

**ASSOCIATE PROFESSOR BENJAMIN DAVID HANKAMER****STATEMENT OF EXPERTISE**

**Microalgae Biofuel Systems:** I am the founding director of the Solar Biofuels Consortium ([www.solarbiofuels.org](http://www.solarbiofuels.org)) which is developing high-efficiency microalgal biofuel production systems. The consortium has grown to include seven international teams (~100 researchers) and 10 industry partners including (e.g. Boeing, Virgin Australia, Siemens, KBR, Neste Oil), conducting a research program of bio-discovery, marine biology, structural biology, molecular biology, microbiology, genomics, metabolomics, culture optimisation and bioreactor scale up.

**Structural Biology:** Focused on membrane proteins and macromolecular assemblies using rapid high resolution single particle analysis and electron crystallography.

**ACADEMIC QUALIFICATIONS**

- Nov 1990–Aug 1994 Imperial College of Science Technology and Medicine, London, UK.  
*PhD in Structural Studies on Photosystem II. (Thesis awarded 16 Nov 1994)*
- Oct 1988–Sep 1989 Wye College, University of London, Kent, UK.  
*MSc in Plant Biotechnology.*
- Sep 1983–Jun 1987 Liverpool Polytechnic, Merseyside, UK.  
*BSc (Hons) in Biochemistry: Upper Second (4 year sandwich course).*

**EMPLOYMENT**

- 2010 - current *Affiliated Academic Appointment, Centre for Marine Science, The University of Queensland, Australia.*
- Sep 2006-current *Director, Solar Biofuels Consortium – [www.solarbiofuels.org](http://www.solarbiofuels.org).*
- Sep 2010-current *Associate Professor, Institute of Molecular Bioscience, The University of Queensland, Australia.*
- Sep 2002-Sep 2010 *Senior Research Fellow, Institute of Molecular Bioscience, The University of Queensland, Australia.*
- Sep 1999-Aug 2002 *Research Lecturer (RA2A), Centre for Structural Biology, Imperial College of Science Technology and Medicine, London, UK.*
- Aug 1994-Sep 1999 *Postdoctoral Researcher (RA1A), Biochemistry Department, Imperial College of Science Technology and Medicine, London, UK.*
- Sep 1989-Sep 1990 *Research Assistant (RA1A), Wye College, University of London, Kent, London, UK.*
- Oct 1987-Sep 1988 *Research Assistant, The Jacob Blaustein Institute for Desert Research, Ben Gurion University of the Negev, Israel.*
- Oct 1985-Sep 1986 *Research Assistant, Biodegradability Section, Water Research Centre, Medmenham, Berkshire, UK.*

**HONORS & AWARDS**

- 2009 *Eisenhower Fellowship: Prestigious fellowship awarded to individuals identified as International leaders in areas of energy technology and supply.*

**MEMBERSHIP**

- 2011 – Current *Australian representative for the International Energy Agency (IEA) Hydrogen Implementation Agreement Task 21 (Bio-inspired Hydrogen and Biohydrogen)*

**CONSULTANCY & ADVISOR**

**Australian Federal Government:** Asia Pacific Network for Energy Technologies. *Aim: To develop a platform for clean energy technology development in Asia Pacific region. (2007).*

**Council of Australian Governments:** Planner of Australia's H<sub>2</sub> Roadmap. *Aim: To plan a road map for the development of an Australian hydrogen economy. (2008).*

**Queensland Government (informal):** Development of Smart State policy in Ag-biotech and bio-refining and invited speaker at Qld Gov. Techclinics (2009).

**Queensland Government:** Trade Delegation Meeting (2009).

**Queensland Government/Washington State:** Alliance Meeting (Feb 2010).

**Queensland Government/New Zealand:** Trade Delegation Meeting (March 2010).

**Queensland Government (informal):** Develop economic model for Biofuel production (2010).

**Queensland Government:** Smart State Council Working Group on Evolving Energy (2010).

**Brazil:** Brazilian BIOEN program (~\$200 Mil). *Aim: To focus on the development of advanced bioenergy systems. (2010).*

**Pacific Leaders Mentoring Project:** Via Eisenhower Fellowships - developing a pacific leaders mentoring program - shortlisted (2011).

