- OS2 System sensing and control II
- OS3 Control and its application
- OS4 Intelligent Control
- OS5 Advanced vehicle control OS6 AI-based systems for human
- awareness promotion OS7 Advanced technologies
- & Management skills
- OS8 Structural change detection for ongoing time series
- OS9 Computer vision and sound analysis
- OS10 Intelligent systems I
- OS11 Control and automata OS12 Special environment navigation
- and localization
- OS13 Intuitive human-system interaction

OS14 Dynamical information processing in the brain

IT: Invited Talk

PT: Plenary Talk

OS15 Bio-inspired theory and application OS16 Biomimetic machines and robots OS17 Medical science and complex system OS18 Data mining OS19 Embracing complexity in natural intelligence OS20 Embracing complexity in sensor system organization OS21 Learning control and robotics OS22 Robotics and pattern recognition OS23 Intelligent systems II OS24 Human agent interaction toward social modification

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		Room A	Room B	Room C	Room D			
1/28	8:00	Registration (Registration Desk)						
(Fri)	8:40	GS 5 (5)	OS 8 (5)	OS 13 (5)	GS 15 (5)			
		Chair J. Murata	Chair T. Hattori	Chair M. Yokota	Chair N. Kamiura			
	0.55							
	9:55 10:15		ee Break					
		Plenary Talk (Room G) PT2 T. J. Tarn Chair J. J. Lee						
	11:05	OS 7 (5)	GS 8 (4)	GS 9 (4)	OS 12 (5)			
		Chair T. Ito	Chair T. Fuchida	Chair N. Okada	Chair J. M. Lee			
			will end at 12:05	will end at 12:05				
	12:20							
	13:15	Lunch						
		OS10 (6)	GS 2 (6)	OS 9 (6)	GS 17 (5)			
		Chair K. L. Su	Chair T. Arita	Chair Y. Yoshitomi	Chair D. W. Lee			
					will end at 14:30			
	14:45							
	14:50	Plenary Talk (Room G)						
		PT3 F. Matsuno Chair H. H. Lund						
	15:40 16:00	Соптее Втеак						
		OS11 (6)	GS 7 (6)	GS 18 (5)	GS 13 (6)			
		Chair K. H. Hsia	Chair P. Sapaty	Chair E. Inohira	Chair F. Dai			
	17:30							
	18:30							
	21.00	Banquet – Hotel Shiragiku (Chair Y. I. Cho) Address Y. G. Zhang / Y. Ishida/ T. Arita						
	21:00			J. M. Lee / K.	. L. Su / L. Pagliarini			
GS:	General	Session OS: Org	anized Session PS: Poster	Session PT: Plenary	Talk IT: Invited Tal			
C	GS1 Arti	ficial intelligence	GS20 Robotics IV		ynamical information			
0	GS1 Arti GS2 Arti	ficial intelligence ficial life I		OS14 D	ynamical information processing in the brain			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha	ficial intelligence ficial life I ficial life II os & Complexity	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a	OS14 D OS15 Bi Ind control I	ynamical information processing in the brain o-inspired theory and application			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con	ficial intelligence ficial life I ficial life II os & Complexity trol techniques	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a	OS14 D OS15 Bi Ind control I Ind control II OS16 Bi	ynamical information processing in the brain o-inspired theory and application omimetic machines			
	JS1ArtiJS2ArtiJS3ArtiJS4ChaJS5ConJS6DataJS7Evo	ficial intelligence ficial life I ficial life II os & Complexity trol techniques a mining lutionary computations	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contro	OS14 D OS15 Bi and control I and control II OS16 Bi pplication ol OS17 M	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science			
	JS1ArtiJS2ArtiJS3ArtiJS4ChaJS5ConJS6DataJS7Evo	ficial intelligence ficial life I ficial life II os & Complexity trol techniques a mining lutionary computations nan-machine cooperative	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contr systems OS5 Advanced vehicl	OS14 D OS15 Bi and control I and control II OS16 Bi pplication ol OS17 M e control	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con GS6 Data GS7 Evo GS8 Hun	ficial intelligence ficial life I ficial life I os & Complexity trol techniques a mining lutionary computations nan-machine cooperative & Human-welfare robot nan-machine cooperative	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contr systems OS5 Advanced vehicl ics I OS6 AI-based system systems awareness	OS14 D OS15 Bi and control I and control II OS16 Bi pplication ol OS17 M e control s for human OS18 Da promotion OS19 Er	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system ata mining nbracing complexity in			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con GS6 Data GS7 Evo GS8 Hun GS9 Hun	ficial intelligence ficial life I ficial life II os & Complexity trol techniques a mining lutionary computations nan-machine cooperative & Human-welfare robot	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contr systems OS5 Advanced vehicl ics I OS6 AI-based system systems awareness	OS14 D OS15 Bi and control I and control II OS16 Bi pplication ol OS17 M e control s for human OS18 Da promotion OS19 Er ologies	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system ata mining			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con GS6 Data GS7 Evo GS8 Hun GS9 Hun GS10 Imag GS11 Imag	ficial intelligence ficial life I ficial life I os & Complexity trol techniques a