

## Emerging innovations for Energy-Water Sustainability

Schedule for 25<sup>th</sup> January 2021

Zoom Link:

<https://gwdg.zoom.us/j/82440694444?pwd=REk3TGwxa0k2dVpUUkd4QU1EeGNGUT09>

	Time (CET)		
<b>Session 1</b>  <i>Chaired by Prof. Dr. Manish Tiwari</i>	10:00-10:05	Welcome and Workshop Start	
		<b>Talk</b>	<b>Affiliation</b>
	10:05-10:30	Keynote: Exploiting the physics of sunlight-surface interactions to inspire disrupting technologies in water condensation  Prof. Dr. Dimos Poulikakos	ETH Zurich
	10:30-11:15	Invited Keynote: Nature-inspired surfaces for water energy harvesting and thermal cooling  Prof. Dr. Zuankai Wang	City University, HK
	11:15-11:30	Tea / coffee break	
<b>Session 2</b>  <i>Chaired by Dr. Prasenjit Kabi</i>	11:30-12:30	Bulk lubricant infusion in soft substrates enhances condensate removal  <u>C.W.E. Lam</u> , C. S. Sharma, A. Milionis, A. Naga, M. F. D. Ponte, V. Negri, H. Raoul, M. D'Acunzi, H.-J. Butt, D. Vollmer, D. Poulikakos	ETH Zurich
		Lubricant Infused Vertical Graphene Nanoscaffolds for High-Performance Dropwise Condensation  <u>A. Tripathy</u> , C. W. E. Lam, D. Davila, M. Donati, A. Milionis, C. S. Sharma, D. Poulikakos	ETH Zurich
		Microwell-reinforced, vertically-aligned, carbon nanotube forests for efficient condensation heat transfer  <u>A. Milionis</u> , M. Donati, A. Tripathy, C. W. E. Lam, C. S. Sharma, D. Poulikakos	ETH Zurich
		Dynamics of droplet coalescence induced jumping on superhydrophobic surfaces	IIT Ropar



*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant number No 801229.*

		G. C. Pal, Siddharth S, C. S. Sharma	
		Materials and strategies for efficient fog harvesting R. Upadhyay, A. Saini, C. S. Sharma	IIT Ropar
	12:30-13:15	Invited Keynote: 3D printing of superhydrophobic objects with bulk nanostructure Prof. Dr. Pavel Levkin	KIT, Karlsruhe
	13:15-14:15	Lunch	
<b>Session 3</b>  <i>Chaired by Dr. Athanasios Milionis</i>	14:15-15:00	Invited Keynote: Promises and pitfalls of water condensation on lubricant-infused surfaces Prof. Dr. Patricia B. Weisensee	Washington University in St. Louis
	15:00-16:00	Exploiting fluorine-free, reticular chemistry for robust liquid repellent surfaces V. Singh, P. Kabi, M. K. Tiwari	UCL, London
		Perpetuating condensation on Metal-Organic Framework based surfaces P. Kabi, V. Singh, M. K. Tiwari	UCL, London
		Superhydrophobic micro-nano textured Al surfaces for enhanced heat transfer coefficient P. Sarkiris	NCSR-D, Agia Paraskevi
		Atmospheric water collection on surfaces with controlled wettability D. Nioras	NCSR-D, Agia Paraskevi
		Plasma-induced superhydrophobicity as a green technology enhancing membrane distillation for clean water production D. Ioannou	NCSR-D, Agia Paraskevi
	16:00-16:15	Tea / coffee break	
	16:15-17:00	Hierarchical porous membrane with super liquid repellency for enhanced desalination Y. Hou, P. Shah, V. Constantoudis, E. Gogolides,	MPIP, Mainz



<b>Session 4</b>  <i>Chaired by Prof. Chander Shekhar Sharma</i>		M. Kappl, H.-J. Butt	
		Enhanced Condensation Heat Transfer by Binary Liquids on Polydimethylsiloxane Brushes  <u>S. Li</u> , D. Diaz, M. Kappl, J. Liu, Y. Hou, H.-J. Butt	MPIP, Mainz
		Nanometrology of complex hierarchical surfaces and membranes via SEM image analysis  V. Constantoudis	NCSR-D, Agia Paraskevi
		Critical surface parameters for condensation heat transfer  G. Kokkoris	NCSR-D, Agia Paraskevi
	17:00	Workshop closes for the day	



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	Time (CET)		
<b>Session 1</b>	10:00-10:10	Day 2 Workshop Open	
		<b>Talk</b>	<b>Affiliation</b>
<i>Chaired by Dr. Sia Gosheva-Oney</i>	10:10-10:30	EIC funded projects and innovations Antonio Marco Pantaleo	EIC for Energy Systems
<i>Chaired by Dr. Michael Kappl</i>	10:30-10:40	Stefan Weber Fundamentals of perovskite solar cells	MPIP, Mainz
	10:40-11:40	Yenal Yalcinkaya Ferroelastic properties of methylammonium lead iodide perovskites	MPIP, Mainz
		Kostas Bidinakis Mapping the electrical potential in perovskite solar cell cross sections	MPIP, Mainz
	11:40-11:50	Tea / coffee break	
<b>Session 2</b>	11:50-12:50	Chao Zhou Opportunities and Challenges of solid electrolytes in all solid state batteries	MPIP, Mainz
		Diego Diaz Charging of droplets rebounding from superhydrophobic surfaces	MPIP, Mainz



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Chaired by Dr. Sia Gosheva- Oney	12:50- 13:05	Q&A Session: EIC funded projects and innovations  Antonio Marco Pantaleo	EIC for Energy Systems
	13:05- 13:20	Workshop Closing Note  Prof. Dr. Manish K. Tiwari	UCL, London



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