**Australian Science Media Centre:** Expert in energy sources - comparing the importance and impacts of different energy sources that Australia uses (2012)

**EDITOR**

Journal of Structural Biology: Guest Editor of Special Edition  
*Advances in Electron Crystallography of Membrane Proteins (Dec 2007)*

**INVITED REVIEWER**

**Journal reviewer:** Nature Biotech, Structure, Journal of Structural Biology, Journal of Biological Chemistry, Journal of Biotechnology, Coordination Chemistry reviews, & Optical Express.

**Grant Reviewer:** ARC, NHMRC, UK & Dutch energy agencies.

**Grant Review Panel:** NHMRC Project Grants Peer Review Panel: Biochemistry and Cell Biology

**PUBLICATIONS**<sup>1-87</sup>**REFEREED JOURNAL ARTICLES**<sup>1-61</sup>

- (1) Muller, D. A.; Landsberg, M. J.; Bletchly, C.; Rothnagel, R.; Waddinton, L.; Hankamer, B.; Young, P. R., Structure of the dengue virus glycoprotein non-structural protein 1 by electron microscopy and single particle analysis, *Journal of General Virology*, **2012**, *93*, 771-779, 3.568.
- (2) Busby, J. N.; Landsberg, M. J.; Simpson, R.; Jones, S. A.; Hankamer, B.; Hurst, M. R.; Lott, S., Structural analysis of the Chi1 chitinase from Yen-Tc, the multi-subunit insecticidal ABC toxin complex of *Yersinia entomophaga.*, *Journal of Molecular Biology*, **2012**, *415*, 359-371, 4.008.
- (3) Ali, R. R.; Landsberg, M. J.; Knauth, E.; Morgan, G. P.; Marsh, B.; Hankamer, B., A 3D image filter for parameter-free segmentation of macromolecular structures from electron tomograms, *PLoS ONE*, **2012**, *7*, e33697, 4.411.
- (4) Nguyen, A. V.; Toepel, J.; Burgess, S.; Uhmeyer, A.; Blifernez, O.; Doebbe, A.; Hankamer, B.; Nixon, P.; Wobbe, L.; Kruse, O., Time-course global expression profiles of *Chlamydomonas reinhardtii* during photo-biological H<sub>2</sub> production *PLoS ONE*, **2011**, *6*, e29364, 4.411.
- (5) Maco, B.; Ross, I. L.; Landsberg, M. J.; Mouradov, D.; Saunders, N. F. W.; Hankamer, B.; Kobe, B., Proteomic and electron microscopy survey of large assemblies in macrophage cytoplasm, *Mol Cell Proteomics*, **2011**, *10*, 1-9, 8.8.
- (6) Larkum, A. W. D.; Ross, I.; Kruse, O.; Hankamer, B., Selecting, breeding and engineering microalgae for bioenergy and biofuel production, *Trends in Biotechnology*, **2011**, *30*, 198-205, 9.644.