mining lutionary computations nan-machine cooperative & Human-welfare robot nan-machine cooperative ge processing I ge processing II	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contr systems OS5 Advanced vehicl ics I OS6 AI-based system systems awareness ics II OS7 Advanced techno & Manager OS8 Structural change	OS14 D OS15 Bi Ind control I Ind control II OS16 Bi pplication ol OS17 M e control s for human OS18 Da promotion OS19 Er ologies nent skills OS20 Er e detection for s	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system ata mining nbracing complexity in natural intelligence nbracing complexity in ensor system organization			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con GS6 Data GS7 Evo GS8 Hun GS9 Hun GS9 Hun GS10 Imag GS11 Imag GS12 Lear	ficial intelligence ficial life I ficial life I os & Complexity trol techniques a mining lutionary computations nan-machine cooperative & Human-welfare robot nan-machine cooperative ge processing I ge processing II	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contr ics I OS6 Al-based system systems awareness ics II OS7 Advanced techno & Manager	OS14 D OS15 Bi Ind control I Ind control II OS16 Bi pplication ol OS17 M e control s for human OS18 Da poromotion OS19 Er ologies nent skills OS20 Er e detection for s ne series OS21 Le	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system ata mining nbracing complexity in natural intelligence nbracing complexity in			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con GS6 Data GS7 Evo GS8 Hun GS9 Hun GS10 Imag GS11 Imag GS11 Imag GS12 Lear GS13 Mob GS14 Neu	ficial intelligence ficial life I ficial life I os & Complexity trol techniques a mining lutionary computations nan-machine cooperative & Human-welfare robot nan-machine cooperative & Human-welfare robot ge processing I ge processing I ning ile vehicles ral networks I	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contr systems OS5 Advanced vehicl ics I OS6 AI-based system awareness ics II OS7 Advanced techno & Manager OS8 Structural change ongoing tin OS9 Computer vision OS10 Intelligent system	OS14 D OS15 Bi of control I of control II OS16 Bi pplication of OS17 M e control s for human OS18 Da promotion OS19 Er ologies nent skills OS20 Er e detection for s ne series OS21 Le and sound analysis is I OS22 Ro	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system ata mining nbracing complexity in natural intelligence nbracing complexity in ensor system organization earning control and robotics obotics and			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con GS6 Data GS7 Evo GS8 Hun GS9 Hun GS10 Imag GS10 Imag GS11 Imag GS12 Lear GS13 Mob GS14 Neur GS15 Neur	ficial intelligence ficial life I ficial life I ficial life II os & Complexity trol techniques a mining lutionary computations nan-machine cooperative & Human-welfare robot nan-machine cooperative & Human-welfare robot ge processing I ge processing I ning ile vehicles ral networks I ral networks II	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contro systems OS5 Advanced vehicl ics I OS6 AI-based system awareness a ics II OS7 Advanced techno & Manager OS8 Structural chang ongoing tin OS9 Computer vision OS10 Intelligent system OS11 Control and autor	OS14 D OS15 Bi of control I of control II OS16 Bi pplication of OS17 M e control s for human OS18 Da promotion OS19 Er ologies nent skills OS20 Er e detection for s te series OS21 Le and sound analysis is I OS22 Ro nata	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system ata mining nbracing complexity in natural intelligence nbracing complexity in ensor system organization earning control and robotics obotics and pattern recognition			
	GS1 Arti GS2 Arti GS3 Arti GS4 Cha GS5 Con GS6 Data GS7 Evo GS8 Hun GS9 Hun GS10 Imag GS10 Imag GS11 Imag GS12 Lear GS13 Mob GS14 Neur GS15 Neur	ficial intelligence ficial life I ficial life I ficial life I os & Complexity trol techniques a mining lutionary computations nan-machine cooperative & Human-welfare robot nan-machine cooperative & Human-welfare robot ge processing I ge processing I ge processing I ing ile vehicles ral networks I ral networks I ran recognition & Visualiz	GS20 Robotics IV GS21 Robotics V PS1 Poster Session OS1 System sensing a OS2 System sensing a OS3 Control and its a OS4 Intelligent Contro systems OS5 Advanced vehicl ics I OS6 AI-based system awareness ics II OS7 Advanced techno & Manager OS8 Structural change ongoing tin OS9 Computer vision OS10 Intelligent system OS11 Control and autor	OS14 D OS15 Bi ord control I ord control II OS16 Bi pplication ol OS17 M e control s for human OS18 Da promotion OS19 Er ologies nent skills OS20 Er e detection for s te series OS21 Le and sound analysis is I OS22 Ro nata ent navigation OS23 In	ynamical information processing in the brain o-inspired theory and application omimetic machines and robots edical science and complex system ata mining nbracing complexity in natural intelligence nbracing complexity in ensor system organization earning control and robotics obotics and			

