

CURRICULUM VITAE

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PERSONAL INFORMATION

Nationality: Swiss

Date of Birth: 16th January 1967

EDUCATION

1992-1996: **Ph.D. in Biochemistry**, M.E. Müller-Institut, Biozentrum, University of Basel, Switzerland. *Summa cum laude* graduation.

1987-1992: **Diploma in Biochemistry**, Biozentrum, University of Basel, Switzerland. Thesis at Ciba-Geigy AG, Basel, Switzerland.

1983-1987: **Matura Typus C**, Mathematisch Naturwissenschaftliches Gymnasium, Basel, Switzerland.

PROFESSIONAL EXPERIENCE

Since 2019 **Deputy Head of Division**, Division of Biology and Chemistry, Paul Scherrer Institut, Villigen PSI, Switzerland.

Since 2019 **a.i. Head of Laboratory**, Laboratory of Nanoscale Biology, Paul Scherrer Institut, Villigen PSI, Switzerland.

Since 2018: **Head of Laboratory**, Laboratory of Biomolecular Research, Paul Scherrer Institut, Villigen PSI, Switzerland.

2018-2019: **Deputy Head of Laboratory**, Laboratory of Nanoscale Biology, Paul Scherrer Institut, Villigen PSI, Switzerland.

2013-2018: **Deputy Head of Laboratory**, Laboratory of Biomolecular Research, Paul Scherrer Institut, Villigen PSI, Switzerland.

- 2006-2018:** **Research Group Leader**, Laboratory of Biomolecular Research, Paul Scherrer Institut, Villigen PSI, Switzerland.
- 2006-2010:** **Head of the High-Throughput Platform: From Gene to Structure**, Laboratory of Biomolecular Research, Paul Scherrer Institut, Villigen PSI, Switzerland.
- 2000-2005:** **Senior Research Scientist**, Laboratory of Biomolecular Research, Paul Scherrer Institut, Villigen PSI, Switzerland.
- 1998-2000** **Post Doctoral Fellow**, Novartis Pharma AG, Functional Genomics Area, Protein Sciences Unit, Basel, Switzerland.
- 1996-1998:** **Post Doctoral Fellow**, M.E. Müller-Institut at the Biozentrum of the University of Basel, Switzerland.

AWARDS AND HONOURS

- 2012:** Promotion to Titularprofessor (Honorary Professor) at the faculty of science of the University of Basel, Switzerland.
- 2011:** Bonus of Excellence award of the Swiss National Science Foundation (SNF).
- 2010:** Elected member of the European Molecular Biology Organization (EMBO).
- 1999:** Amerbach-Prize of the University of Basel, Switzerland, for outstanding research achievements.
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RESEARCH GRANTS

Basic research projects (5572 kCHF in total)

- 2016:** R'equip FNSNF Grant 316030_170802 (co-PI)
- 2016:** ANR Grant AAPG 2016 (co-PI)
- 2016:** FNSNF Grant 31003A_166608 (PI)
- 2015:** COST Action CM1407 (co-PI)
- 2013:** SystemsX.ch RTD Grant (PI)
- 2012:** FNSNF 'Bonus of Excellence' Grant 31003B_138659 (PI)
- 2011:** Novartis Grant Nr. 11A03 (PI)
- 2011:** SystemsX BIP Grant (PI)
- 2010:** R'equip FNSNF Grant 316030_133810 (co-PI)
- 2009:** FNSNF Sinergia Grant CRSII3_125463 (PI)
- 2008:** FNSNF Grant 3100A0-122545 (PI)
- 2008:** R'equip FNSNF Grant 326000_121315 (co-PI)
- 2005:** FNSNF Grant 3100A0-109423 (PI)
- 2002:** ETHZ Grant TH-42/02-2 (PI)
- 2001:** FNSNF Grant 31-64978.01 (PI)

Industry projects (1425 kCHF in total)

- 2019:** PTC Therapeutics Inc.
- 2018:** BeyondSpring Pharmaceuticals Inc. (PI)
- 2017:** BeyondSpring Pharmaceuticals Inc. (PI)
- 2015:** Vertex (PI)
- 2015:** SutroBiopharma (PI)
- 2014:** Therillia (PI)
- 2014:** Pharma Mar Inc. Grant (PI)

2013: Seattle Genetics Inc. Grant (PI)
2013: Esai Inc. Grant (PI)
2010: Basilea Inc. Grant (PI)

PSI projects (1490 kCHF in total)

2008: FoKo_BIO/SLS (co-PI)
2005: FoKo_BIO (co-PI)

