

Patrick van der Wel
Associate Professor
Solid-state nuclear magnetic resonance
Type of address: Postal address.
Nijenborgh4
Gebouw 5115, ruimte 0308
9747 AG
Groningen
Netherlands
Email: P.C.A.van.der.Wel@rug.nl
Phone: 0615407306



Research outputs

Combinations of arginine and pullulan reveal the selective effect of stabilization mechanisms on different lyophilized proteins

Nguyen, K. T. T., Zillen, D., Lasorsa, A., van der Wel, P. C. A., Frijlink, H. W. & Hinrichs, W. L. J., 10-Apr-2024, In: *International Journal of Pharmaceutics*. 654, 9 p., 123938.

Solid-state nuclear magnetic resonance in the structural study of polyglutamine aggregation

van der Wel, P. C. A., Apr-2024, In: *Biochemical Society Transactions*. 52, 2, p. 719-731 13 p.

Photocontrol of the β -Hairpin Polypeptide Structure through an Optimized Azobenzene-Based Amino Acid Analogue

Parlato, R., Volarić, J., Lasorsa, A., Bagherpoor Helabad, M., Kobauri, P., Jain, G., Miettinen, M. S., Feringa, B. L., Szymanski, W. & van der Wel, P. C. A., 24-Jan-2024, In: *Journal of the American Chemical Society*. 146, 3, p. 2062–2071 10 p.

Anomalous peroxidase activity of cytochrome c is the primary pathogenic target in Barth syndrome

Kagan, V. E., Tyurina, Y. Y., Mikulska-Ruminska, K., Damschroder, D., Vieira Neto, E., Lasorsa, A., Kapralov, A. A., Tyurin, V. A., Amoscato, A. A., Samovich, S. N., Souryavong, A. B., Dar, H. H., Ramim, A., Liang, Z., Lazcano, P., Ji, J., Schmidtke, M. W., Kiselyov, K., Korkmaz, A., Vladimirov, G. K., & 15 others Artyukhova, M. A., Rampratap, P., Cole, L. K., Niyatie, A., Baker, E-K., Peterson, J., Hatch, G. M., Atkinson, J., Vockley, J., Kühn, B., Wessells, R., van der Wel, P. C. A., Bahar, I., Bayir, H. & Greenberg, M. L., Dec-2023, In: *Nature Metabolism*. 5, p. 2184–2205 22 p.

Production of isotopically enriched high molecular weight hyaluronic acid and characterization by solid-state NMR

Rampratap, P., Lasorsa, A., Perrone, B., van der Wel, P. C. A. & Walvoort, M. T. C., 15-Sept-2023, In: *Carbohydrate Polymers*. 316, p. 121063 9 p.

Integrative determination of the atomic structure of mutant huntingtin exon 1 fibrils from Huntington's disease

Bagherpoor Helabad, M., Matlahov, I., Daldrop, J. O., Jain, G., van der Wel, P. C. A. & Miettinen, M. S., 21-Jul-2023, (Submitted) In: *bioRxiv*.

A Universal Nanogel-Based Coating Approach for Medical Implant Materials

Ghosh, D., Keskin, D., Forson, A., Rosman, C. W. K., Bron, R., Siebenmorgen, C., Zu, G., Lasorsa, A., van der Wel, P., van Kooten, T. G., Witjes, M., Sjollem, J., van der Mei, H. C. & van Rijn, P., Jul-2023, In: *Advanced NanoBiomed Research*. 3, 7, 14 p., 2200141.

New insights in polydopamine formation via surface adsorption

Hemmatpour, H., Luca, O. D., Crestani, D., Lasorsa, A., Wel, P. V. D., Loos, K., Giousis, T., Asl, V. H. & Rudolf, P., 7-Feb-2023, In: *Nature Communications*. 14, 1, 23 p., 664.

