

EASAC study of breakthroughs in sustainable energy supply and consumption by 2050, and outlook towards the end of the century.

AGENDA

Thursday Sept 19

09.30 - 09.40

Welcome, Sven, Lennart , Elisabeth

Renewables, overview, Moderator Elisabeth Rachlew

09.40 – 10.30

Paul Alivisatos, Dept. Chemistry, Lawrence Berkeley Laboratory, Calif. USA- ***“Nanoscience and the Future of the Global Carbon Cycle”***.

10.30 – 11.15

Karl Leo, TU Dresden, Fraunhofer COMEDD, Dresden, Germany

***“Recent progress in organic solar cells:
From a lab curiosity to a serious photovoltaic technology”***

11.15 – 12.00

Markus Antonietti, MPI colloids and interfaces, Potsdam-Golm:
“From Platform Chemicals to Advanced Energy Storage: All from (waste) biomass”

12.00 – 13.00

Lunch at KVA

Photovoltaics, Moderator, chair Olle Inganäs

13.00 – 13.20

Eli Yablonovitch, Electrical Engineering & Computer Sciences Dept., Lawrence Berkeley Laboratory, USA,
“Photovoltaics, High Efficiency Together with Low Cost”

13.20 – 13.40

René J Janssen, Technical University Eindhoven, The Netherlands.
“Efficient polymer solar cells and first steps beyond that”

13.40 - 14.00

Frank Dimroth, Fraunhofer Inst., Freiburg, Germany
“Photovoltaic research for the support of European energy transition”

14.00 – 14.20

Magnus Borgström, Lund,
“Nanowires with promise for high efficiency photovoltaics”

14.20 – 14.40

Anders Hagfeldt, Uppsala,
“Hybrid Inorganic-Organic Photovoltaics - HI-OPV”

14.40 – 15.10 Discussion

15.10 – 15.40 *Coffee break*

Biofuels, Moderator *Eva-Mari Aro*

15.40 – 16.00 Klaas Hellingwerf, Amsterdam, The Netherlands
“Cyanobacteria as the ultimate photo-catalysts of the conversion of CO₂ into chemical commodities and liquid fuel, driven by either sunlight or electricity”.

16.00 – 16.20 *Per Gärdeström*, Umeå Plant Science Center
“Energy crops and the use of biomass”

16.20 – 16.40 Sascha Rexroth, Ruhr Universität, Bochum
“Rational design of cyanobacteria for hydrogen production”

16.40 – 17.00 ?

17.00– 17.30 Discussion

18.00 *Dinner at KVA*

Friday Sept. 20

Artificial photosynthesis, Moderator *Villy Sundström*

09.00 – 09.20 Vincent Artero, CEA, Grenoble:
“Molecular science for artificial photosynthesis: from bio-inspired catalysts to nanomaterials.”

09.20 – 09.40 Erwin Reisner, Cambridge, UK:
“Artificial photosynthesis with Enzymes and Synthetic Catalysts Integrated in Nanostructured Hybrid Materials”.

09.40 – 10.00 Daniel Nocera, Patterson Rockwood Professor of Energy, Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA 02138, U.S.A.:
“The artificial leaf”

10.00 – 10.15 Discussion

10.15 – 10.45 *Coffee break*

	Energy storage, Moderator Harry Frank
10.45 – 11.05	Michel Armand, CNRS, France "Electrochemical energy storage, activity on all fronts"
11.05 – 11.25	Thomas Hamacher, TU, München. "Integration of renewable energies: competition between storage, the power grid and flexible demand"
11.25 – 11.45	Hermann –Josef Wagner, Ruhr Universität, Bochum, Germany, "Wind energy systems- present status and ecobalances"
11.45 - 12.05	<i>possible presentation on the Adele system</i>
12.05 – 12.30	Discussion
12.30 – 13.30	<i>Lunch</i>
	Energy systems, Moderator Lennart Bengtsson
13.30 – 13.50	Godfrey Boyle, Oxford, UK, "Renewables-intensive Energy Systems for the UK"
13.50 – 14.10	Ujval Vyas, Alberti Group, Chicago, Ill, US, "The Importance of Failure and the Future of Renewable Energy" .
14.10 – 14.30	Sture Larsson, Former Technical Director and deputy Director General at Svenska Kraftnät, the Swedish Power System Operator "Requirements for system adaptations to intermittent energies" .
14.30 – 14.50	Discussion
14.50 – 15.15	Concluding discussion, Moderator Olle Inganäs
15.15 – 15.45	<i>Coffee break</i>
15.45 – 17.00	EASAC steering committee meeting. Progress and future work.

EASAC study steering committee:

(bold, announced coming to the workshop)

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