Postdoctoral fellowships obtained by group members

2017: PSI-FELLOW/COFUND Fellowship
2014: PSI-FELLOW/COFUND Fellowship
2014: Marie Curie IEF Fellowship
2014: EMBO Long-term Fellowship
2012: EMBO Long-term Fellowship
2011: PSI Förderprogramm für Wiedereinsteigerinnen
2007: FEBS Long-term Fellowship

INSTITUTIONAL RESPONSIBILITIES

Since 2017: Project Leader “Chemical Ordering and Management System @PSI”, Paul Scherrer Institut
Since 2016: Responsible for the “Vocational Training in Chemistry and Chemical Management” group at the Paul Scherrer Institut
2009 - 2017: Member of the Research Commission of the Paul Scherrer Institut

BOARD MEMBERSHIPS

2018: Member of the Evaluation Board of the Subcellular Structure and Cellular Dynamics Unit (UMR144), Institut Curie, Paris, France
2015: Member of the Evaluation Board of the Cell and Development Biology program of the Center of Genomic Regulation (CRG), Barcelona, Spain
2014: Member of the Eribulin Preclinical Advisory Board of Eisai Inc., New York, USA
2013 - 2016: Member of the EMBO Membership Commission
2009: Member of the Evaluation Board of the Laboratory of Structure et Activité des Biomolécules Normales et Pathologiques, University of Evry Val d’Essonne, Evry, France

ORGANISATIONAL ACTIVITIES

2016: Organizer of the EMBO Symposium ‘Microtubules: From atoms to complex systems’
2012: Organizer of the EMBO Conference ‘Microtubules: Structure, Regulation and Functions’
2010: Founder and organizer of the EMBO Conference ‘Microtubules: Structure, Regulation and Functions’

SUMMARY OF MAIN SCIENTIFIC ACHIEVEMENTS

Steinmetz is an established expert in the microtubule cytoskeleton field. Since he joined the Paul Scherrer Institut (PSI) in 2000 as a senior scientist, in 2006 as a research group leader and in 2018 as the Head of the Laboratory of Biomolecular Research, he contributed important results to the structure-function relationship of microtubules and their interacting proteins and drugs. His work resulted in the publication of more than 150 papers in high profile scientific journals including Nature, Science and Cell. Major scientific achievements of the Steinmetz group are:

- The development of a tubulin structural biology pipeline that allows elucidating the mechanisms of action of tubulin-binding drugs to high resolution by X-ray crystallography. This achievement laid down the basis for the rational engineering of next generation of antitubulin drugs for the treatment of cancer.
- The discovery of a universal “Microtubule tip Localization Signal” (MtLS). The concept of MtLS allowed rationalizing the localization behavior of a large number of microtubule associated proteins, the so called microtubule plus-end tracking proteins (+TIPs) in all eukaryotes.
- The structural elucidation of the reader, writer and eraser of the tubulin tyrosination cycle. Since the cycle is crucial for normal brain development, this achievement laid down a unique basis for the development of drugs to treat neurological disorders.
- The deciphering of the structural basis of the universal nine-fold radial symmetry of centrioles and consequently of cilia and flagella. The work provided for the first time a basis to decipher the mechanism of centriole formation at the atomic level.

A central aspect of Steinmetz’s research is the use of an interdisciplinary structural biology, computational, biophysical, biochemical, cell biology and chemistry approach to tackle challenging biological questions. For achieving his goals, he makes use of a large network of academic and industrial collaborations around the globe.

LIST OF PUBLICATIONS

ISI Web of Science (September 2019): h-index, 52; Total number of citations, 8'479