- (7) Landsberg, M. J.; Jones, S. A.; Rothnagel, R.; Busby, J. N.; Marshall, S. D. G.; Simpson, R. M.; Lott, J. S.; Hankamer, B.; Hurst, M. R. H., 3D structure of the *Yersinia entomophaga* toxin complex and implications for insecticidal activity, *P Natl Acad Sci USA*, **2011**, *108*, 20544-20549, 9.771.
- (8) Stephens, E.; Ross, I. L.; Mussnug, J. H.; Wagner, L. D.; Borowitzka, M. A.; Posten, C.; Kruse, O.; Hankamer, B., Future prospects of microalgal biofuel production systems, *Trends Plant Sci*, **2010**, *15*, 554-564, 10.095.
- (9) Stephens, E.; Ross, I. L.; King, Z.; Mussnug, J. H.; Kruse, O.; Posten, C.; Borowitzka, M. A.; Hankamer, B., An economic and technical evaluation of microalgal biofuels, *Nat Biotechnol*, **2010**, *28*, 126-128, 31.085.
- (10) Morweiser, M.; Kruse, O.; Hankamer, B.; Posten, C., Developments and perspectives of photobioreactors for biofuel production, *Appl Microbiol Biot*, **2010**, *87*, 1291-1301, 2.896.
- (11) Landsberg, M. J.; Ruggles, J. L.; Hussein, W. M.; McGeary, R. P.; Gentle, I. R.; Hankamer, B., Molecular packing of functionalized fluorinated lipids in langmuir mono layers, *Langmuir*, **2010**, *26*, 18868-18873, 4.268.
- (12) Kruse, O.; Hankamer, B., Microalgal hydrogen production, *Curr Opin Biotech*, **2010**, *21*, 238-243, 7.82.
- (13) Doebbe, A.; Keck, M.; La Russa, M.; Mussnug, J. H.; Hankamer, B.; Tekce, E.; Niehaus, K.; Kruse, O., The interplay of proton, electron, and metabolite supply for photosynthetic H<sub>2</sub> production in *Chlamydomonas reinhardtii*, *J Biol Chem*, **2010**, *285*, 30247-30260, 5.328.
- (14) Yang, X.; Molimau, S.; Doherty, G. P.; Johnston, E. B.; Marles-Wright, J.; Rothnagel, R.; Hankamer, B.; Lewis, R. J.; Lewis, P. J., The structure of bacterial RNA polymerase in complex with the essential transcription elongation factor NusA, *Embo Rep*, **2009**, *10*, 997-1002, 6.907.
- (15) Timmins, M.; Zhou, W.; Rupprecht, J.; Lim, L.; Thomas-Hall, S. R.; Doebbe, A.; Kruse, O.; Hankamer, B.; Marx, U. C.; Smith, S. M.; Schenk, P. M., The metabolome of *Chlamydomonas reinhardtii* following induction of anaerobic H<sub>2</sub> production by sulfur depletion, *J Biol Chem*, **2009**, *284*, 23415-23425, 5.328.
- (16) Timmins, M.; Thomas-Hall, S. R.; Darling, A.; Zhang, E.; Hankamer, B.; Marx, U. C.; Schenk, P. M., Phylogenetic and molecular analysis of hydrogen-producing green algae, *J Exp Bot*, **2009**, *60*, 1691-1702, 4.818.
- (17) Stephens, E.; Ross, I. L.; Hankamer, B.; Posten, C.; Kruse, O., Microalgal biofuel systems: Climate change, fuel supply and economic opportunities for sustainable development, *Microbiology Australia*, **2009**, *30*, 89-91,
- (18) Landsberg, M. J.; Vajjhala, P. R.; Rothnagel, R.; Munn, A. L.; Hankamer, B., Three-dimensional structure of AAA ATPase Vps4: Advancing structural insights into the mechanisms of endosomal sorting and enveloped virus budding, *Structure*, **2009**, *17*, 427-437, 6.337.
- (19) Hussein, W. M.; Ross, B. P.; Landsberg, M. J.; Levy, D.; Hankamer, B.; McGeary, R. P., Synthesis of nickel-chelating fluorinated lipids for protein monolayer crystallizations, *J Org Chem*, **2009**, *74*, 1473-1479, 4.002.
- (20) Hussein, W. M.; Ross, B. P.; Landsberg, M. J.; Hankamer, B.; McGeary, R. P., Synthetic approaches to functionalized lipids for protein monolayer crystallizations, *Curr Org Chem*, **2009**, *13*, 1378-1405, 2.879.
- (21) Beckmann, J.; Lehr, F.; Finazzi, G.; Hankamer, B.; Posten, C.; Wobbe, L.; Kruse, O., Improvement of light to biomass conversion by de-regulation of light-harvesting protein translation in *Chlamydomonas reinhardtii*, *J Biotechnol*, **2009**, *142*, 70-77, 2.970.
- (22) Vajjhala, P. R.; Nguyen, C. H.; Landsberg, M. J.; Kistler, C.; Gan, A. L.; King, G. F.; Hankamer, B.; Munn, A. L., The Vps4 C-terminal helix is a critical determinant for assembly and ATPase activity and has elements conserved in other members of the meiotic clade of AAA ATPases, *Febs J*, **2008**, *275*, 1427-1449, 3.042.
- (23) Schenk, P. M.; Thomas-Hall, S. R.; Stephens, E.; Marx, U. C.; Mussnug, J. H.; Posten, C.; Kruse, O.; Hankamer, B., Second generation biofuels: High-efficiency microalgae for biodiesel production, *Bioenerg Res*, **2008**, *1*, 20-43, 4.019.

