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PERSONAL INFORMATION

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|-------------------------|------------------------------------------------------------|
| <i>Full name</i> | STEYAERT JAN, Stefaan, Peter, Jozef |
| <i>Place of birth</i> | Ukkel (Belgium) |
| <i>Date of birth</i> | 21 April 1964 |
| <i>Nationality</i> | Belgian |
| <i>Languages</i> | Dutch (Native), English (Fluent), French (Fluent) |
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CURRENT POSITIONS

Full Professor & Francqui Research Professor, Faculty of Sciences and Bioengineering Sciences, Vrije Universiteit Brussel (VUB), Brussels, Belgium. www.vub.be

Director, Department of Structural Biology Brussels, Faculty of Sciences and Bioengineering Sciences, Vrije Universiteit Brussel (VUB), Brussels, Belgium

Deputy-Director, Structural Biology Research Center, Vlaams Instituut Biotechnologie (VIB), Brussels, Belgium. www.vib.be

EDUCATION

- 1987- 1991 **PhD in Bioengineering Sciences**, Plant Genetic Systems and Vrije Universiteit Brussel (VUB), Brussels, Belgium. *Maxima cum laude*
- 1985-1987 **MSc in Bioengineering Sciences**, Vrije Universiteit Brussel (VUB), Brussels, Belgium. *Maxima cum laude*
- 1982-1985 **BSc in Bioengineering Sciences**, Vrije Universiteit Brussel (VUB), Brussels, Belgium. *Cum laude*

POSITIONS AND EMPLOYEMENT

- 2015-2017 **Franqui Research Professor**, Francqui foundation,
2012-2013 **Sabbatical leave**, visiting the labs of Brian Kobilka (Stanford, USA), Robert Lefkowitz (Duke, USA) and Gebhard Shertler (PSI, Switzerland)
- 2011-current **Deputy-Director**, Structural Biology Research Center, Vlaams Instituut Biotechnologie (VIB), Brussels, Belgium
- 2008-2011 **Director at interim**, Structural Biology Research Center, Vlaams Instituut Biotechnologie (VIB), Brussels, Belgium
- 2008-current **Director**, Structural Biology Brussels, Vrije Universiteit Brussel (VUB), Brussels, Belgium
- 2006-current **Full professor (Gewoon Hoogleraar)**, Faculty of Sciences and Bioengineering Sciences, Vrije Universiteit Brussel (VUB), Brussels, Belgium
- 2002-2006 **Full professor (Hoogleraar)**, Faculty of Sciences and Bioengineering Sciences, Vrije Universiteit Brussel (VUB), Brussels, Belgium
- 1998-2002 **Associate professor (Hoofddocent)**, Faculty of Sciences and Bioengineering Sciences, Vrije Universiteit Brussel, Brussels, Belgium
- 1998-current **Group leader**, Structural Biology Research Center, Vlaams Instituut Biotechnologie (VIB), Brussels, Belgium
- 1994-1998 **Assistant professor (Docent)**, Faculty of Sciences and Bioengineering Sciences, Vrije Universiteit Brussel (VUB), Brussels, Belgium
- 1993-1994 **Postdoctoral fellow**, International Laboratory for Research on Animal Diseases (ILRI), Nairobi, Kenya
- 1991-1992 **Postdoctoral fellow (FWO)**, Institute for molecular Biology & Biotechnology, Department of Ultrastructure, Vrije Universiteit Brussel (VUB), Sint-Genesius-Rode, Belgium.

PUBLICATION LIST

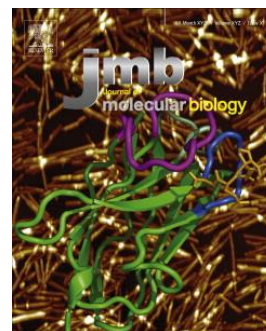
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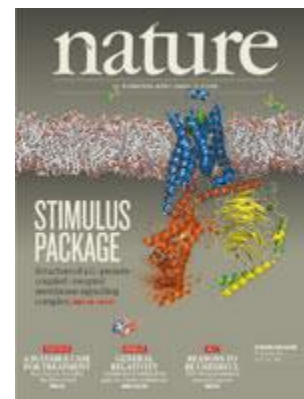
1. Ehrnstorfer, I.A., Geertsma, E.R., Pardon, E., **Steyaert, J.** & Dutzler, R. (2014) The structural basis for transition metal ion selectivity in transporters of the SLC11/NRAMP family. *Nature Struct Mol Biol* 21, 990-996. (ISI IF₂₀₁₃ = 11.633)