Fast magic angle spinning for the characterization of milligram quantities of organic and biological solids at natural isotopic abundance by ^{13}C – ^{13}C correlation DNP-enhanced NMR

Smith, A. N., Harrabi, R., Halbritter, T., Lee, D., Aussenac, F., Wel, P. C. A. V. D., Hediger, S., Sigurdsson, S. T. & Paëpe, G. D., Feb-2023, In: *Solid state nuclear magnetic resonance*. 123, 7 p., 101850.

In situ SnSe deposition as passivation for scalable and stable quasi-2D lead-tin perovskite solar cells

Chen, L., Tekelenburg, E. K., Gahlot, K., Pitaro, M., Xi, J., Lasorsa, A., Feraco, G., Protesescu, L., van der Wel, P. C. A., Portale, G., Rudolf, P., Brabec, C. J. & Loi, M. A., 2023, In: *Energy and Environmental Science*. 16, 11, p. 5315–5324 10 p.

Binder-free zeolite Beta beads with hierarchical porosity: Synthesis and application as heterogeneous catalysts for anisole acylation

Asgar Pour, Z., Koelewijn, R., El Hariri El Nokab, M., van der Wel, P., Sebakhy, K. O. & Pescarmona, P., 10-Oct-2022, In: *ChemCatChem*. 14, 19, 17 p., e202200518.

Structural Dynamics and Tunability for Colloidal Tin Halide Perovskite Nanostructures

Gahlot, K., de Graaf, S., Duim, H., Nedelcu, G., Koushki, R. M., Ahmadi, M., Gavhane, D., Lasorsa, A., De Luca, O., Rudolf, P., van der Wel, P. C. A., Loi, M. A., Kooi, B. J., Portale, G., Calbo, J. & Protesescu, L., 27-Jul-2022, In: *Advanced materials*. 34, 30, 19 p., e2201353.

Solid-state NMR spectroscopy insights for resolving different water pools in alginate hydrogels

El Hariri El Nokab, M., Lasorsa, A., Sebakhy, K. O., Picchioni, F. & van der Wel, P., Jun-2022, In: *Food hydrocolloids*. 127, 40 p., 107500.

Selective observation of semi-rigid non-core residues in dynamically complex mutant huntingtin protein fibrils

Matlahov, I., Boatz, J. C. & van der Wel, P. C. A., 2022, In: *Journal of structural biology: X*. 6, 12 p., 100077.

Activation of Cytochrome C Peroxidase Function Through Coordinated Foldon Loop Dynamics upon Interaction with Anionic Lipids

Li, M., Sun, W., Tyurin, V. A., DeLucia, M., Ahn, J., Kagan, V. E. & van der Wel, P. C. A., 23-Jul-2021, In: *Journal of Molecular Biology*. 433, 15, 167057.

NMR identification of a conserved Drp1 cardiolipin-binding motif essential for stress-induced mitochondrial fission

Mahajan, M., Bharambe, N., Shang, Y., Lu, B., Mandal, A., Madan Mohan, P., Wang, R., Boatz, J. C., Manuel Martinez Galvez, J., Shnyrova, A. V., Qi, X., Buck, M., van der Wel, P. C. A. & Ramachandran, R., 20-Jul-2021, In: *Proceedings of the National Academy of Sciences of the United States of America*. 118, 29, 12 p., e2023079118.

Regulatory inter-domain interactions influence Hsp70 recruitment to the DnaJB8 chaperone

Ryder, B. D., Matlahov, I., Bali, S., Vaquer-Alicea, J., van der Wel, P. C. A. & Joachimiak, L. A., 11-Feb-2021, In: *Nature Communications*. 12, 1, 16 p., 946.

Dihedral Angle Measurements for Structure Determination by Biomolecular Solid-State NMR Spectroscopy

van der Wel, P., 2021, In: *Frontiers in Molecular Biosciences*. 8, 15 p., 791090.

Solid-state NMR studies of peripherally membrane-associated proteins: dealing with dynamics, disorder and dilute conditions

van der Wel, P., 1-Dec-2020, *Solid-State NMR Applications in biomembrane structure*. Separovic, F. & Sani, M-A. (eds.). IoP Publishing, p. 10.1-10.22 22 p.