TIME TABLE (1/28)

The Sixteenth International Symposium on Artificial Life and Robotics 2011(AROB 16th '11), B-Con Plaza, Beppu, Oita, Japan, January 27-29, 2011

		Room C	Room D	Room E	Room F		
1/29	8:00	Registration (Registration Desk)					
(Sat)	8:40	OS 14 (5)	GS 6 (5)	GS 14 (5)	OS 19 (6)		
		Chair H. Suzuki	Chair J. S. Shieh	Chair T. Yamada	Chair Y. Ishida		
		will end at 09:55	will end at 09:55	will end at 09:55			
	10:10	Coffee Break					
	10:30	OS 6 (7)	GS 11 (5)	OS 15 (7)	OS 16 (7)		
		Chair K. Hashimoto	Chair J. Wang	Chair M. Yasunaga	Chair K. Watanabe		
			will end at 11:45				
	12:15						
	12:15						
	15:10	OS 20 (6)	OS 21 (6)	GS 12 (7)	IT 3 M. Sakata		
		Chair Y. Ishida	Chair H. H. Lee	Chair Y. G. Zhang	IT 4 H. Lund		
				will end at 14:55	IT 5 L. Pagliarini		
					Chair Y. I. Cho		
					will end at 14:55		
	$14:40 \\ 15:00$		Coffee Break				
	15.00	OS 22 (7)	OS 23 (6)	GS 20 (4)	GS 1 (4)		
		Chair C. Zhang	Chair M. K. Habib	Chair N. Uchiyama	Chair T. Nakashima		
			will end at 16:30	will end at 16:00	will end at 16:00		
	16:45 17:00						
		Farewell Party (Room F)					
	18:00	3:00					

TIME TABLE (1/29)

GS: General Session

OS: Organized Session

PS: Poster Session

PT: Plenary Talk IT: Invited Talk

processing in the brain

and complex system

natural intelligence

sensor system organization

pattern recognition

toward social modification

and robotics

and application

and robots

OS19 Embracing complexity in

OS20 Embracing complexity in

OS14 Dynamical information

OS15 Bio-inspired theory

OS17 Medical science

OS21 Learning control

OS23 Intelligent systems II

OS24 Human agent interaction

OS22 Robotics and

OS18 Data mining

OS16 Biomimetic machines

GS3 Artificial life II GS4 Chaos & Complexity Control techniques GS5 GS6 Data mining GS7 Evolutionary computations Human-machine cooperative systems GS8 & Human-welfare robotics I

GS1 Artificial intelligence

GS2 Artificial life I

GS9 Human-machine cooperative systems & Human-welfare robotics II

GS10 Image processing I

GS11 Image processing II

GS12 Learning

GS13 Mobile vehicles

- GS14 Neural networks I
- GS15 Neural networks II GS16 Pattern recognition & Visualization

- GS17 Robotics I
- **GS18** Robotics II

GS19 Robotics III

GS20 Robotics IV GS21 Robotics V

- PS1 Poster Session System sensing and control I
- OS1 OS2
- System sensing and control II **OS**3
 - Control and its application
- OS4 Intelligent Control Advanced vehicle control OS5
- OS6 AI-based systems for human
 - awareness promotion
- OS7 Advanced technologies & Management skills
- OS8 Structural change detection for
- ongoing time series OS9 Computer vision and sound analysis
- OS10 Intelligent systems I
- OS11 Control and automata
- OS12 Special environment navigation
 - and localization
 - OS13 Intuitive human-system interaction