2. Somme, J., Van Laer, B., Roovers, M., **Steyaert, J.**, Versées, W., & Droogmans, L. (2014) Characterisation of two homologous 2'-O-methyltransferases showing different specificities for their tRNA substrates, *RNA* 20 (8), 1257-1271. (ISI IF₂₀₁₂ = 5.088)
3. Oyen, D., **Steyaert, J.**, & Barlow, J. (2014) Inhibition of ligand exchange kinetics via active-site trapping with an antibody fragment. *Biochemistry* 53, 1879–1881. (ISI IF₂₀₁₂ = 3.377)
4. Fislage, M., Brosens, E., Deyaert, Egon., Spilotros, A., Pardon, E., Loris, R., **Steyaert, J.**, Garcia-Pino, A., & Versees, W. (2014) SAXS analysis of the tRNA-modifying enzyme complex MnmE/MnmG reveals a novel interaction mode and GTP-induced oligomerization, *Nucleic acids res, in press*. (ISI IF₂₀₁₂ = 8.278)
5. Pardon, E., Laeremans, T., Triest, S., Rasmussen, S. G. F., Wohlkönig, A., Ruf, A., Muyldermans, S., Hol, W.J.G., Kobilka, B.K. & **Steyaert, J.** (2014) A general protocol for the generation of Nanobodies for structural biology. *Nature protocols* 9, 674-693. Featured protocol (ISI IF₂₀₁₂ = 7.960)
6. Pathare, G.R., Nagy, I., Ślędź, P., Anderson, D.J., Zhou, H.-J., Pardon, E., **Steyaert, J.**, Förster, F., Bracher, A. & Baumeister, W. (2014) Crystal structure of the proteasomal deubiquitylation module Rpn8-Rpn11. *Proc Natl Acad Sci U S A* 111, 2984-2989. (ISI IF₂₀₁₂ = 9.737)
7. Abskharon, R.N.N., Giachin, G., Wohlkonig, A., Soror, S.H., Pardon, E., Legname, G. & **Steyaert, J.** (2014) Probing the N-terminal β -sheet conversion in the crystal structure of the full-length human prion protein bound to a Nanobody, *J Am Chem Soc* 136, 937-944. (ISI IF₂₀₁₂ = 10.677)
8. Staus, D.P., Wingler, L. M., Strachan, R. T., Rasmussen, S. G. F., Pardon, E., Ahn, S., **Steyaert, J.**, Kobilka, B.K., & Lefkowitz, R. J. (2014) Regulation of Beta-2-Adrenergic Receptor Function by Conformationally Selective Single-domain Intrabodies. *Mol Pharm* 85, 472-481. (ISI IF₂₀₁₂ = 4.411)
9. Kruse, A.C., Ring, A.M., Manglik, A., Hu, J., Hu, K., Eitel, K., Hübner, H., Pardon, E., Valant, V., Sexton, P.M. , Christopoulos, A., Felder, C., Gmeiner, P., **Steyaert, J.**, Weis, W.I., K., Garcia, K., Wess, J., & Kobilka, B.K. (2013) Activation and allosteric modulation of a muscarinic acetylcholine receptor. *Nature* 504, 101-106. (ISI IF₂₀₁₂ = 38.597)
10. Oyen, D., Wechselberger, R., Srinivasan, V., **Steyaert, J.**, & Barlow, J. N. (2013). Mechanistic analysis of allosteric and non-allosteric effects arising from nanobody binding to two epitopes of the dihydrofolate reductase of *Escherichia coli*. *Biochim Biophys Acta* 1834, 2147-2157. (ISI IF₂₀₁₂ = 3.733)
11. Löw, C., Yau, Y.H., Pardon, E., Jegerschöld, C., Wählin, L., Quistgaard, E.M., Moberg, P., Geifman-Shochat, S., **Steyaert, J.** & Nordlund, P. (2013). Nanobody Mediated Crystallization of an Archeal Mechanosensitive Channel. *PloS one* 8, e77984. (ISI IF₂₀₁₂ = 3.730)
12. Yuan, J., Zhan, Y.-A., Abskharon, R., Xiao, X., Martinez, M.C., Zhou, X., Kneale, G., Mikol, J., Lehmann, S., Surewicz, W.K., Castilla, J., **Steyaert, J.**, Zhang, Z., Kong, Q., Petersen, R.B., Wohlkonig, A. & Zou, W.-Q. (2013) Recombinant Human Prion Protein Inhibits Prion Propagation *in vitro*. *Nature Sci Rep* 3, 2911. (ISI IF₂₀₁₂ = 2.927)
13. Saskia Vanderhaegen, S., Fislage, M., Domanska, K., Versées, W., Pardon, E., Bellotti, V., & **Steyaert, J.** (2013) Structure of an early native-like intermediate of β 2-microglobulin amyloidogenesis. *Protein Sci* 22, 1349-1357. (ISI IF₂₀₁₂ = 2.735)
14. Ward, A., Szewczyk, P., Grimar, V., Lee, C.-W., Matrinez, L., Cay, A., Villaluz, M., Pardon, E., Cregger, C., Falsone, P., Urbatsch, I., Govaerts, C., **Steyaert, J.**, & Chang, G. (2013) Structures of P-glycoprotein reveal its conformational flexibility and an epitope on the nucleotide-binding domain, *Proc Natl Acad Sci U S A* 110, 13386-13391. (ISI IF₂₀₁₂ = 9.737)
15. Khamrui, S., Turley, S., Pardon, E., **Steyaert, J.**, Fan, E., Verlinde, C., Bergman, L.W. & Hol, W. (2013) The structure of the D3 domain of Plasmodium falciparum myosin tail interacting protein MTIP in complex with a Nanobody, *Mol Biochem Parasitol* 190, 87-91. (ISI IF₂₀₁₂ = 2.734)
16. Sohler, J.S., Laurent C., Chevigne A., Pardon E., Srinivasan V., Wernery U., **Steyaert J.**, Galleni M. (2013) Allosteric inhibition of VIM metallo-beta-lactamases by a camelid nanobody. *Biochem J* 15, 477-86. (ISI IF₂₀₁₂ = 4.654)
17. Banner, D. W., Gsell, B., Benz, J., Bertschinger, J., Burger, D., Brack, S., Cuppuleri, S., Debulpaep, M., Gast, A., Grabulovski, D., Hennig, M., Hilpert, H., Huber, W., Kuglstatter, A., Kusznir, E., Laeremans, T., Matile, H., Miscenic, C., Rufer, A. C., Schlatter, D., **Steyaert, J.**, Stihle, M., Thoma, R., Weber, M. & Ruf, A. (2013) Mapping