Protofilament structure and supramolecular polymorphism of aggregated mutant huntingtin exon 1

Boatz, J. C., Piretra, T., Lasorsa, A., Matlahov, I., Conway, J. F. & van der Wel, P. C. A., 24-Jul-2020, In: *Journal of Molecular Biology*. 432, 16, p. 4722-4744 23 p.

Use of solid-state NMR spectroscopy for investigating polysaccharide-based hydrogels: A review

El Hariri El Nokab, M. & Van Der Wel, P. C. A., 15-Jul-2020, In: *Carbohydrate Polymers*. 240, p. 116276 9 p., 116276.

Cardiolipin's Double Life as a Substrate and Dynamic Regulator in ProApoptotic Lipid Peroxidation

Li, M., Mandal, A., Tyurin, V. A., DeLucia, M., Ahn, J., Kagan, V. & van der Wel, P. C. A., 7-Feb-2020, In: *Biophysical Journal*. 118, 3, p. 56A-57A 2 p.

Redox phospholipidomics of enzymatically generated oxygenated phospholipids as specific signals of programmed cell death

Kagan, V. E., Tyurina, Y. Y., Sun, W. Y., Vlasova, L. L., Dar, H., Tyurin, V. A., Amoscato, A. A., Mallampalli, R., van der Wel, P. C. A., He, R. R., Shvedova, A. A., Gabrilovich, D. & Bayir, H., 1-Feb-2020, In: *Free Radical Biology and Medicine*. 147, p. 231-241 11 p.

Conformational studies of pathogenic expanded polyglutamine protein deposits from Huntington's disease

Matlahov, I. & van der Wel, P. C. A., 1-Dec-2019, In: *Experimental biology and medicine*. 244, 17, p. 1584-1595 12 p.

Surface-Binding to Cardiolipin Nanodomains Triggers Cytochrome c Pro-apoptotic Peroxidase Activity via Localized Dynamics

Li, M., Mandal, A., Tyurin, V. A., DeLucia, M., Ahn, J., Kagan, V. E. & van der Wel, P. C. A., 7-May-2019, In: *Structure*. 27, 5, p. 806-815.e4 15 p.

Structural fingerprinting of protein aggregates by DNP-enhanced solid-state NMR at natural isotopic abundance

Smith, A. N., Märker, K., Piretra, T., Boatz, J. C., Matlahov, I., Kodali, R. B., Hediger, S., van der Wel, P. C. A. & De Paëpe, G., 7-Nov-2018, In: *Journal of the American Chemical Society*. 140, 44, p. 14576-14580 5 p.

Hidden motions and motion-induced invisibility: Dynamics-based spectral editing in solid-state NMR

Matlahov, I. & van der Wel, P. C. A., 15-Sept-2018, In: *Methods*. 148, p. 123-135 13 p.

Methionine oxidized apolipoprotein A-I at the crossroads of HDL biogenesis and amyloid formation

Witkowski, A., Chan, G. K. L., Boatz, J. C., Li, N. J., Inoue, A. P., Wong, J. C., Van Der Wel, P. C. A. & Cavigliolo, G., 1-Jun-2018, In: *FASEB Journal*. 32, 6, p. 3149-3165 17 p.

New applications of solid-state NMR in structural biology

van der Wel, P. C. A., 20-Apr-2018, In: *Emerging topics in life sciences*. 2, 1, p. 57-67 11 p.

Magic Angle Spinning Solid State NMR Studies of Oxidized Apolipoprotein A-I Aggregates

Boatz, J. C., Chan, G., Witkowski, A., van der Wel, P. C. A. & Cavigliolo, G., 2-Feb-2018, In: *Biophysical Journal*. 114, 3, p. 569A-569A 1 p.

