SAB 2026

The 18th International Conference on the Simulation of Adaptive Behavior (SAB 2026), is part of the ISAB conference series.
It is hosted by TU Berlin and organized by TUB/CO GmbH TU Berlin Corporate.

Program Overview

19 October, Monday

DAY 1 – Workshop Day

Venue 1
TU Berlin
Marchstraße 23
10587 Berlin

8:15 am - 9:00 am

Registration
Location: MAR 2nd floor, lobby area near the elevators / stairwell

9:00 am - 12:00 pm

Workshop 1 (1/2)
One Idea, Many Names? Internal Models of the World in Natural and Artificial Systems

Location: MAR 2.057 (2nd floor)

Organizer: Patrick Lowin (TU Berlin), Adrian Pfisterer (TU Berlin), Vito Mengers (TU Berlin), Pu Xu (TU Berlin), Eduardo Sebastián (University of Cambridge), Oliver Brock (TU Berlin), Alexander König (TU Berlin)

9:00 am - 1:30 pm

Workshop 2 (1/1)
Tutorial on using Genetic Programming to design Complex Adaptive Systems

Location: MAR 5.013 (5th floor)

Organizer: Siddharth Chaturvedi (Radboud University), Sigur de Vries (Radboud University), Marcel van Gerven (Radboud University)

12:00 pm - 1:30 pm

Lunch
Self-catered

1:30 pm - 6:30 pm

Workshop 1 (2/2)
One Idea, Many Names? Internal Models of the World in Natural and Artificial Systems

Location: MAR 2.057 (2nd floor)

Organizer: Patrick Lowin (TU Berlin), Adrian Pfisterer (TU Berlin), Vito Mengers (TU Berlin), Pu Xu (TU Berlin), Eduardo Sebastián (University of Cambridge), Oliver Brock (TU Berlin), Alexander König (TU Berlin)

1:30 pm - 2:30 pm

Registration
Location: MAR, 2nd floor, lobby area near the elevators / stairwell

2:30 pm - 6:30 pm

Workshop 3 (1/1)
Wanting what is needed: From Homeostatic Control to Adaptive Behavior

Location: MAR 5.006 (5th floor)

Organizer: Naoto Yoshida (Kyoto University), Ismael T. Freire (Sorbonne University), Louis L'Haridon (CY Cergy Paris University), Henning Sprekeler (TU Berlin), Lola Cañamero (CY Cergy Paris University), Mehdi Khamassi (Sorbonne University), Boris Gutkin (École Normale Supérieure Paris)

6:30 pm - 8:00 pm

Registration
Welcome Reception with Drinks and Snacks

Location: MAR Foyer (Ground Floor)
Chair: Oliver Brock (TU Berlin)

20 October, Tuesday

DAY 2 – Conference Day

Venue 2 UDK Einsteinufer 43 10587 Berlin	**8:15 am - 9:00 am**	Registration **Location:** GNS Lobby Area	
	9:00 am - 11:00 am	Session (15 min + 5 min Q&A) Modeling Collective Intelligence from Biology - Chair: Pawel Romanczuk	
		9:00 am - 9:20 am	Bimodal Synchronization Performance: Why Noise and Sparse Connectivity Can Improve Collective Timing — T. Aust, T. Zhang, A. Reina, H. Hamann
		9:20 am - 9:40 am	Tuning Agent-Based Predator-Prey Models Toward Lotka-Volterra Dynamics — S. Chaturvedi, C. Mandl, M. van Gerven
		9:40 am - 10:00 am	A Data-Driven State Machine for Collective Behaviour in C. Elegans — N. Antonic, A. Vellinger, E. Tuci
		10:00 am - 10:20 am	A Mechanistic Model for Collective Motion from Sensorimotor Regularities — V. Mengers, B. D. Cao, O. Brock
		10:20 am - 10:40 am	SYNCOFLY: An Interactive Platform for Collective Rhythm Synchronization — Y.-N. Wu, G. Hickok, J. Krichmar
		10:40 am - 10:50 am	Moderated Panel with Session Speakers
		10:50 am - 11:00 am	General Discussion
	11:00 am - 12:30 pm	Lunch Self-Catered	
	12:30 pm - 2:30 pm	Session (15 min + 5 min Q&A) Engineering Collective Intelligence - Chair: Heiko Hamann	
		12:30 pm - 12:50 pm	Scalable, Distributed Control of a Manipulation Surface with Emergent Properties — K. Stoy, P. Ingle, J. Lambertsen, A. Faina
		12:50 pm - 1:10 pm	Speed-Weighted Flocking for Sailing Swarms under Dynamic Environmental Forcing — P. Kedia, A. Gan, H. J. Williams, A. Reina, H. Hamann
		1:10 pm - 1:30 pm	Density-Driven Emergent Division of Labor in Evolutionary Multi-Robot Systems — P. Leopardi, H. Hamann, J. Kuckling, T. K. Kaiser
		1:30 pm - 1:50 pm	Stochastic Filtering for Quorum Sensing in Robot Swarms under Anonymous Communication — F. Oddi, A. Reina, V. Trianni
		1:50 pm - 2:10 pm	From Susceptibility to Controllability: Empowerment Characterisation of Criticality in Drone Swarms — D. Trendafilov, M. Verdoucq, C. Sire, R. Escobedo, G. Theraulaz, G. Hattenberger
		2:10 pm - 2:20 pm	Moderated Panel with Session Speakers
		2:20 pm - 2:30pm	General Discussion
	2:30 pm - 3:00 pm	Group Photo + Coffee Break **Location:** GNS Lobby Area	