- the conformational space accessible to BACE2 using surface mutants and cocrystals with Fab fragments, Fynomers and Xaperones. *Acta Crystallographica Section D* **69**, 1124-1137. (ISI IF₂₀₁₂ = 14.103)
18. Vuchelen, A., Pardon, E., **Steyaert, J.**, Gamain, B., Loris, R., van Nuland, N.A. J., Ramboarina, S. (2013) Production, crystallization and X-ray diffraction analysis of two nanobodies against the Duffy binding-like (DBL) domain DBL6E-FCR3 of the *Plasmodium falciparum* VAR2CSA protein. *Acta Crystallogr F Struct Biol Cryst Commun* **69**, 270-274. [ISI IF12 = 0.552](#)
 19. Vercruyse, T., Boons, E., Venken, T., Vanstreels, E., Voet, A., **Steyaert, J.**, De Maeyer, M., Daelemans, D. (2013) Mapping the Binding Interface between an HIV-1 Inhibiting Intrabody and the Viral Protein Rev. *PLoS one* **8**, e60259. [ISI IF12 = 3.73](#)
 20. Williams, T., El-Turk, F., Buell, A.K., O'Day, E.M. Aprile, F.A., Esbjörner, E.K., Vendruscolo, M., Cremades, N., Pardon, E., Wyns, L., Welland, M.E., **Steyaert, J.**, Christodoulou, J., Dobson, C.M. & De Genst, E. (2013) Nanobodies raised against monomeric α -synuclein distinguish between fibrils at different maturation stages. *J Mol Biol* **245**, 2397-2411. [ISI IF12 = 3.888](#)
 - a. **JMB commentary:** The Mysterious C-Terminal Tail of Alpha-Synuclein: Nanobody's Guess. *J Mol Biol* **245**, 2393-2396.
 21. Rivera-Calzada, A., Fronzes, R., Savva, C. G., Chandran, V., Lian, P. W., Laeremans, T., Pardon, E., **Steyaert, J.**, Remaut, H., Waksman, G., & Orlova, E. V. (2013) Structure of a bacterial type IV secretion core complex at subnanometer resolution. *EMBO J* **32**, 1195 - 1204. [ISI IF11 = 9.205](#)
 22. Irannejad, R., Tomshine, J.C., Tomshine, J.R., **Steyaert, J.**, Rasmussen, S., Sunahara, R., Chevalier, M., El-Samad, H., Huang, B., & von Zastrow, M. (2013) Conformational biosensors reveal adrenoceptor signaling from endosomes. *Nature* **495**, 534-538. [ISI IF11 = 36.280](#)
 - a. **News & views:** Lohse, M.J. & Calebiro, D. (2013) Cell biology: Receptor signals come in waves. *Nature* **495**, 457-458.
 - b. **Methods to watch:** Pastrana, E. (2014) Intracellular mini-binders. *Nature Methods* **11**, 30.
 23. Park, Y.-J., Budiarto, T., Wu, M., Pardon, E., **Steyaert, J.**, & Hol, W.G.J. (2012) The structure of the C-terminal domain of the largest editosome interaction protein and its role in promoting RNA binding by RNA editing ligase L2, *Nucleic acids res* **40**, 6966-6977. [ISI IF10 = 7.836](#)
 24. Baranova, E., Fronzes, R., Garcia-Pino, A., Van Gerven, N, Papapostolou, D., Péhau-Arnaudet, Pardon, E., **Steyaert, J.**, Howorka, S. & Remaut, H. (2012) SbsB structure and lattice reconstruction unveil Ca²⁺ triggered S-layer assembly, *Nature* **487**, 119-122. [ISI IF12 = 36.280](#)
 25. Park, Y.J., Pardon, E., Wu, M., **Steyaert, J.** & Hol, W.G.J (2012) Crystal structure of a heterodimer of editosome interaction proteins in complex with two copies of a cross-reacting nanobody. *Nucleic acids res* **40**, 1828-1840. [ISI IF10 = 7.836](#)
 26. Abskharon, R.N.N., Ramboarina, S., El Hassan, H., Gad, W., Apostol, M.I., Giachin, G., Legname, G., **Steyaert, J.**, Messens, J., Soror, S.H., & Wohlkonig, A. (2012) A novel expression system for production of soluble prion proteins in *E. coli*. *Microb Cell Fact* **11**, 6. [ISI IF10 = 4.54](#)
 27. Abskharon, R.N.N., Soror, S.H., Pardon, E, El Hassan, H., Legname, G., **Steyaert, J.**, Wohlkonig, A. (2011) Combining in-situ proteolysis and microseed matrix screening to promote crystallization of PrP(c)-nanobody complexes. *Protein Eng Des Sel* **24**, 737-741. [ISI IF11 = 2.937](#)
 28. Westfield, G., Rasmussen, S.G.F, Su M., Dutta, S, DeVree, B.T., Chung, K.Y., Calinski, D., Velez-Ruiz, G., Oleskie, A.N., Pardon, E., Chae, P.S., Liu, T., Li, S., Woods Jr., V.L., **Steyaert, J.**, Kobilka, B.K., Sunahara, R.K. & Skiniotis, G. (2011) Structural flexibility of the Gas α -helical domain in the β 2-adrenoceptor Gs Complex. *Proc Natl Acad Sci U S A* **108**, 16086-16091. [ISI IF11 = 9.681](#)
 29. Korotkov K.V., Johnson T.L., Jobling M.G., Pruneda J., Pardon E., Héroux, A., Turley, S., **Steyaert, J.**, Holmes, R.K., Sandkvist, M., & Hol, W.G.J. (2011) Structural and Functional Studies on the Interaction of GspC and GspD in the Type II Secretion System. *PLoS Pathog* **7**(9): e1002228. [ISI IF10 = 9.079](#)



