

Favourite Publication of the Year

This list contains the favourite publications of CEF members (one per person per year), which were chosen by CEF members independent of impact factors.

2009

An ER-resident membrane protein complex regulates nicotinic acetylcholine receptor subunit composition at the synapse. Almedom RB, Liewald JF, Hernando G, Schultheis C, Rayes D, Pan J, Schedletzky T, Hutter H, Bouzat C, Gottschalk A (2009) *EMBO J* 28:2636-2649

Crystal structure of plant light-harvesting complex shows the active, energy-transmitting state. Barros T, Royant A, Standfuss J, Dreuw A, Kühlbrandt W (2009) *EMBO J* 28:298-306

Prp43 bound at different sites on the pre-rRNA performs distinct functions in ribosome synthesis. Bohnsack MT, Martin R, Granneman S, Ruprecht M, Schleiff E, Tollervey D (2009) *Mol Cell* 36:583-592

Interface-specific ultrafast two-dimensional vibrational spectroscopy. Bredenbeck J, Ghosh A, Nienhuys HK, Bonn M (2009) *Accounts Chem Res* 42:1332-42

Surf1, associated with leigh syndrome in humans, is a heme-binding protein in bacterial oxidase biogenesis. Bundschuh FA, Hannappel A, Anderka O, Ludwig B (2009) *J Biol Chem* 284:25735-25741

Conformational stability and activity of p73 require a second helix in the tetramerization domain. Coutandin D, Lohr F, Niesen FH, Ikeya T, Weber TA, Schafer B, Zielonka EM, Bullock AN, Yang A, Guntert P, Knapp S, McKeon F, Ou HD, Dötsch V (2009) *Cell Death Differ* 16:1582-158

Ambivalent effects of diazoxide on mitochondrial ROS production at respiratory chain complexes I and III. Dröse S, Hanley PJ, Brandt U (2009) *BBA-Bioenergetics* 1790:558-565

Pulsed electron-electron double-resonance determination of spin-label distances and orientations on the tetrameric potassium ion channel KcsA. Endeward B, Butterwick JA, MacKinnon R, Prisner TF (2009) *J Am Chem Soc* 131:15246-15250

Unfolded-state structure and dynamics influence the fibril formation of human prion protein13. Gerum C, Silvers R, Wirmer-Bartoschek J, Schwalbe H (2009) *Angew Chem Int Edit* 48:9452-9456

Probing side-chain dynamics of a ribosome-bound nascent chain using methyl NMR spectroscopy. Hsu STD, Cabrita LD, Fucini P, Christodoulou J, Dobson CM (2009) *J Am Chem Soc* 131:8366-8367

Role of DNA methylation and methyl-DNA binding proteins in the repression of 5-lipoxygenase promoter activity. Katryniok C, Schnur N, Gillis A, von Knethen A, Sorg BL, Looijenga L, Radmark O, Steinhilber D (2009) *BBA-Mol Cell Biol L* 1801:49-57

A fast and efficient translational control system for conditional expression of yeast genes. Kötter P, Weigand JE, Meyer B, Entian KD, Suess B (2009) *Nucleic Acids Res* 37:7

Increasing organismal healthspan by enhancing mitochondrial protein quality control. Luce K, Osiewacz HD (2009) *Nat Cell Biol* 11:852-871

The structure of *Aquifex aeolicus* sulfide:quinone oxidoreductase, a basis to understand sulfide detoxification and respiration. Marcia M, Ermiler U, Peng GH, Michel H (2009) *P Natl Acad Sci USA* 106:9625-9630

Ultrafast charge separation in multiexcited CdSe quantum dots mediated by adsorbed electron acceptors. Matylytsky VV, Dworak L, Breus VV, Basché T, Wachtveitl J (2009) *J Am Chem Soc* 131:2424-2425

Complete ion-coordination structure in the rotor ring of Na⁺-dependent F-ATP synthases. Meier T, Krah A, Bond PJ, Pogoryelov D, Diederichs K, Faraldo-Gomez JD (2009) *J Mol Biol* 391:498-507

New insights to the MLL recombinome of acute leukemias. Meyer C, Kowarz E, Hofmann J, Renneville A, Zuna J, Trka J, Ben Abdelali R, Macintyre E, De Braekeleer E, De Braekeleer M, Delabesse E, de Oliveira MP, Cave H, Clappier E, van Dongen JJM, Balgobind BV, van den Heuvel-Eibrink MM, Beverloo HB, Panzer-Grumayer R, Teigler-Schlegel A, Harbott J, Kjeldsen E, Schnittger S, Koehl U, Gruhn B, Heidenreich O, Chan LC, Yip SF, Krzywinski M, Eckert C, Moricke A, Schrappe M, Alonso CN, Schafer BW, Krauter J, Lee DA, zur Stadt U, Te Kronnie G, Sutton R, Izraeli S, Trakhtenbrot L, Lo Nigro L, Tsaur G, Fechina L, Szczepanski T, Strehl S, Ilencikova D, Molkehtin M, Burmeister T, Dingermann T, Klingebiel T, Marschalek R (2009) *Leukemia* 23:1490-1499