	3:00 pm - 5:00 pm	Session (15 min + 5 min Q&A) Modeling Biological Behavior - Chair: Andreagiovanni Reina		
		3:00 pm - 3:20 pm	Animeta: An Explainable Human-in-the-Loop Approach to Modeling Animat Behavior via Simulation-Based Optimization	C. A. R. Babatounde, B. Poggi, E. Vittori, T. Antoine-Santoni, A. Aiello
		3:20 pm - 3:40 pm	No Plan, Yet Human: A Reactive Robotics Model Predicts Human Planning Failures on a Clinical Task	M. Migacev, V. Mengers, A. Köngeter, O. Brock
		3:40 pm - 4:00 pm	Delayed Gratification in a Robotic Model of Cuttlefish Behavior	Q. Y. Wong, J. Krichmar, K. Zheng, S. Chao, V. Chhabra, N. Hai, A. Yuan, Y. Zhou, H. Espino
		4:00 pm - 4:20 pm	The World is Spatially and Temporally Complex; How Do Foragers Manage?	S. Chidambaram, V. Nachev, Y. Winter, A. Kacelnik
		4:20 pm - 4:30 pm	Moderated Panel with Session Speakers	
		4:30 pm - 4:40 pm	General Discussion	
		4:40 pm - 5:00 pm	ISAB Meeting - Chair: Myra S. Wilson	
Venue 1 TU Berlin Marchstraße 23 10587 Berlin	**5:00 pm** **7:00 pm -**	Poster Session with Drinks and Snacks **Location:** MAR Foyer (Ground Floor)		

21 October, Wednesday

DAY 3 – Conference Day

Venue 2 UDK Einsteinufer 43 10587 Berlin	**8:15 am - 9:00 am**	Registration **Location:** GNS Lobby Area		
	9:00 am - 11:10 am	Session (15 min + 5 min Q&A) Learning and Skill Acquisition - Chair: Olaf Hellwich		
		9:00 am - 9:20 am	Emergence of Hierarchical Utility Spaces through Contextual Knowledge Reuse in Lifelong Open-Ended Learning	J. A. Becerra, A. Romero, F. Bellas, R. J. Duro
		9:20 am - 9:40 am	Neural Representations in Sequential \& Interleaved Training	G. Detorakis, A. Papoutsi
		9:40 am - 10:00 am	Guiding Autonomous Skill Acquisition Toward Useful Sub-goals in Hierarchical Domains	A. Morelli, V. Santucci
		10:00 am - 10:20 am	BEACON: Belief-Enabled Adaptive CONtrol for Imitation Learning under Uncertainty	M. Lee, S. Bhattacharya, G. Kantor, O. Kroemer
		10:20 am - 10:40 am	POSITION PAPER: From Optimal Policies to Individual Differences: Rethinking Reinforcement Learning for Biology	P. Govoni, P. Bartashevich, C. Bergerot, V. Chirkov, V. Lecheval, P. Romanczuk
		10:40 am - 10:50 am	Dedicated Discussion of the Position Paper	
		10:50 am - 11:00 am	Moderated Panel with Session Speakers	
		11:00 am - 11:10 am	General Discussion	