30. Rasmussen, S.G.F., DeVree, B.T., Zou, Y, Kruse, A.C., Chung, K.Y., Thian, T.S., Thian, F.S., Chae, P.S., Pardon, E., Calinski, D., Mathiesen, J.M., Shah, S.T.A., Lyons, J.A., Caffrey, M., Gellman, S.H., **Steyaert, J.**, Skiniotis, G., Weis, W., Sunahara, R.K., Kobilka, B.K. (2011) Crystal Structure of the β 2 Adrenergic Receptor-Gs protein complex. *Nature* **477**, 549-555 (with cover) ISI IF11 = 36.280 & F1000 factor = 30
- News in Focus: Buchen L (2011) Cell signaling caught in the act. *Nature* **475**, 273-274
 - New & Views: Schwartz, T.W. & Sakmar, T.P. (2011) Structural biology: Snapshot of a signalling complex. *Nature* **477**, 540-541.
 - 365 days: Interactive timeline: Van Noorden R. (2011) A clickable calendar. *Nature* doi:10.1038/nature.2011.9686
 - Nature news: Van Noorden R. (2012) Cell-signalling work nets chemistry Nobel. *Nature* doi:10.1038/nature.2012.11557
31. **Steyaert, J.** & Kobilka, B.K. (2011) Nanobody stabilization of G protein coupled receptor conformational states. *Curr Opin Struct Biol* **21**, 567-572. ISI IF11 = 9.424
32. Vercruysse, T., Pawar, S., De Borggraeve, W., Pardon, E., Pavlakis, G.N., Pannecouque, C., **Steyaert, J.**, Balzarini, J. & Daelemans, D. (2011) Measuring cooperative Rev protein-protein interactions on Rev Responsive RNA by fluorescence resonance energy transfer. *RNA Biol* **8**, 316-324. ISI IF10 = 5.597
33. Domanska, K., Vanderhaegen, S, Srinivasan, V., Pardon, E., Dupeux, F., Marquez, J.A., Gorgetti, S., Stoppini, M., Wyns, L., Bellotti, V. & **Steyaert, J.** (2011) Atomic structure of a nanobody trapped intermediate of β 2m amyloidogenesis, *Proc Natl Acad Sci USA* **108**, 1314-1319. ISI IF11= 9.681
34. Oyen, D., Srinivasan, V., **Steyaert, J.**, & Barlow, JN. (2011) Constraining enzyme conformational change by an antibody leads to hyperbolic inhibition. *J Mol Biol* **407**, 138-48. ISI IF10 = 4.008
35. Rasmussen, S.G.F., Choi, H.-J., Fung, J.-J., Pardon, E., Casarosa, P., Seok Chae, P., DeVree, B.T., Rosenbaum, D.M., Thian, F.S., Kobilka, T.S., Schnapp, A., Konetzki, I., Sunahara, R.K., Gellman, S.H., Pautsch, A., **Steyaert, J.**, Weis, W.I., & Kobilka, B.K. (2011) Structure of a nanobody-stabilized active state of the β 2 adrenoceptor. *Nature* **469**, 175-80. ISI IF10 = 36.101
- News and Views: Sprang, S.R. (2011) Cell signalling: Binding the receptor at both ends. *Nature* **469**, 172-173.
36. Wu, M., Park, Y.-U., Pardon, E., Guo, X., Turley, S., Stuart, K. S., Hayhurst, A., Deng, J., **Steyaert, J.** and Hol, W.G.J. (2011) Structures of a key interaction protein from the trypanosoma brucei editosome in complex with single domain antibodies, *J Struct Biol* **174**, 124-136. ISI IF10 = 3.497
37. Abskharon R.N., Soror S.H., Pardon E., El Hassan H., Legname G., **Steyaert J.** & Wohlkonig A. (2010) Crystallization and preliminary X-ray diffraction analysis of a specific VHH domain against mouse prion protein. *Acta Crystallogr F Struct Biol Cryst Commun* **66**, 1644-1646. ISI IF10 = 0.563
38. De Genst, E., Guilliams, T., Wellens, J., O' Day, E., Waudby, C., Meehan, C., Dumoulin, M., Hsu, S.T-D., Cremades, N., Verschueren, K., Pardon, E., Wyns, L., **Steyaert, J.**, Christodoulou, J. & Dobson, C. (2010) Structure and properties of a complex of α -synuclein and a single domain camelid antibody, *J Mol Biol* **402**, 326-343. ISI IF10 = 4.008
39. Vandemeulebroucke, A., Minici, C., Bruno, I., Muzzolini, L., Tornaghi, P., Parkin, D., Schramm, V.L., Versées, W., **Steyaert, J.**, & Degano, M. (2010) Structure, function, and inhibition of the principal nucleotide catabolic enzyme in the purine-auxotrophic *Trypanosoma brucei brucei*. *Biochemistry* **49**, 8999-9010. ISI IF10 = 3.226
40. Berg, M., Kohl, L., Van der Veken, P., Joossens, J., Al-Salabi, M.I., Castagna, V., Giannese, F., Cos, P., Versées, W., **Steyaert, J.**, Grellier, P., Haemers, A., Degano, M., Maes, L., de Koning, H.P. & Augustyns, K. (2010) Evaluation of nucleoside hydrolase inhibitors for treatment of African trypanosomiasis. *Antimicrob agents chemother* **54**, 1900-8. ISI IF10 = 4.672