- (24) Pantelic, R. S.; Lockett, L. J.; Rothnagel, R.; Hankamer, B.; Both, G. W., Cryoelectron microscopy map of atadenovirus reveals cross-genus structural differences from human adenovirus, *J Virol*, **2008**, *82*, 7346-7356, 5.189.
- (25) Nguyen, A. V.; Thomas-Hall, S. R.; Malnoe, A.; Timmins, M.; Mussgnug, J. H.; Rupprecht, J.; Kruse, O.; Hankamer, B.; Schenk, P. M., Transcriptome for photobiological hydrogen production induced by sulfur deprivation in the green alga *Chlamydomonas reinhardtii*, *Eukaryot Cell*, **2008**, *7*, 1965-1979, 3.806.
- (26) Woolford, D.; Hankamer, B.; Ericksson, G., The laplacian of gaussian and arbitrary z-crossings approach applied to automated single particle reconstruction, *J Struct Biol*, **2007**, *159*, 122-134, 3.497.
- (27) Woolford, D.; Ericksson, G.; Rothnagel, R.; Muller, D.; Landsberg, M. J.; Pantelic, R. S.; McDowall, A.; Pailthorpe, B.; Young, P. R.; Hankamer, B.; Banks, J., Swarm<sub>PS</sub>: Rapid, semi-automated single particle selection software, *J Struct Biol*, **2007**, *157*, 174-188, 3.497.
- (28) Pantelic, R. S.; Ericksson, G.; Hamilton, N.; Hankamer, B., Bilateral edge filter: Photometrically weighted, discontinuity based edge detection, *J Struct Biol*, **2007**, *160*, 93-102, 3.497.
- (29) Mussgnug, J. H.; Thomas-Hall, S.; Rupprecht, J.; Foo, A.; Klassen, V.; McDowall, A.; Schenk, P. M.; Kruse, O.; Hankamer, B., Engineering photosynthetic light capture: Impacts on improved solar energy to biomass conversion, *Plant Biotechnol J*, **2007**, *5*, 802-814, 4.886.
- (30) Landsberg, M. J.; Hankamer, B., Symmetry: A guide to its application in 2D electron crystallography, *J Struct Biol*, **2007**, *160*, 332-343, 3.497.
- (31) Hankamer, B.; Lehr, F.; Rupprecht, J.; Mussgnug, J. H.; Posten, C.; Kruse, O., Photosynthetic biomass and H<sub>2</sub> production by green algae: From bioengineering to bioreactor scale-up, *Physiol Plantarum*, **2007**, *131*, 10-21, 3.067.
- (32) Hankamer, B.; Glaeser, R.; Stahlberg, H., Electron crystallography of membrane proteins, *J Struct Biol*, **2007**, *160*, 263-264, 3.497.
- (33) Doebbe, A.; Rupprecht, J.; Beckmann, J.; Mussgnug, J. H.; Hallmann, A.; Hankamer, B.; Kruse, O., Functional integration of the *HUPI* hexose symporter gene into the genome of *C-reinhardtii*: Impacts on biological H<sub>2</sub> production, *J Biotechnol*, **2007**, *131*, 27-33, 2.970.
- (34) Rupprecht, J.; Hankamer, B.; Mussgnug, J. H.; Ananyev, G.; Dismukes, C.; Kruse, O., Perspectives and advances of biological H<sub>2</sub> production in microorganisms, *Appl Microbiol Biot*, **2006**, *72*, 442-449, 2.896.
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- (36) Landsberg, M. J.; Bond, J.; Gee, C. L.; Martin, J. L.; Hankamer, B., A method for screening the temperature dependence of three-dimensional crystal formation, *Acta Crystallogr D*, **2006**, *62*, 559-562, 2.257.
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- (42) da Fonseca, P.; Morris, E. P.; Hankamer, B.; Barber, J., Electron crystallographic study of photosystem II of the cyanobacterium *Synechococcus elongatus*, *Biochemistry-Us*, **2002**, *41*, 5163-5167, 3.226.
- (43) Hankamer, B.; Morris, E.; Nield, J.; Gerle, C.; Barber, J., Three-dimensional structure of the photosystem II core dimer of higher plants determined by electron microscopy, *J Struct Biol*, **2001**, *135*, 262-269, 3.497.
