

## Do we need a global project on artificial photosynthesis (solar fuels and chemicals?)

8-10 July 2014, Theo Murphy Scientific Discussion Meeting at The Royal Society at Chicheley Hall, home of the Kavli Royal Society Centre

Organised by Professor Thomas Faunce, Professor Fraser Armstrong FRS, Professor Adam F Lee, Professor Duncan H Gregory, Professor David F Coker and Professor Paul Mulvaney

Correct as of 27 June 2014

Day 1 – Tuesday 8 July

Field Overview							
SESSION 1		SESSION 2		SESSION 3		SESSION 4	
<b>GAP Project potential stakeholder expectations. Field overview - status reports and gaps.</b> <b>Professor Thomas Faunce</b>		<b>Recent breakthroughs. What would a GAP Project do better?</b>  <b>Professor Adam Lee</b>		<b>Session 3- A GAP Project and CO<sub>2</sub> and N<sub>2</sub> absorption for fuels, foods and chemicals.</b>  <b>Professor Fraser Armstrong FRS</b>		<b>Session 4: Should a biological approach be part of a GAP Project?</b>  <b>Professor Paul Mulvaney</b>	
<b>9.00</b>	Welcome <b>Sir Peter Knight FRS</b>						
<b>9.05</b>	<b>Professor Thomas Faunce</b> Meeting Aims and Objectives	<b>11.10</b>	<b>Professor Can Li</b> Chinese Academy of Sciences	<b>14.00</b>	<b>Bill Leighty</b> NH3 Fuels Association	<b>16.00</b>	<b>Professor Stenbjorn Styring</b> Uppsala University
<b>9.15</b>	<b>Moderated Forum of Potential Stakeholder Expectations</b> Jon Kaye (Moore Foundation); Meher Antia (Wellcome Trust); Grahame Buss (Shell); Bill Leighty (Leighty Foundation); Jason Green (EPSRC); Andrew Pidden (Deutsche Alternative Asset Management)	<b>11.30</b>	<b>Professor Dan Nocera</b> Harvard University	<b>14.10</b>	<b>Professor Ron Michalsky</b> Brown University	<b>16.20</b>	<b>Professor Kara Bren</b> University of Rochester
						<b>16.35</b>	<b>Professor Gabriela Schlau-Cohen</b> Stanford

<b>9.30</b>	<b>Professor Peidong Yang</b> University of California, Berkeley	<b>11.50</b>	<b>Professor Christine Charles</b> Australian National University	<b>14.30</b>	<b>Professor Marc Fontecave</b> Collège de France	<b>16.50</b>	<b>Professor Eva-Mari Aro</b> University of Turku
<b>9.50</b>	<b>Dr Vincent Artero</b> CEA and University of Grenoble	<b>12.05</b>	<b>Professor Ann Magnuson</b> Uppsala University	<b>14.50</b>	<b>Professor Etsuko Fujita</b> Brookhaven National Laboratory	<b>17.05</b>	<b>Professor Gary Brudvig</b> Yale University
<b>10.10</b>	<b>Andrew Pidden</b> (Deutsche Alternative Asset Management)	<b>12.20</b>	<b>Hiroaki Misawa</b> Hokkaido University			<b>17.25</b>	<b>Professor David Wendell</b> University of Cincinnati
<b>10.20</b>	<b>Dr Jason Green</b> EPSRC						
<b>10.30</b>	Panel Discussion	<b>12.35</b>	Panel Discussion	<b>15.10</b>	Panel Discussion	<b>17.40</b>	Panel Discussion
<b>10.50</b>	Morning Coffee	<b>13.00</b>	Lunch	<b>15.40</b>	Afternoon Tea	<b>18.00</b>	Close
						<b>18.30</b>	Dinner
							<b>Evening: informal drafting groups</b>

Day 2 – Wednesday 9 July

<b>GAP Project and deployable water-splitting catalysts. Organisational governance and structure</b>		<b>GAP Project- Market Drivers, Promotion, Policy and Governance intersections</b>	
<b>SESSION 1</b>	<b>SESSION 2</b>	<b>SESSION 3</b>	<b>SESSION 4</b>
<b>Professor Fraser Armstrong FRS</b>	<b>Professor David Coker</b>	<b>Professor Adam Lee</b>	<b>Professor Thomas Faunce</b>