Structural Plasticity of the Pivotal Cytochrome C/Cardiolipin Complex in Mitochondrial Apoptosis

Li, M., Mandal, A., DeLucia, M., Ahn, J., Tyurin, V. A., Kagan, V. E. & van der Wel, P. C. A., 2-Feb-2018, In: *Biophysical Journal*. 114, 3, p. 198A-198A 1 p.

Energetics Underlying Twist Polymorphisms in Amyloid Fibrils

Periole, X., Huber, T., Bonito-Oliva, A., Aberg, K. C., van der Wel, P. C. A., Sakmar, T. P. & Marrink, S. J., 2018, In: *The Journal of Physical Chemistry. B: Materials, Surfaces, Interfaces, & Biophysical*. 122, 3, p. 1081-1091 11 p.

Insights into protein misfolding and aggregation enabled by solid-state NMR spectroscopy

van der Wel, P. C. A., Nov-2017, In: *Solid state nuclear magnetic resonance*. 88, p. 1-14 14 p.

Fibril polymorphism affects immobilized non-amyloid flanking domains of huntingtin exon1 rather than its polyglutamine core

Lin, H-K., Boatz, J. C., Krabbendam, I. E., Kodali, R., Hou, Z., Wetzel, R., Dolga, A. M., Poirier, M. A. & van der Wel, P. C. A., 24-May-2017, In: *Nature Communications*. 8, 12 p., 15462.

Cataract-associated P23T γ D-crystallin retains a native-like fold in amorphous-looking aggregates formed at physiological pH

Boatz, J. C., Whitley, M. J., Li, M., Gronenborn, A. M. & van der Wel, P. C. A., 5-May-2017, In: *Nature Communications*. 8, p. 15137

On the use of ultracentrifugal devices for routine sample preparation in biomolecular magic-angle-spinning NMR
Mandal, A., Boatz, J. C., Wheeler, T. B. & van der Wel, P. C. A., Mar-2017, In: *Journal of Biomolecular Nmr.* 67, 3, p. 165-178 14 p.

Backbone Engineering within a Latent β -Hairpin Structure to Design Inhibitors of Polyglutamine Amyloid Formation
Kar, K., Baker, M. A., Lengyel, G. A., Hoop, C. L., Kodali, R., Byeon, I-J., Horne, W. S., van der Wel, P. C. A. & Wetzel, R., 20-Jan-2017, In: *Journal of Molecular Biology.* 429, 2, p. 308-323 16 p.

MAS H NMR Probes Freezing Point Depression of Water and Liquid-Gel Phase Transitions in Liposomes
Mandal, A. & van der Wel, P. C. A., 1-Nov-2016, In: *Biophysical Journal.* 111, 9, p. 1965-1973 9 p.

Peptide-Directed Assembly of Single-Helical Gold Nanoparticle Superstructures Exhibiting Intense Chiroptical Activity
Merg, A. D., Boatz, J. C., Mandal, A., Zhao, G., Mokashi-Punekar, S., Liu, C., Wang, X., Zhang, P., van der Wel, P. C. A. & Rosi, N. L., 19-Oct-2016, In: *Journal of the American Chemical Society.* 138, 41, p. 13655-13663

Peptide-directed synthesis of single helical gold nanoparticle superstructures
Merg, A., Zhao, G., Mandal, A., Boatz, J., Wang, X., Van der Wel, P., Zhang, P. & Rosi, N., 20-Aug-2016, In: *Abstracts of Papers of the American Chemical Society.* 252, 2 p.

An Investigation of the Atomic Structure of Cataract-Forming Mutant Gamma-D-Crystallin Aggregates Formed under Distinct Environmental Conditions

Boatz, J. C., Whitley, M. J., Hoop, C. L., Zeng, X., Yates, N., Gronenborn, A. M. & van der Wel, P. C. A., 16-Feb-2016, In: *Biophysical Journal.* 110, 3, p. 27A-27A 1 p.