*Shared corresponding author

2019

158. Rai, A., Liu, T., Glauser, S., Katrukha, E.A., Estévez-Gallego, J., Rodríguez-García, R., Fang, W.-S., Díaz, J.F., **Steinmetz, M.O.**, Altmann, K.-H., Kapitein, L.C., Moores, C.A., Akhmanova, A.
Taxanes convert regions of perturbed microtubule growth into rescue sites.
Nat. Mat., in press
157. Cury, N.M., Mühlethaler, T., Laranjeira, A.B.A., Canevarolo, R.R., Zenatti, P.P., Lucena-Agell, D., Barasoain, I., Song, C., Sun, D., Dovat, S., Yunes, R.A., Prota, A.E., **Steinmetz, M.O.**, Díaz, J.F., Yunes, J.A.
Structural basis of new colchicine binding site acylhydrazones with promising activity against acute lymphoblastic leukemia and multidrug resistant cells.
iScience, in press
156. Chen, X., Widmer, L.A., Stangier, M.M., **Steinmetz, M.O.**, Stelling, J., Barral, Y.
Remote control of microtubule plus-end dynamics and function from the minus-end.
eLife, pii: e48627 (2019).
155. Kashyap, A.S., Zhao, Y., Fernandez-Rodriguez, L., Monaco, G., Trefny, M.P., Yoshida, N., Martin, K., Sharma, A., Olieric, N., Shah, P., Stanczak, M., Kirchhammer, N., Park, S.-M., Wieckowski, S., Laubli, H., Zagani, R., Kasenda, B., **Steinmetz, M.O.**, Reinecker, H.-C., Zippelius, A.
GEFH1 signaling upon microtubule destabilization is required for dendritic cell activation and specific anti-tumor responses.
Cell Rep., 28, 3367-3380 (2019).
154. La Sala, G., Olieric, N., Sharma, A., Viti, F., de Asis Balaguer Perez, F., Huang, L., Tonra, J.R., Lloyd, G.K., Decherchi, S., Díaz, J.F., **Steinmetz, M.O.***, Cavalli, A*.
Structure, Thermodynamics, and Kinetics of Plinabulin Binding to two Tubulin Isoforms.
Chem, in press
153. Patterson, J.C., Joughin, B.A., Prota, A.E., Mühlethaler, T., Jonas, O.H., Whitman, M.A., Varmeh, S., Chen, S., Balk, S.P., **Steinmetz, M.O.**, Lauffenburger, D.A., Yaffe, M.B.
VISAGE Reveals a Targetable Mitotic Vulnerability in Cancer Cells
Cell Syst., 9, 74-92 (2019).
152. Faltova, L., Jiang, K., Frey, D., Wu, Y., Capitani, G., Prota, A.E., Akhmanova, A.* , **Steinmetz, M.O.*** , Kammerer, R.A.*
Crystal structure of a heterotetrameric katanin p60:p80 complex
Structure, 27, 1375–1383 (2019).
151. Akhmanova, A.* , **Steinmetz, M.O.***
Microtubule minus-end regulation at a glance.
J. Cell Sci., 132, pii: jcs227850 (2019).
150. Wang, N., Bosc, C., Choi, S.R., Boulan, B., Peris, L., Olieric, N., Bao, H., Krichen, F., Chen, L., Andrieux, A., Olieric, V., Moutin, M.-J.* , **Steinmetz, M.O.***, Huang, H.*
Structural basis of tubulin detyrosination by the vasohibin-SVBP enzyme complex.
Nat. Struct. Mol. Biol., 26, 571-582 (2019).

149. de Asís Balaguer, F., Mühlethaler, T., Estévez-Gallego, J., Calvo, E., Giménez-Abián, J.F., Risinger, A.L., Sorensen, E.J., Vanderwal, C.D., Altmann, K.-H., Mooberry, S.L., **Steinmetz, M.O.**, Oliva, M.A., Prota, A.E., Díaz, J.F.
Crystal structure of the cyclostreptin-tubulin adduct: Implications for tubulin activation by taxane-site ligands.
Int. J. Mol. Sci., 20, pii: E1392 (2019).
148. Dolenc, J., van Gunsteren, W.F., Prota, A.E., **Steinmetz, M.O.**, Missimer, J.H.
Conformational properties of the chemotherapeutic drug analogue Epothilone A: How to model a flexible protein ligand using scarcely available experimental data.
J. Chem. Inf. Model., 59, 2218-2230 (2019).
147. Hooikaas, P.J., Martin, M., Mühlethaler, T., Kuijntjes, G.-J., Peeters, C.A.E., Katrukha, E.A., Ferrari, L., Stucchi, R., Verhagen, D.G.F., van Riel, W.E., Grigoriev, I., Altelaar, A.F.M., Hoogenraad, C.C., Rüdiger, S.G.D., **Steinmetz, M.O.**, Kapitein, L.C., Akhmanova, A.
MAP7 family proteins regulate kinesin-1 recruitment and activation.
J. Cell Biol., 218, 1298-1318 (2019).
146. Dohle, W., Prota, A.E., Menchon, G., Hamel, E., **Steinmetz, M.O.**, Potter, B.V.L
Tetrahydroisoquinoline Sulfamates as Potent Microtubule Disruptors: Synthesis, Anti-Proliferative and Anti-Tubulin Activity of Dichlorobenzyl-Based Derivatives and a Tubulin Co-Crystal Structure.
ACS Omega, 4, 755-764 (2019).
145. Brindisi, M., Ulivieri, C., Alfano, G., Gemma, S., de Asís Balaguer, F., Khan, T., Grillo, A., Chemi, G., Menchon, G., Prota, A.E., Olieric, N., Lucena-Agell, D., Barasoain, I., Díaz, J.F., Nebbioso, A., Conte, M., Lopresti, L., Magnano, S., Amet, R., Kinsella, P., Zisterer, D.M., Ibrahim, O., O'Sullivan, J., Morbidelli, L., Spaccapelo, R., Baldari, C., Butini, S., Novellino, E., Campiani, G., Altucci, L., **Steinmetz, M.O.**, Brogi, S.
Structure-activity relationships, biological evaluation and structural studies of novel pyrrolonaphthoxazepines as antitumor agents.
Eur. J. Med. Chem., 162, 290-320 (2019)