41. Vercruyse, T., Pardon, E., Vanstreels, E., **Steyaert, J.**, & Daelemans, D. (2010). An intrabody based on a llama single-domain antibody targeting the N-terminal alpha-helical multimerization domain of HIV-1 rev prevents viral production. *J Biol Chem* **285**, 21768-80. [ISI IF10 = 5.328](#)
42. Van den Abbeele, A., De Clercq, S., De Ganck, A., De Corte, V., Van Loo, B., Soror, S. H., Srinivasan, V., **Steyaert, J.**, Vandekerckhove, J., and Gettemans, J. (2010) A llama-derived gelsolin single domain antibody blocks gelsolin–G-actin interaction. *Cell Mol Life Sci* **67**, 1519-1535. [ISI IF10 = 7.047](#)
43. Ryckaert, S., Pardon, E., **Steyaert, J.**, & Callewaert, N. (2010) Isolation of antigen-binding camelid heavy chain antibody fragments (nanobodies) from an immune library displayed on the surface of *Pichia pastoris*. *J Biotech* **145**, 93-98. [ISI IF10 = 2.970](#)
44. De Vocht, C., Ranquin, A., Willaert, R., Van Ginderachter, J., Vanhaecke, T., Rogiers, V., Versées, W., Van Gelder, P. & **Steyaert, J.** (2009) Assessment of stability, toxicity and immunogenicity of new polymeric nanoreactors for use in enzyme replacement therapy of MNGIE. *J Control Release* **137**, 246-254. [ISI IF09 = 5.949](#)
45. Barlow, J., Conrath, K., & **Steyaert, J.** (2009) Substrate-dependent modulation of enzyme activity by allosteric effector antibodies. *Biochim Biophys Acta* **1794**, 1259-1268. [ISI IF09 = 2.480](#)
46. Versées, W., Goeminne, A., Berg, M., Vandemeulebroucke, A., Haemers, A., Augustyns, K., & **Steyaert, J.** (2009) Crystal structures of *T. vivax* nucleoside hydrolase in complex with new potent and specific inhibitors *Biochim Biophys Acta* **1794**, 953-960. [ISI IF09 = 2.480](#)
47. Berg, M., Bal, G., Goeminne, A., Van Der Veken, P., Versées, W., **Steyaert, J.**, Haemers, A., Augustyns, K. (2009) Synthesis of bicyclic N-arylmethyl-substituted iminoribitol derivatives as selective nucleoside hydrolase inhibitors. *Chemmedchem* **4**, 249-260. [ISI IF09 = 3.232](#)
48. Korotkov K. V., Pardon E., **Steyaert J.** & Hol W. (2009) Crystal Structure of the N-Terminal Domain of the Secretin GspD from ETEC Determined with the Assistance of a Nanobody. *Structure* **17**, 255-265. [ISI IF09 = 5.904](#)
49. Lam, A. Y., Pardon, E., Korotkov K. V., Hol, W.G.J & **Steyaert, J.** (2009) Crystal structure of the EpsI:EpsJ pseudopilin heterodimer from *Vibrio vulnificus* in complex with a nanobody, *J Struct Biol* **166**, 8-15. [ISI IF09 = 3.673](#)
50. Vandemeulebroucke, A., De Vos, S., Van Holsbeke, E., **Steyaert, J.** & Versées, W. (2008) A flexible loop as a functional element in the catalytic mechanism of Nucleoside hydrolase from *Trypanosoma vivax*. *J Biol Chem* **283**, 22272-82. [ISI IF08 = 5.520](#)
51. Goeminne, A., Berg, M., Mcnaughton, M., Bal, G., Surpateanu, G., Van Der Veken, P., De Prol, S., Versées, W., **Steyaert, J.**, Haemers, A. & Augustyns, K. (2008) N-Arylmethyl substituted iminoribitol derivatives as inhibitors of a purine specific nucleoside hydrolase *Bioorg Med Chem* **16**, 6752-6763. [ISI IF08 = 3.075](#)
52. Goeminne, A., Mcnaughton, M., Bal, G., Surpateanu, G., Van Der Veken, P., De Prol, S., Versees, W., **Steyaert, J.**, Haemers, A., Augustyns, K. (2008) Synthesis and biochemical evaluation of guanidino-alkyl-ribitol derivatives as nucleoside hydrolase inhibitors. *Eur J Med Chem* **43**, 315-326. [ISI IF08 = 2.882](#)
53. Barlow, J. N. & **Steyaert, J.** (2007) Examination of the mechanism and energetic contribution of leaving group activation in the purine-specific nucleoside hydrolase from *Trypanosoma vivax*. *Biochim Biophys Acta* **1774**, 1451–1461. [ISI IF07 = 2.480](#)
54. Spaepen, S., Versées, W., Gocke, D., Pohl, M., **Steyaert, J.**, & Vanderleyden, J (2007) Characterization of Phenylpyruvate Decarboxylase, Involved in Auxin Production of *Azospirillum brasilense*. *J Bacteriol* **189**, 7626-7633. [ISI IF07 = 4.013](#)
55. Versees, W., Spaepen, S., Wood, M., Leeper, F., Vanderleyden, J., & **Steyaert, J.** (2007) Molecular Mechanism of allosteric substrate activation in a thiamine diphosphate-dependent decarboxylase, *J Biol Chem* **282**, 35269-35278. [ISI IF07 = 5.581](#)
56. Goeminne, A., McNaughton, M., Bal, G., Surpateanu, G., Van Der Veken, P., De Prol, S., Versées, W., **Steyaert, J.**, Haemers, A., Augustyns, K. (2007) 1,2,3-Triazolylalkylribitol derivatives as nucleoside hydrolase inhibitors. *Bioorg Med Chem Lett* **17**, 2523-2526. [ISI IF07 = 2.604](#)
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INVITED LECTURES OR SEMINARS