Cell-selective metabolic labeling of proteins. Ngo JT, Champion JA, Mahdavi A, Tanrikulu IC, Beatty KE, Connor RE, Yoo TH, Dieterich DC, Schuman EM, Tirrell DA (2009) *Nat Chem Biol* 5:715-717

The outer membrane of a heterocyst-forming cyanobacterium is a permeability barrier for uptake of metabolites that are exchanged between cells. Nicolaisen K, Mariscal V, Bredemeier R, Pernil R, Moslavac S, Lopez-Igual R, Maldener I, Herrero A, Schleiff E, Flores E (2009) *Mol Microbiol* 74:58-70

High-resolution structure of the rotor ring of a proton-dependent ATP synthase. Pogoryelov D, Yildiz O, Faraldo-Gomez JD, Meier T (2009) *Nat Struct Mol Biol* 16:1068-1073

Formation of cristae and crista junctions in mitochondria depends on antagonism between Fcj1 and Su e/g. Rabl R, Soubannier V, Scholz R, Vogel F, Mendl N, Vasiljev-Neumeyer A, Korner C, Jagasia R, Keil T, Baumeister W, Cyrklaff M, Neupert W, Reichert AS (2009) *J Cell Biol* 185:1047-1063

Specific recognition of linear ubiquitin chains by NEMO is important for NF- κ B activation p1098. Rahighi S, Ikeda F, Kawasaki M, Akutsu M, Suzuki N, Kato R, Kensche T, Uejima T, Bloor S, Komander D, Randow F, Wakatsuki S, Dikic I (2009) *Cell* 136:1098-1109

Pyrrrole/imidazole-polyamide anchors for DNA tertiary interactions. Schmidt TL, Heckel A (2009) *SMALL* 5:1517-1520

Crucial role of Asp408 in the proton translocation pathway of multidrug transporter AcrB: Evidence from site-directed mutagenesis and carbodiimide labeling. Seeger MA, von Ballmoos C, Verrey F, Pos KM (2009) *Biochemistry* 48:5801-5812

Three-dimensional structure of A1Ao ATP synthase from the hyperthermophilic archaeon *Pyrococcus furiosus* by electron microscopy Vonck J, Pisa KY, Morgner N, Brutschy B, Müller V (2009) *J Biol Chem* 284:10110-10119

Supramolecular organization of ATP synthase and respiratory chain in mitochondrial membranes. Wittig I, Schägger H (2009) *BBA-Bioenergetics* 1787:672-680

2008

The role of diacylglyceride generation by phospholipase D and phosphatidic acid phosphatase in the activation of 5-lipoxygenase in polymorphonuclear leukocytes. Albert D, Pergola C, Koeberle A, Dodt G, Steinhilber D, Werz O (2008) *J Leukocyte Biol* 83:1019-1027

Quantitative analysis of snoRNA association with pre-ribosomes and release of snR30 by Rok1 helicase. Bohnsack MT, Kos M, Tollervey D (2008) *EMBO Rep* 9:1230-1236

Ultrafast two dimensional-infrared spectroscopy of a molecular monolayer. Bredenbeck J, Ghosh A, Smits M, Bonn M (2008) *J Am Chem Soc* 130:2152-2153

Lotus japonicus CASTOR and POLLUX are ion channels essential for perinuclear calcium spiking in legume root endosymbiosis. Charpentier M, Bredemeier R, Wanner G, Takeda N, Schleiff E, Parniske M (2008) *Plant Cell* 20:3467-3479

Structure of the tyrosyl biradical in mouse R2 ribonucleotide reductase from high-field PELDOR. Denysenkov VP, Biglino D, Lubitz W, Prisner TF, Bennati M (2008) *Angew Chem Int Edit* 47:1224-1227

A d-pathway mutation decouples the *Paracoccus denitrificans* cytochrome c oxidase by altering the side-chain orientation of a distant conserved glutamate. Dürr KL, Koepke J, Hellwig P, Müller H, Angerer H, Peng G, Olkhova E, Richter OMH, Ludwig B, Michel H (2008) *J Mol Biol* 384:865-877

Serine phosphorylation of ephrinB2 regulates trafficking of synaptic AMPA receptors. Essmann CL, Martinez E, Geiger JC, Zimmer M, Traut MH, Stein V, Klein R, Acker-Palmer A (2008) *Nat Neurosci* 11:1035-1043

Identification of the mitochondrial ND3 subunit as a structural component involved in the active/deactive enzyme transition of respiratory complex I. Galkin A, Meyer B, Wittig I, Karas M, Schägger H, Vinogradov A, Brandt U (2008) *J Biol Chem* 283:20907-20913

Translational regulation via L11: Molecular switches on the ribosome turned on and off by thiostrepton and micrococcin. Harms JM, Wilson DN, Schluenzen F, Connell SR, Stachelhaus T, Zaborowska Z, Spahn CMT, Fucini P (2008) *Mol Cell* 30:26-38

Proteasome subunit Rpn13 is a novel ubiquitin receptor. Husnjak K, Elsasser S, Zhang NX, Chen X, Randles L, Shi Y, Hofmann K, Walters KJ, Finley D, Dikic I (2008) *Nature* 453:481-488