To Unfold or not to Unfold? Structural Insights of Peroxidase-Active Cardiolipin-Bound Cytochrome c by Solid-State NMR
Mandal, A., Hoop, C. L., Kodali, R., Di, M., DeLucia, M., Kagan, V. E., Ahn, J. & van der Wel, P. C. A., 16-Feb-2016, In: *Biophysical Journal.* 110, 3, p. 577A-578A 3 p.

Huntingtin exon 1 fibrils feature an interdigitated β -hairpin-based polyglutamine core
Hoop, C. L., Lin, H. K., Kar, K., Magyarfalvi, G., Lamley, J. M., Boatz, J. C., Mandal, A., Lewandowski, J. R., Wetzel, R. & Van Der Wel, P. C. A., 9-Feb-2016, In: *Proceedings of the National Academy of Sciences of the United States of America.* 113, 6, p. 1546-1551 6 p.

Structural Changes and Proapoptotic Peroxidase Activity of Cardiolipin-Bound Mitochondrial Cytochrome c
Mandal, A., Hoop, C. L., DeLucia, M., Kodali, R., Kagan, V. E., Ahn, J. & van der Wel, P. C. A., 3-Nov-2015, In: *Biophysical Journal.* 109, 9, p. 1873-84 12 p.

Nuclear Magnetic Resonance Studies of Polyglutamine's Misfolded Conformation in the Aggregated State
van der Wel, P., Apr-2015, In: *FASEB Journal.* 29, 1 p.

Huntingtin N-Terminal Fragment Fibrils have a Rigid Amyloid Core Flanked by Non-Amyloid Domains with Increased Dynamics
Hoop, C. L., Lin, H-K., Kar, K., Wetzel, R. & van der Wel, P. C. A., 27-Jan-2015, In: *Biophysical Journal.* 108, 2, p. 385A-386A 2 p.

Polyglutamine amyloid core boundaries and flanking domain dynamics in huntingtin fragment fibrils determined by solid-state nuclear magnetic resonance
Hoop, C. L., Lin, H-K., Kar, K., Hou, Z., Poirier, M. A., Wetzel, R. & van der Wel, P. C. A., 28-Oct-2014, In: *Biochemistry.* 53, 42, p. 6653-66 14 p.

Lipid Dynamics and Protein-Lipid Interactions in Integral Membrane Proteins: Insights from Solid-State NMR
van der Wel, P. C. A., 14-Mar-2014, *eMagRes.* Harris, R. K. & Wasylishen, R. L. (eds.). Wiley, p. 111-118 8 p.

How amyloid precursor protein protects itself from cleavage

Lin, H-K. & van der Wel, P. C. A., Mar-2014, In: *Structure*. 22, 3, p. 361-362 2 p.

D-polyglutamine amyloid recruits L-polyglutamine monomers and kills cells

Kar, K., Arduini, I., Drombosky, K. W., van der Wel, P. C. A. & Wetzel, R., 20-Feb-2014, In: *Journal of Molecular Biology*. 426, 4, p. 816-829 14 p.

Spinning-rate encoded chemical shift correlations from rotational resonance solid-state NMR experiments

Li, J. & van der Wel, P. C. A., May-2013, In: *Journal of Magnetic Resonance*. 230, p. 117-24 8 p.

β -hairpin-mediated nucleation of polyglutamine amyloid formation

Kar, K., Hoop, C. L., Drombosky, K. W., Baker, M. A., Kodali, R., Arduini, I., van der Wel, P. C. A., Horne, W. S. & Wetzel, R., 12-Apr-2013, In: *Journal of Molecular Biology*. 425, 7, p. 1183-1197 15 p.

Structural and Motional Investigations of Polyglutamine-Containing Amyloid Fibrils by Magic-Angle-Spinning Solid-State NMR

Hoop, C. L., Mishra, R., Kar, K., Kodali, R., Wetzel, R. & van der Wel, P. C. A., 29-Jan-2013, In: *Biophysical Journal*. 104, 2, p. 181A-181A 1 p.