- Nanobodies to study GPCR transmembrane signaling: from structures to function to drugs (2014) Keynote lecture at the 'New Strategies For Macromolecular Complexes analysis' symposium, Strasbourg, France, November 24-26
- Nanobodies to study GPCR transmembrane signaling: from structures to function to drugs (2014) To be presented at MedChem 2014 –Annual one-day meeting on Medicinal chemistry of SRC & KVCV, Braine-L'alleud, Belgium, November 21.
- Innovative Methods for the Generation of Nanobodies against Membrane Proteins (2014) Presented at the 1th annual Discovery on Target meeting: Antibody generation, selection and screening, Boston, CA, October 9-10.
- Nanobody-enabled fragment screening on active-state constrained GPCRs (2014) Presented at the 1th annual Discovery on Target meeting: GPCR-Based Drug Discovery, Boston, CA, October 8-9.
- Nanobodies to study GPCR transmembrane signaling: from structures to function to drugs (2014) Keynote lecture presented at the annual GLISTEN meeting, Budapest, Hungary, October 2-4.
- Nanobodies to study GPCR transmembrane signaling: from structure to function to drugs. (2014) Presented at the MipTec Conference, Basel, Switzerland, September 23-25.
- GPCR Structural Biology: New Therapeutic Opportunities (2014) Presented at the 23th EFMC-ISMIC International Symposium on Medicinal Chemistry 2014, Lisbon, Portugal, September 7-11 (Session Chair)
- Nanobodies for the investigation of GPCR transmembrane signaling: from structure to function to ... drugs (2014) Seminar at the Research Centre for Natural Sciences of the Hungarian Academy of Sciences, Budapest, Hungary, June 25
- Nanobody-enabled fragment screening on active-state constrained GPCRs (2014) Presented at the GTC Drug Discovery summit: GPCR structure, function and drug discovery, Cambridge, MA, May 22-23