<b>8.30</b>	<b>Professor Wolfgang Lubitz</b> Max Planck Institute for Chemical Energy Conversion	<b>10.50</b>	<b>Professor David M Tiede</b> Argonne National Laboratory	<b>14.00</b>	<b>Professor Jim Barber</b>	<b>16.00</b>	<b>Professor Allan Gross</b> Aarhus University
<b>8.50</b>	<b>Professor Shunichi Fukuzumi</b> Osaka University	<b>11.10</b>	<b>Professor Richard van de Sanden</b> Dutch Institute for Fundamental Energy Research	<b>14.15</b>	<b>Professor Alex Bruce</b> Australian National University	<b>16.15</b>	<b>Doug MacFarlane</b> Monash University
<b>9.05</b>	<b>Professor Johannes Messinger</b> Umea University	<b>11.25</b>	<b>Professor James Durrant</b> Imperial College London	<b>14.30</b>	<b>John Broderick</b> Tyndall	<b>16.30</b>	<b>Leon Di Marco</b>
<b>9.20</b>	<b>Robin Perutz</b> University of York	<b>11.40</b>	<b>Professor Gary Moore</b> University of California, Berkeley	<b>14.45</b>	<b>Lee Jae Joon</b> Konkuk University	<b>16.35</b>	Brief Presentations by SFN – funded participants
<b>9.35</b>	<b>Professor Paul Mulvaney</b> University of Melbourne	<b>11.55</b>	<b>Professor Lianzhou Wang</b> Queensland University	<b>15.00</b>	<b>Dame Mary Archer</b>	<b>16.55</b>	<b>Florian Prange</b> GORDIS Gmbh
						<b>17.00</b>	<b>Olaya-Castro</b>
						<b>17.05</b>	<b>Philip Earis</b>
<b>9.50</b>	<b>Ed Sears</b> Exeter University	<b>12.15</b>	<b>Pau Farras Costa</b> Newcastle University	<b>15.10</b>	<b>Greg Vezina</b> Hydrofuels	<b>17.10</b>	<b>Dr René Klein Lankhorst</b> BioSolar Cells
<b>9.55</b>	<b>Suraj Soman</b> Michigan State University	<b>12.20</b>	<b>Wilson Smith</b> Delft University of Technology			<b>17.15</b>	<b>Joanna Slota-Newson</b>
<b>10.00</b>	<b>Savina Joseph</b> University of Oxford	<b>12.25</b>	<b>Elisabet Romero</b> VU University Amsterdam			<b>17.20</b>	<b>Dr Vincent Duastre</b> Nature Materials
<b>10.05</b>	<b>Alexander Cowan</b> University of Liverpool						
<b>10.10</b>	Panel Discussion	<b>12.35</b>	Panel Discussion	<b>15.20</b>	Summary of discussions and circulation of draft texts	<b>17.25</b>	Moderated Forum of Preliminary Stakeholder Observations Jon Kaye (Moore Foundation); Meher Antia (Wellcome Trust); Grahame Buss (Shell); Bill

							Leighty (Leighty Foundation);	
<b>10.30</b>	Morning Tea	<b>13.00</b>	Lunch	<b>15.40</b>	Afternoon Tea	<b>18.00</b>	Close	
							<b>18.30</b>	Dinner
								<b>Evening: informal drafting groups</b>

Day 3 – Thursday 10 July

<b>Global Artificial Photosynthesis Project: Value for existing AP projects. Management. Operational assumptions, potential risks and obstacles.</b>				<b>Governing Principles and Evaluation of Business Case for a Global Artificial Photosynthesis Project</b>			
<b>SESSION 1 Professor Thomas Faunce</b>		<b>SESSION 2 Professor Thomas Faunce</b>		<b>SESSION 3 Professor Thomas Faunce</b>			
<b>8.30</b>	<b>Michael R Wasielewski</b> Director, Solar Fuels Institute (SOFI), Northwestern University	<b>10.35</b>	Moderated discussion Forum on GAP focus and structure Tiede, Artero, Fontecave, Fukuzumi, Can Li, Durrant, Michalsky, Messinger, Royea, van de Sanden	<b>14.00</b>	<b>Jon Kaye</b> Moore Foundation		
<b>8.50</b>	<b>William Royea</b> California Institute of Technology	<b>11.15</b>	<b>Professor Duncan Eggar</b> BBSRC	<b>14.10</b>	<b>Grahame Buss</b> Shell Alternative Energies		
<b>9.10</b>	<b>Professor Huub de Groot</b> Leiden University	<b>11.30</b>	<b>Philippe Schild</b> European Commission	<b>14.20</b>	<b>Meher Antia</b> Wellcome Trust		
<b>9.30</b>	<b>Professor KB Yoon</b> Sogang University	<b>11.45</b>	Moderated discussion Forum on GAP advantages, risks and obstacles Yang, Nocera, Styring, Lubitz, Wasielewski, KB Yoon, de Groot	<b>14.30</b>	Panel Discussion		
<b>9.50</b>	Discussion	<b>12.15</b>	Discussion	<b>14.50</b>	General Discussion		

				<b>15.45</b>	<b>Professor Thomas Faunce</b> Concluding Remarks and Next Steps
<b>10.15</b>	Morning Coffee	<b>13.15</b>	Lunch	<b>16.00</b>	Close