Structural Studies of a Membrane-Bound Cholesterol Recognition Motif by Solid-State NMR

Hoop, C. L., Sivanandam, V. N., Srnec, M. N., Kodali, R. & van der Wel, P. C. A., 29-Jan-2013, In: *Biophysical Journal*. 104, 2, p. 97A-97A 1 p.

Serine phosphorylation suppresses huntingtin amyloid accumulation by altering protein aggregation properties

Mishra, R., Hoop, C. L., Kodali, R., Sahoo, B., van der Wel, P. C. A. & Wetzel, R., 23-Nov-2012, In: *Journal of Molecular Biology*. 424, 1-2, p. 1-14 14 p.

Domain swapping and amyloid fibril conformation

van der Wel, P. C. A., 1-Jul-2012, In: *Prion*. 6, 3, p. 211-6 6 p.

Lipid dynamics and protein-lipid interactions in 2D crystals formed with the β -barrel integral membrane protein VDAC1

Eddy, M. T., Ong, T-C., Clark, L., Tejjido, O., van der Wel, P. C. A., Garces, R., Wagner, G., Rostovtseva, T. K. & Griffin, R. G., 11-Apr-2012, In: *Journal of the American Chemical Society*. 134, 14, p. 6375-6387 13 p.

Structural characterization of the caveolin scaffolding domain in association with cholesterol-rich membranes

Hoop, C. L., Sivanandam, V. N., Kodali, R., Srnec, M. N. & van der Wel, P. C. A., 10-Jan-2012, In: *Biochemistry*. 51, 1, p. 90-99 10 p.

Structural complexity of a composite amyloid fibril

Lewandowski, J. R., van der Wel, P. C. A., Rigney, M., Grigorieff, N. & Griffin, R. G., 21-Sept-2011, In: *Journal of the American Chemical Society*. 133, 37, p. 14686-1498 13 p.

Amyloid-like fibrils from a domain-swapping protein feature a parallel, in-register conformation without native-like interactions

Li, J., Hoop, C. L., Kodali, R., Sivanandam, V. N. & van der Wel, P. C. A., 19-Aug-2011, In: *The Journal of Biological Chemistry*. 286, 33, p. 28988-28995 8 p.

The aggregation-enhancing huntingtin N-terminus is helical in amyloid fibrils

Sivanandam, V. N., Jayaraman, M., Hoop, C. L., Kodali, R., Wetzel, R. & van der Wel, P. C. A., 30-Mar-2011, In: *Journal of the American Chemical Society*. 133, 12, p. 4558-4566 9 p.

Structural characterization of GNNQQNY amyloid fibrils by magic angle spinning NMR

van der Wel, P. C. A., Lewandowski, J. R. & Griffin, R. G., 9-Nov-2010, In: *Biochemistry*. 49, 44, p. 9457-69 13 p.

Dynamic nuclear polarization-enhanced solid-state NMR spectroscopy of GNNQQNY nanocrystals and amyloid fibrils
Debelouchina, G. T., Bayro, M. J., van der Wel, P. C. A., Caporini, M. A., Barnes, A. B., Rosay, M., Maas, W. E. & Griffin, R. G., 14-Jun-2010, In: *PPCP : Physical Chemistry Chemical Physics*. 12, 22, p. 5911-5919 9 p.

Time averaging of NMR chemical shifts in the MLF peptide in the solid state

De Gortari, I., Portella, G., Salvatella, X., Bajaj, V. S., van der Wel, P. C. A., Yates, J. R., Segall, M. D., Pickard, C. J., Payne, M. C. & Vendruscolo, M., 5-May-2010, In: *Journal of the American Chemical Society*. 132, 17, p. 5993-6000 8 p.

High-resolution solid-state NMR structure of alanyl-prolyl-glycine

Barnes, A. B., Andreas, L. B., Huber, M., Ramachandran, R., van der Wel, P. C. A., Veshtort, M., Griffin, R. G. & Mehta, M. A., Sept-2009, In: *Journal of Magnetic Resonance*. 200, 1, p. 95-100 6 p.