- Nanobody-enabled fragment screening on active-state constrained GPCRs (2014) Presented at the Cambridge Healthtech Institutes's 9th Annual Fragment-Based Drug Discovery meeting, San Diego, CA, April 22-25
- Nanobodies as tools for the structural and functional investigation of GPCR transmembrane signaling (2014) Structural Biology Symposium, Leuven, Belgium, March 17
- Nanobodies for the investigation of GPCR transmembrane signaling: from structure to function to ... drugs (2014) Seminar at the Centre de Genetic Fonctionelle, CNRS, Montpellier, France, January 10
- Nanobodies for the structural and functional investigation of GPCR transmembrane signaling (2013) Seminar at Ablynx, Gent, Belgium, December 20
- Nanobodies for the structural and functional investigation of GPCR transmembrane signaling (2013) Presented at the FWO Anniversary meeting: Kennismakers, al 85 jaar Zuurstof voor Onderzoek en Ontwikkeling, Gent, Belgium, December 17
- Nanobodies for the structural investigation of GPCR transmembrane signaling (2013) Seminar at Novartis, Basel, October 25
- Nanobodies for the structural and functional investigation of GPCR transmembrane signaling (2013) Presented at the 23rd Solvay Conference on Chemistry: New Chemistry and New Opportunities from the Expanding Protein Universe, Brussels, Belgium, October 16-19
- Nanobodies to study GPCR transmembrane signaling: from structure to function to drugs (2013) Presented at the 2nd Annual meeting of the GDR-3545: RCPG-Physio-Med , Strasbourg, France, October 14-15
- Nanobodies to study GPCR transmembrane signaling from structure to function to ... drugs (2013) Presented at Discovery on Target: Antibodies against Membrane Protein Targets. Boston, USA, September 24-26
- Nanobodies to study GPCR transmembrane signaling from structure to function to ... drugs (2013) Presented at the Benzon Symposium No 59 Membrane proteins: Structure, Function and Dynamics, Copenhagen, Denmark, August 19-22
- Nanobodies to study GPCR transmembrane signaling from structure to function to ... drugs (2013) Presented at GPCR Medicinal Chemistry – Roots, fruits and fertilizers, VU University Amsterdam, Amsterdam, June 24-25
- Nanobodies as tools for the structural and functional investigation of GPCR transmembrane signaling (2013) Presented at the Instruct Biennial Structural Biology Conference, EMBL Advanced Training Centre, Heidelberg, Germany, May 22-24
- Nanobodies as tools for the structural and functional investigation of GPCR transmembrane signaling (2013) Presented at the Cold Spring Harbor Asia Conferences: Membrane Protein Structure and Function, Dushu Lake Conference Center, Suzhou, China, May 13-17
- Nanobodies as tools for the structural and functional investigation of GPCR transmembrane signaling (2013) Presented at the Gordon Conference on Molecular Pharmacology, Renaissance Tuscany Il Ciocco Resort, Lucca (Barga), Italy, April 28-May 3
- Nanobodies for the Structural and Functional Investigation of GPCR Transmembrane Signaling (2013) Presented at the Drug Discovery Chemistry Conference, Hilton San Diego Resort & Spa, San Diego, CA, April 16-18
- Nanobodies for the structural analysis of transmembrane signaling (2012) Presented at the NIH roadmap to membrane protein structures and complexes. The 4th Membrane Protein Technologies Meeting, San Francisco, CA, USA, November 28-30

- Keynote lecture: Nanobodies for the structural analysis of transmembrane signaling (2012) Presented at PEGS Europe, Protein & Antibody Engineering summit, Vienna, Austria, November 6-8
- Nanobodies for the structural investigation of transmembrane signaling (2012) Seminar at Pfizer, Groton, CT, October 4.
- Nanobodies for the structural analysis of transmembrane signaling (2012) Presented at Discovery on Target, Boston, USA, October 1-3
- Structural investigation of GPCR transmembrane signaling by use of nanobodies (2012) Presented at G-protein-coupled-receptors: from structural insights to functional mechanisms. Monash University Prato Centre, Prato, Italy, September 12-14
- Nanobodies for the structural investigation of transmembrane signaling (2012) Presented at the Gordon Research Conferences: Phosphorylation & G-Protein Mediated Signaling Networks, University of New England, Biddeford, ME, June 10-15
- Why are Nanobodies the key to crystallize membrane-bound proteins? (2012) Presented at the International Workshop: New Approaches in Drug Design & Discovery, Schloss Rauischholzhausen, Marburg, March 19-22
- Nanobodies for the structural analysis of transmembrane signaling (2012) Seminar at the Biocenter Oulu and Department of Biochemistry, University of Oulu, Oulu, Finland, March 13
- Structural Investigation of GPCR Transmembrane Signaling by Use of Nanobodies (2012) Presented at the Molecular Med TRI-CON 2012: Phage and yeast display of difficult targets, Moscone North Convention Center, San Francisco, CA, February 19-23.
- Nanobodies for the structural analysis of transmembrane signaling (2011) Presented at the GPCR Workshop 2011, Hyatt Regency, Maui, Hawaii, December 4-8
- Structural investigation of GPCR transmembrane signaling by use of Nanobodies (2011) Presented at the 19th PSDI meeting: Protein Structure Determination in Industry 2011. Goteburg, 13-15 November.
- Structural investigation of GPCR transmembrane signaling by use of Nanobodies (2011) Seminar at UCB, Braine-L'alleud, Belgium, October 25.
- Nanobodies for the structural analysis of GPCR transmembrane signaling (2011) Presented at the RAMMC 2011 meeting: Recent Advances in Macromolecular Crystallization, Strasbourg, 11-14 September
- Conformation selective Xaperones for GPCR research (2011) Presented at Select Biosciences: Advances in Protein crystallography, Hamburg, Germany, June 30 – July 1
- Conformation selective nanobodies for GPCR research (2011) Presented at the International conference on Structural Genomics, Toronto, Canada, May 10-14
- Xaperone assisted X-ray crystallography: conformation selective nanobodies to solve active state GPCR Structures (2011) DRA mini-symposium on Receptor Structure and Function, Copenhagen, Denmark, May 4
- Nanobodies with G protein like properties stabilize a G protein-coupled receptor active state (2011) Presented at the 9th annual Informa congress on G Protein-Coupled Receptors in Drug Discovery, Berlin, Germany, March 22-23
- Nanobodies with G protein like properties stabilize a G protein-coupled receptor active state (2011) Seminar at the LMB, Cambridge, UK, February 22
- Single chain camelid antibodies in GPCR research (2011) Seminar at the Paul Scherrer Institut, Villigen, Switzerland, February 11