- (44) Hankamer, B.; Morris, E.; Nield, J.; Carne, A.; Barber, J., Subunit positioning and transmembrane helix organisation in the core dimer of photosystem II, *Febs Lett*, **2001**, *504*, 142-151, 3.541.
- (45) Barter, L. M. C.; Bianchietti, M.; Jeans, C.; Schilstra, M. J.; Hankamer, B.; Diner, B. A.; Barber, J.; Durrant, J. R.; Klug, D. R., Relationship between excitation energy transfer, trapping, and antenna size in photosystem II, *Biochemistry-Us*, **2001**, *40*, 4026-4034, 3.226.
- (46) Morris, E. P.; Hankamer, B. D.; Barber, J., Three-dimensional structure of photosystem II determined by electron crystallography, *Biophys J*, **2000**, *78*, 8A-8A, 4.218.
- (47) Kruse, O.; Hankamer, B.; Konczak, C.; Gerle, C.; Morris, E.; Radunz, A.; Schmid, G. H.; Barber, J., Phosphatidylglycerol is involved in the dimerization of photosystem II, *J Biol Chem*, **2000**, *275*, 6509-6514, 5.328.
- (48) Schilstra, M. J.; Nield, J.; Dorner, W.; Hankamer, B.; Carradus, M.; Barter, L. M. C.; Barber, J.; Klug, D. R., Similarity between electron donor side reactions in the solubilized photosystem II-LHC II supercomplex and photosystem-II-containing membranes, *Photosynth Res*, **1999**, *60*, 191-198, 2.41.
- (49) Hankamer, B.; Morris, E. P.; Barber, J., Revealing the structure of the oxygen-evolving core dimer of photosystem II by cryoelectron crystallography, *Nature Structural & Molecular Biology*, **1999**, *6*, 560-564, 13.685.
- (50) Barber, J.; Nield, J.; Morris, E. P.; Hankamer, B., Subunit positioning in photosystem II revisited, *Trends in Biochemical Sciences*, **1999**, *24*, 43-45, 10.364.
- (51) Boekema, E. J.; Nield, J.; Hankamer, B.; Barber, J., Localization of the 23-kDa subunit of the oxygen-evolving complex of photosystem II by electron microscopy, *European Journal of Biochemistry*, **1998**, *252*, 268-276, 3.579.
- (52) Barber, J.; Rhee, K. H.; Morris, E.; Hankamer, B.; Nield, J.; Boekema, E.; Kuhlbrandt, W., Towards the elucidation of the structure of photosystem II at high resolution, *Biophys J*, **1998**, *74*, A328-A328, 4.218.
- (53) Rhee, K. H.; Morris, E. P.; Zheleva, D.; Hankamer, B.; Kuhlbrandt, W.; Barber, J., Two-dimensional structure of plant photosystem II at 8-angstrom resolution, *Nature*, **1997**, *389*, 522-526, 36.101.
- (54) Morris, E. P.; Hankamer, B.; Zheleva, D.; Friso, G.; Barber, J., The three-dimensional structure of a photosystem II core complex determined by electron crystallography, *Structure*, **1997**, *5*, 837-849, 6.337.
- (55) Hankamer, B.; Nield, J.; Zheleva, D.; Boekema, E.; Jansson, S.; Barber, J., Isolation and biochemical characterisation of monomeric and dimeric photosystem II complexes from spinach and their relevance to the organisation of photosystem II in vivo, *European Journal of Biochemistry*, **1997**, *243*, 422-429, 3.579.
- (56) Hankamer, B.; Barber, J.; Boekema, E. J., Structure and membrane organization of photosystem II in green plants, *Annu Rev Plant Biol*, **1997**, *48*, 641-671, 23.46.
- (57) Barber, J.; Nield, J.; Morris, E. P.; Zheleva, D.; Hankamer, B., The structure, function and dynamics of photosystem two, *Physiol Plantarum*, **1997**, *100*, 817-827, 3.067.
- (58) Zheleva, D.; Hankamer, B.; Barber, J., Heterogeneity and pigment composition of isolated photosystem II reaction centers, *Biochemistry-Us*, **1996**, *35*, 15074-15079, 3.226.
- (59) Boekema, E. J.; Nield, J.; Hankamer, B.; Barber, J., Localization of the oxygen evolving complex of photosystem II by electron microscopy, *Prog Biophys Mol Bio*, **1996**, *65*, Pe120-Pe120, 5.245.