Structural basis for the selectivity of the external thioesterase of the surfactin synthetase. Koglin A, Lohr F, Bernhard F, Rogov VV, Frueh DP, Strieter ER, Mofid MR, Guntert P, Wagner G, Walsh CT, Marahiel MA, Dötsch V (2008) *Nature* 454:907-911

Over-expression of an S-adenosylmethionine-dependent methyltransferase leads to an extended lifespan of *Podospira anserina* without impairments in vital functions. Kunstmann B, Osiewacz HD (2008) *Aging Cell* 7:651-662

Optogenetic analysis of synaptic function. Liewald JF, Brauner M, Stephens GJ, Bouhours M, Schultheis C, Zhen M, Gottschalk A (2008) *Nat Methods* 5:895 - 902

Subunit mass fingerprinting of mitochondrial complex I. Morgner N, Zickermann V, Kerscher S, Wittig I, Abdрахmanova A, Barth HD, Brutschy B, Brandt U (2008) *BBA-Bioenergetics* 1777:1384-1391

Initial reaction dynamics of proteorhodopsin observed by femtosecond infrared and visible spectroscopy. Neumann K, Verhoeven MK, Weber I, Glaubitz C, Wachtveitl J (2008) *Biophys J* 94:4796-4807

Probing the rotor subunit interface of the ATP synthase from *Ilyobacter tartaricus*. Pogoryelov D, Nikolaev Y, Schlattner U, Pervushin K, Dimroth P, Meier T (2008) *FEBS J* 275:4850-4862

Mammalian mitochondria have the innate ability to import tRNAs by a mechanism distinct from protein import. Rubio M, Rinehart J, Krett B, Duvezin-Caubet AS, Reichert AS, Söll D, Alfonzo JD (2008) *P Natl Acad Sci USA* 105:9186-9191

Conserved folding pathways of alpha-lactalbumin and lysozyme revealed by kinetic CD, fluorescence, NMR, and interrupted refolding experiments. Schlepckow K, Wirmer J, Bachmann A, Kiefhaber T, Schwalbe H (2008) *J Mol Biol* 378:686-698

Engineered disulfide bonds support the functional rotation mechanism of multidrug efflux pump AcrB. Seeger MA, von Ballmoos C, Eicher T, Brandstatter L, Verrey F, Diederichs K, Pos KM (2008) *Nat Struct Mol Biol* 15:199-205

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Ubiquitin, the proteasome and protein degradation in neuronal function and dysfunction. Tai HC, Schuman EM (2008) *Nat Rev Neurosci* 9:826-838

The crystal structure of Nep1 reveals an extended SPOUT-class methyltransferase fold and a pre-organized SAM-binding site. Taylor AB, Meyer B, Leal BZ, Kottter P, Schirf V, Demeler B, Hart PJ, Entian KD, Wohnert J (2008) *Nucleic Acids Res* 36:1542-1554

Characterization of domain interfaces in monomeric and dimeric ATP synthase. Wittig I, Velours J, Stuart R, Schägger H (2008) *Mol Cell Proteomics* 7:995-1004

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Carotenoid radical cations as a probe for the molecular mechanism of nonphotochemical quenching in oxygenic photosynthesis. Amarie S, Standfuss J, Barros T, Kühlbrandt W, Dreuw A, Wachtveitl J (2007) *J Phys Chem B* 111:3481-3487

Functional and phylogenetic properties of the pore-forming beta-barrel transporters of the Omp85 family. Bredemeier R, Schlegel T, Ertel F, Vojta A, Borissenko L, Bohnsack MT, Groll M, Von Haeseler A, Schleiff E (2007) *J Biol Chem* 282:1882-1890

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OPA1 processing reconstituted in yeast depends on the subunit composition of the m-AAA protease in mitochondria. Duvezin-Caubet S, Koppen M, Wagener J, Zick M, Israel L, Bernacchia A, Jagasia R, Rugarli EI, Imhof A, Neupert W, Langert T, Reichert AS (2007) *Mol Biol Cell* 18:3582-3590

On the importance of a funneled energy landscape for the assembly and regulation of multidomain Src tyrosine kinases. Faraldo-Gomez JD, Roux B (2007) *P Natl Acad Sci USA* 104:13643-13648

Functional characterization of a NapA Na⁺/H⁺ antiporter from *Thermus thermophilus*. Furrer EM, Ronchetti MF, Verrey F, Pos KM (2007) *FEBS Lett* 581:572-578

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Deletion of putative apoptosis factors leads to lifespan extension in the fungal ageing model *Podospora anserina*. Hamann A, Brust D, Osiewicz HD (2007) *Mol Microbiol* 65:948-958

Structure-function relationships of the lanthionine cyclase SpaC involved in biosynthesis of the *Bacillus subtilis* peptide antibiotic subtilin. Helfrich M, Entian KD, Stein T (2007) *Biochemistry* 46:3224-3233

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Exploring the ubiquinone binding cavity of respiratory complex I. Tocilescu MA, Fendel U, Zwicker K, Kerscher S, Brandt U (2007) *J Biol Chem* 282:29514-29520

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