- Single chain camelid antibodies in GPCR research (2010) GPCR Workshop 2010, Honolulu, Hawaii, December 7-10
- Nanobodies with G protein like properties stabilize a G Protein-Coupled Receptor Active State (2010) Presented at the Structural Biology and Drug Discovery Zing Conference, Cancun, Mexico, December 4-7
- Nanobodies with G protein like properties stabilize a G Protein-Coupled Receptor Active State (2010) Seminar at Pfizer, Sandwich, UK, November 18
- Nanobodies with G protein like properties stabilize a G Protein-Coupled Receptor Active State (2010) Seminar at EVOTEC, Milton Park, Abingdon, UK, November 17
- Nanobodies with G protein like properties stabilize a G Protein-Coupled Receptor Active State (2010) Presented at the PSDI 2010 meeting on Protein Structure Determination in Industry, Oxford, UK, November 15-16
- Nanobodies with G protein like properties stabilize a G Protein-Coupled Receptor Active State (2010) Presented at the G protein-coupled receptors, from structure to Diseases conference, Barcelona, Spain, November 5-6
- Nanobodies with G protein like properties stabilize a G Protein-Coupled Receptor Active State (2010) 1st Symposium on single domain antibodies, Gent, Belgium, October 14-15
- Nanotools for Biomedical Targets – Nanobodies Stabilize Active State of G-Protein Coupled Receptors (2010) 21st EFMC-ISMC International Symposium on Medicinal Chemistry, Brussels, Belgium, September 5-9
- New catalytic strategies in the nucleoside hydrolase family (2009) Presented at the symposium in honour of Professor Jean-Marie Frère: Penicillin-recognizing enzymes: from enzyme kinetics to protein folding, University of Liège, July 1-3.
- New catalytic strategies for leaving group activation in nucleoside hydrolases (2009) Presented at the 13th International Symposium on Purine and Pyrimidine Metabolism in Man (PP09), Skogshem-Wijk, Stockholm, Sweden, June 21-24.
- New catalytic strategies in the nucleoside hydrolase family (2005) Presented at the Frontiers in Chemical Biology: Mechanistic Enzymology and Biocatalysis meeting, University of Exeter, UK, September 31-2.
- A decade of Protein engineering, RNase T1 undressed (2002) Presented at the 6th International meeting on ribonucleases, Bath, UK, 19-23 June.
- From protein structure to function: RNase T1 as an example (1999) Presented at the Proteins from Structure to Function meeting on the occasion of the conferment of the title of Doctor Honoris Causa to Prof. A. Fersht, VUB, Brussels, November 19.
- Protein engineering of RNase T1 to alter substrate specificity (1999) Presented at the fifth International Meeting on Ribonucleases, Warrenton, Virginia, USA, May 12-16
- Mutant enzymes and modified substrates to analyse the structure-function relationship of Ribonuclease T1 (1997) Presented at the 3rd International Engelhardt conference on molecular Biology, Moscow, Russia, June 9-14
- The use of mutant enzymes and modified substrates to analyse Ribonuclease T1 function (1996) Presented at the EMBO Workshop 1996, Nucleotidyl and phosphoryl Transfer in the Protein and RNA world, Xanten, Germany, September 29-October 3

- The use of mutant enzymes and modified substrates to analyse Ribonuclease T1 function (1996)
Presented at the 4th international meeting on Ribonucleases: Chemistry, Biology, Biotechnology,
Groningen, the Netherlands, July 14-18