- (60) Boekema, E. J.; Hankamer, B.; Bald, D.; Kruij, J.; Nield, J.; Boonstra, A. F.; Barber, J.; Rogner, M., Supramolecular structure of the photosystem-II complex from green plants and cyanobacteria, *P Natl Acad Sci USA*, **1995**, *92*, 175-179, 9.771.
- (61) Golangoldhirsh, A.; Hankamer, B.; Lips, S. H., Hydroxyproline and proline content of cell-walls of sunflower, peanut and cotton grown under salt stress, *Plant Sci*, **1990**, *69*, 27-32, 2.481.

### SCHOLARLY BOOK CHAPTERS <sup>1,2</sup>

- (1) Hankamer, B.; Barber, J.; Nield, J., Structural analysis of the photosystem II core/antenna holocomplex by electron microscopy In *Photosystems II: The light-driven water/plastoquinone oxidoreductase*; Wydrzynski, T. J., Satoh, K., Eds.; Springer: Dordrecht, The Netherlands, **2005**; *22*, 403-424.
- (2) Sennoga, C.; Hankamer, B.; Heron, A.; Seddon, J. M.; Barber, J.; Templer, R. H., Morphological aspects of in cubo membrane protein crystallisation In *Roy Soc Ch*; Templer, R. H., Leatherbarrow, R., Eds.; Royal Society of Chemistry: Cambridge, UK, **2002**, 221-236.

### PATENTS <sup>1-2</sup>

- (1) Kruse, O.; Hankamer, B., Photosynthetic hydrogen production, WO/2005/003024, **2005**.
- (2) Bond, J.; Hankamer, B., Laboratory temperature control device with top face (Labortemperiereinrichtung mit Oberseite), WO/2004/018105 A1, Germany, **2005**.

### REFEREED CONFERENCE PAPERS <sup>1-16</sup>

- (1) Banks, J.; Pailthorpe, B.; Rothnagel, R.; Hankamer, B., Automatic partice picking algorithms for high resolution single particle analysis, Workshop on Digital Image Computing, 127-132, **2005**.
- (2) Banks, J.; Rothnagel, R.; Hankamer, B., Automatic particle picking of biological molecules imaged by electron microscopy, Image and Vision Computing New Zealand (IVCNZ), New Zealand, 269-274, **2003**.
- (3) Morris, E. P.; Hankamer, B.; Barber, J., 12th International congress on photosynthesis, Brisbane, Australia, **2001**.
- (4) Barter, L. M. C.; Bianchiatti, M.; Jeans, C.; Schilstra, M. J.; Hankamer, B.; Diner, B.; Barber, J.; Durrant, J. R.; Klug, D. R., 12th International congress on photosynthesis, Brisbane, Australia, **2001**.
- (5) Nield, J.; Orlova, E.; Hankamer, B.; Dorner, W.; Barber, J.; van Heel, M., Three-dimensional structure of the spinach photosystem II core complex, 14th International Congress on Electron Microscopy, Cancun, Mexico, 619-620, **1998**.
- (6) Hankamer, B.; Morris, E. P.; Barber, J., Cryoelectron microscopy of photosystem two shows that CP43 and CP47 are located on opposite sides of the D1/D2 reaction center proteins, 11th International congress on photosynthesis, Budapest, Hungary, 957-960, **1998**.
- (7) da Fonseca, P.; Maghlaoui, K.; Hankamer, B.; Buchel, C.; Barber, J., Purification of oxygen evolving PSII complexes from *Synechococcus elongatus* for electron crystallography, 11th International congress on photosynthesis, Budapest, Hungary, 969-972, **1998**.
- (8) Catucci, L.; Dorner, W.; J., N.; Hankamer, B.; Vass, I., Isolation an characterisation of oxygen evolving photosystem II core complexes from spinach in the presence of glycine betaine, 11th International congress on photosynthesis, Budapest, Hungary, 973-769, **1998**.
- (9) Zheleva, D.; Vacha, F.; Hankamer, B.; Telfer, A.; Barber, J., Determination of the complex homogeneity and pigment stoichiometry of isolated PS II reaction centres, Xth International Photosynthesis Congress, Dordrecht, 759-762, **1995**.
- (10) Nield, J.; Hankamer, B.; Zheleva, D.; Hodges, M. L.; Boekema, E. J., Biochemical characterisation of LHCII-PSII complexes associated with and lacking the 33kD subunit, Xth International photosynthesis congress, Montpellier, France, 361-364, **1995**.