Targeted ¹³C-¹³C distance measurements in a microcrystalline protein via J-decoupled rotational resonance width measurements

van der Wel, P. C. A., Eddy, M. T., Ramachandran, R. & Griffin, R. G., 13-Jul-2009, In: *Chemphyschem*. 10, 9-10, p. 1656-1663 8 p.

Cryogenic sample exchange NMR probe for magic angle spinning dynamic nuclear polarization

Barnes, A. B., Mak-Jurkauskas, M. L., Matsuki, Y., Bajaj, V. S., van der Wel, P. C. A., Derocher, R., Bryant, J., Sirigiri, J. R., Temkin, R. J., Lugtenburg, J., Herzfeld, J. & Griffin, R. G., Jun-2009, In: *Journal of Magnetic Resonance*. 198, 2, p. 261-270 10 p.

Magic Angle Spinning NMR Investigations of the Human Voltage Dependent Anion Channel

Eddy, M., Garces, R., van der Wel, P. C. A., Wagner, G. & Griffin, R., Feb-2009, In: *Biophysical Journal*. 96, 3, p. 410A-410A 1 p.

Solid State NMR Studies Of Structural And Motional Complexity In Amyloid-Like Fibrils Of The Peptide GNNQQNY

van der Wel, P. C. A., Lewandowski, J. R. & Griffin, R. G., Feb-2009, In: *Biophysical Journal*. 96, 3, p. 219A-219A 1 p.

Observation of a low-temperature, dynamically driven structural transition in a polypeptide by solid-state NMR spectroscopy

Bajaj, V. S., van der Wel, P. C. A. & Griffin, R. G., 14-Jan-2009, In: *Journal of the American Chemical Society*. 131, 1, p. 118-128 11 p.

High-Field Dynamic Nuclear Polarization for Solid and Solution Biological NMR

Barnes, A. B., De Paëpe, G., van der Wel, P. C. A., Hu, K-N., Joo, C-G., Bajaj, V. S., Mak-Jurkauskas, M. L., Sirigiri, J. R., Herzfeld, J., Temkin, R. J. & Griffin, R. G., Aug-2008, In: *Applied magnetic resonance*. 34, 3-4, p. 237-263 27 p.

Dynamic nuclear polarization at high magnetic fields

Maly, T., Debelouchina, G. T., Bajaj, V. S., Hu, K-N., Joo, C-G., Mak-Jurkauskas, M. L., Sirigiri, J. R., van der Wel, P. C. A., Herzfeld, J., Temkin, R. J. & Griffin, R. G., 7-Feb-2008, In: *The Journal of Chemical Physics*. 128, 5, p. 052211-1 - 052211-19 19 p., 052211.

Helical distortion in tryptophan- and lysine-anchored membrane-spanning alpha-helices as a function of hydrophobic mismatch: a solid-state deuterium NMR investigation using the geometric analysis of labeled alanines method

Daily, A. E., Greathouse, D. V., van der Wel, P. C. A. & Koeppe, R. E., 15-Jan-2008, In: *Biophysical Journal*. 94, 2, p. 480-491 12 p.

Orientation and motion of tryptophan interfacial anchors in membrane-spanning peptides

van der Wel, P. C. A., Reed, N. D., Greathouse, D. V. & Koeppe, R. E., 26-Jun-2007, In: *Biochemistry*. 46, 25, p. 7514-7524 11 p.

Solid-state NMR study of amyloid nanocrystals and fibrils formed by the peptide GNNQQNY from yeast prion protein Sup35p

van der Wel, P. C. A., Lewandowski, J. R. & Griffin, R. G., 1-Apr-2007, In: Journal of the American Chemical Society. 129, 16, p. 5117-5130 14 p.

Features of crystal and fibril formation by GNNQQNY, peptide fragment of yeast prion protein sup35p.

van der Wel, P. C. A., Lewandowski, J. R. & Griffin, R. G., Jan-2007, In: Biophysical Journal. p. 195A-195A 1 p.