11:10 am - 12:40 pm	Lunch Self-catered		
12:40 pm - 2:40 pm	Session (15 min + 5 min Q&A) Artificial Perception, Navigation, and Manipulation - Chair: Martin Rolfs		
	12:40 pm - 1:00 pm	EMAPF: Emotionally Modulated Local Navigation with Artificial Potential Fields	Z. Betta, J. Hykin, A. Sgorbissa, R. Murphy
	1:00 pm - 1:20 pm	Probing an Embodied LLM: When Higher Observation Fidelity Hurts Problem Solving	O. Zenkri, O. Brock
	1:20 pm - 1:40 pm	Target-Anchored Fovea-Periphery Vision Improves Reinforcement Learning in Robotic Manipulation	G. Cioccolini, E. Cartoni, G. Baldassarre
	1:40 pm - 2:00 pm	SoftPINCH: EMG-Driven Soft Exoskeleton Assistance for Finger Flexion and Grasping	N. Grønvall, M. Nielsen, X. Xiong, S. P. Murali Babu
	2:00 pm - 2:20 pm	Tactile Discrimination in a Soft Octopus-Inspired Robot	E. Kirshner, A. Yuan, J. Spurgiasz, H. Espino, J. Krichmar
	2:20 pm - 2:30 pm	Moderated Panel with Session Speakers	
	2:30 pm - 2:40 pm	General Discussion	
2:40 pm - 3:10 pm	Coffee Break **Location:** GNS Lobby Area		
3:10 pm - 5:10 pm	Session (15 min + 5 min Q&A) The Effects of Physical and Social Constraints on Behavior - Chair: Verena Hafner		
	3:10 pm - 3:30 pm	When Does the Body Matter? A Dynamical Signature of Coupling Dependence in Evolved Neural Controllers	C. Lucken
	3:30 pm - 3:50 pm	A Robot-LLM Integration Framework for Social Learning Interactions	A. Lange, H. Ackermann, R. Lazarides, V. V. Hafner
	3:50 pm - 4:10 pm	Interoceptive Attention as Dynamic Homeostatic Prioritization in a Foraging Agent	St John Grimbly, N. Kuske, E. Boonstra, B. Basset, C. van Hoof, R. Hodson, B. Rosman, R. Smith, M. Solms, J. Shock
	4:10 pm - 4:30 pm	Body-Grounded Perspective Formation and Conative Attunement in Artificial Agents	H. Pae
	4:30 pm - 4:50 pm	The Social Buffering Hypothesis as an Adaptive Mechanism to Regulate Stress in Artificial Agents	L. Aloe
	4:50 pm - 5:00 pm	Moderated Panel with Session Speakers	
	5:00 pm - 5:10 pm	General Discussion	
5:10 pm- 5:20 pm	Wrap-Up		

22 October, Thursday

DAY 4 – Symposium Day

Venue 2 UDK Einsteinufer 43 10587 Berlin	**8:15 am - 9:00 am**	Registration **Location:** GNS Lobby Area		
	9:00 am - 12:15 pm	Cross-Kingdom Intelligence Symposium		
		9:00 am - 9:15 am	Introduction to the Symposium	Oliver Brock (TU Berlin)
		9:15 am - 10:00 am	Intelligence in Animals and Humans	Jens Krause (IGB Berlin)
		10:00 am - 10:45 am	Intelligence in Plants	Paco Calvo (Universidad de Murcia)
		10:45 am - 11:30 am	Intelligence in Fungi	Vera Meyer (TU Berlin)
		11:30 am - 12:15 pm	Artificial Intelligence	Ute Schmid (Universität Bamberg)
	12:15 pm - 1:45 pm	Lunch Self-catered		
	1:45 pm - 3:00 pm	Panel Discussion and Open Forum		
	3:00 pm - 3:45 pm	ISAB Meeting		
	3:45 pm - 6:00 pm	Wrap-Up & Farewell Reception with Snacks and Drinks		

ISAB TECHNISCHE UNIVERSITÄT BERLIN RBO science of intelligence Center for Cognitive Neuroscience and Engineering UCI School of Social Sciences