- (11) Kruse, O.; Zheleva, D.; Hankamer, B.; Barber, J., Investigating the protective role of phosphorylation for PSII complexes, Xth International photosynthesis congress, Montpellier, France
- (12) Kruij, J.; Bald, D.; Hankamer, B.; Nield, J.; Boonstra, A. F.; Barber, J.; Boekema, E. J.; Rogner, M., Localization of subunits in PS1, PS2 and in a PS2 light-harvesting-supercomplex, Xth International photosynthesis congress, Montpellier, France, 405-408, **1995**.
- (13) Hankamer, B.; Nield, J.; Boekema, E.; Rogner, M.; Bald, D.; Barber, J., 1995 annual meeting of experimental biology, London, **1995**.
- (14) Hankamer, B.; Morris, E.; Zheleva, D.; Barber, J., Biochemical characterisation and structural analysis of monomeric and dimeric photosystem II core preparations, Xth International photosynthesis congress, Montpellier, France, 365-368, **1995**.
- (15) Boekema, E.; Hankamer, B.; Nield, J.; Barber, J., Photosystem II structure investigated by electron microscopy and single-particle averaging, Xth International photosynthesis congress, Montpellier, France, 229-232, **1995**.
- (16) Boekema, E. J.; Boonstra, A. F.; Hankamer, B.; Nield, J.; Barber, J.; Bald, D.; Kruij, J.; Rogner, M., Photosystem II structure investigated by TEM and A-periodic averaging, 13th International congress on electron microscopy, Paris, France, 222-224, **1994**.

#### UNREFEREED CONFERENCE PAPERS <sup>17-22</sup>

- (17) Hankamer, B.; Schenk, P.; Marx, U.; Posten, C.; Kruse, O., The solar bio-fuels consortium: Developing advanced bio-fuel production systems, Photosynth Res, 136-136, **2007**.
- (18) Foo, A. F. W.; Hankamer, B.; Mussgnug, J. H.; Rupprecht, J.; Kruse, O.; McDowall, A. W., Ultrastructure of photosynthesis in green algae mutants, Microsc Microanal, 2-3, **2007**.
- (19) Hankamer, B.; Rothnagel, R.; McDowall, A.; Ericksson, G.; Clark, F.; Banks, J.; Sennoga, C.; Heron, A.; Seddon, J. M.; Templer, R. H.; Crout, D., AsCA'03/Crystal 23 11013, Broome, Australia, **2003**.
- (20) Hankamer, B.; Kruse, O., Boden Research Conference on Artificial Photosynthesis, Australian Academy of Science, Manly Pacific Parkroyal, Sydney, Australia, **2003**.
- (21) Hankamer, B., Membrane proteins: The next frontier, Victor Chang Cardiac Research Institute, Sydney, Abstract 7, **2002**.
- (22) Hankamer, B.; Nield, J.; Barber, J.; Boekema, E. J.; Boonstra, A. F.; Rogner, M.; Bald, D.; Kruij, J., BBSRC Second Robert Hill Symposium on Photosynthesis, Imperial College, London, 67, **1994**.