Intrinsic kinking of transmembrane alpha-helical peptides as a function of hydrophobic mismatch

Daily, A. E., Greathouse, D. V., van der Wel, P. C. A. & Koeppe, R. E., Jan-2007, In: Biophysical Journal. p. 70A-70A 1 p.

Dynamic nuclear polarization of amyloidogenic peptide nanocrystals: GNNQQNY, a core segment of the yeast prion protein Sup35p

van der Wel, P. C. A., Hu, K.-N., Lewandowski, J. & Griffin, R. G., 1-Aug-2006, In: Journal of the American Chemical Society. 128, 33, p. 10840-10846 7 p.

Multipole-multimode Floquet theory of rotational resonance width experiments: ^{13}C - ^{13}C distance measurements in uniformly labeled solids

Ramachandran, R., Lewandowski, J. R., van der Wel, P. C. A. & Griffin, R. G., 7-Jun-2006, In: The Journal of Chemical Physics. 124, 21, p. 214107-1 - 214107-13 13 p., 214107.

Importance of tensor asymmetry for the analysis of ^2H NMR spectra from deuterated aromatic rings

Pulay, P., Scherer, E. M., van der Wel, P. C. A. & Koeppe, R. E., 14-Dec-2005, In: Journal of the American Chemical Society. 127, 49, p. 17488-17493 6 p.

Tilt angles of transmembrane model peptides in oriented and non-oriented lipid bilayers as determined by ^2H solid-state NMR

Strandberg, E., Ozdirekcan, S., Rijkers, D. T. S., van der Wel, P. C. A., Koeppe, R. E., Liskamp, R. M. J. & Killian, J. A., Jun-2004, In: Biophysical Journal. 86, 6, p. 3709-3721 13 p.

Hydrophobic mismatch between helices and lipid bilayers

Weiss, T. M., van der Wel, P. C. A., Killian, J. A., Koeppe, R. E. & Huang, H. W., Jan-2003, In: Biophysical Journal. 84, 1, p. 379-385 7 p.

Combined experimental/theoretical refinement of indole ring geometry using deuterium magnetic resonance and ab initio calculations

Koeppe, R. E., Sun, H., van der Wel, P. C. A., Scherer, E. M., Pulay, P. & Greathouse, D. V., 2003, In: Journal of the American Chemical Society. 125, 40, p. 12268-12276 9 p.

Geometry and intrinsic tilt of a tryptophan-anchored transmembrane alpha-helix determined by (^2H) NMR

van der Wel, P. C. A., Strandberg, E., Killian, J. A. & Koeppe, R. E., Sept-2002, In: Biophysical Journal. 83, 3, p. 1479-1488 10 p.

Lipid dependence of membrane anchoring properties and snorkeling behavior of aromatic and charged residues in transmembrane peptides

Strandberg, E., Morein, S., Rijkers, D. T. S., Liskamp, R. M. J., van der Wel, P. C. A. & Killian, J. A., 11-Jun-2002, In: Biochemistry. 41, 23, p. 7190-7198 9 p.

Optimized aminolysis conditions for cleavage of N-protected hydrophobic peptides from solid-phase resins

Greathouse, D. V., Goforth, R. L., Crawford, T., Van Der Wel, P. C. A. & Killian, J. A., Jun-2001, In: The journal of peptide research : official journal of the American Peptide Society. 57, 6, p. 519-527 9 p.

Tryptophan-anchored transmembrane peptides promote formation of nonlamellar phases in phosphatidylethanolamine model membranes in a mismatch-dependent manner

van der Wel, P. C., Pott, T., Morein, S., Greathouse, D. V., Koeppe, R. E. & Killian, J. A., 2000, In: Biochemistry. 39, 11, p. 3124-3133 10 p.

Peptide influences on lipids

Killian, J. A., Morein, S., van der Wel, P. C., de Planque, M. R., Greathouse, D. V. & Koeppel, R. E., 1999, In: Novartis Foundation symposium. 225, p. 170-83; discussion 183-7