2018

144. Kraatz, S.H.W., Bianchi, S., **Steinmetz, M.O.**
Combinatorial use of disulfide bridges and native sulfur-SAD phasing for rapid structure determination of coiled coils.
Biosci. Rep., 38, BSR20181073 (2018).
143. Smedley, C.J., Stanley, P.A., Qazzaz, M.E., Prota, A.E., Olieric, N., Collins, H., Eastman, H., Barrow, A.S., Lim, K.-H., Kam, T.-S., Smith, B.J., Duivenvoorden, H.M., Parker, B.S., Bradshaw, **Steinmetz, M.O.**, Moses, J.E.
Sustainable Syntheses of (-)-Jerantinines A & E and Structural Characterisation of the Jerantinine-Tubulin Complex at the Colchicine Binding Site
Sci. Rep., 8, 10617 (2018).
142. Aher, A., Kok, M., Sharma, A., Rai, A., Olieric, N., Rodriguez-Garcia, R., Katrukha, E.A., Weinert, T., Olieric, V., Kapitein, L.C., **Steinmetz, M.O.**, Dogterom, M., Akhmanova, A.
CLASP suppresses catastrophes by stabilizing incomplete microtubule plus ends through a single TOG domain.
Dev. Cell, 46, 40-58 (2018).

141. **Steinmetz, M.O.**, Prota, A.E.
Microtubule-targeting agents: Strategies to hijack the cytoskeleton.
Trends in Cell Biol., 28, 776-792 (2018).
140. Menchon, G., Prota, A.E., Lucena Agell, D., Bucher, P., Jansen, R., Irschik, H., Müller, R., Paterson, I., Díaz, J.F., Altmann, K.-H., **Steinmetz, M.O.**
A fluorescence anisotropy assay to discover and characterize ligands targeting the maytansine-site of tubulin.
Nat. Comm., 9:2106 (2018).
139. Bueno, O., Gallego, J.E., Martins, S., Prota, A.E., Gago, F., SanJuan, A.G., Camarasa, M.-J., Barasoain, I., **Steinmetz, M.O.**, Díaz, J.F., Pérez-Pérez, M.-J., Liekens, S., Priego, E.-M.
High-affinity ligands of the colchicine domain in tubulin based on a structure-guided design.
Sci. Rep., 8, 4242 (2018).
138. Stangier, M.M., Kumar, A., Chen, X., Farcas, A.-M. Barral, Y., **Steinmetz, M.O.**
Structure-function relationship of the Bik1-Bim1 complex.
Structure, 26, 607-618 (2018).
137. Sharma, A., Gerard, S.F., Olieric, N., **Steinmetz, M.O.**
Cep120 promotes microtubule formation through a unique tubulin binding C2 domain.
J. Struct. Biol., 203, 62-70 (2018).
136. Bianchi, S., Rogala, K.B., Dynes, N.J., Hilbert, M., Leidel, S.A., **Steinmetz, M.O.**, Gönczy, P., Vakonakis, I.
Interaction between the *C. elegans* centriolar protein SAS-5 and microtubules facilitates organelle assembly.
Mol. Biol. Cell, 29, 722-735 (2018).
135. Dohle, W., Jourdan, F., Menchon, G., Prota, A.E., Foster, P., Mannion, P., Hamel, E., Thomas, M., Kasprzyk, P., Ferrandis, E., **Steinmetz, M.O.**, Leese, M., Potter, B.
Quinazolinone-based Anticancer Agents: Synthesis, Anti-proliferative SAR, Anti-tubulin Activity and Tubulin Co-crystal Structure.
J. Med. Chem., 61, 1031-1044 (2018).
134. Jiang, K., Faltova, L., Hua, S., Capitani, G., Prota, A.E., Landgraf, C., Volkmer, R., Kammerer, R.A.* , **Steinmetz, M.O.***, Akhmanova, A.*
Structural basis of formation of the microtubule minus-end-regulating CAMSAP-katanin complex.
Structure, 26, 375-382 (2018).

2017

133. Rezabkova, L., Jiang, K., Capitani, G., Prota, A.E., Akhmanova, A.* , **Steinmetz, M.O.***, Kammerer, R.A.*
Structural basis of katanin p60:p80 complex formation.
Sci. Rep., 7:14893 (2017).
132. Jost, M., Chen, Y., Gilbert, L.A., Horlbeck, M.A., Krenning, L., Menchon, G., Rai, A., Cho, M.Y., Stern, J.J., Prota, A.E., Kampmann, M., Akhmanova, A., **Steinmetz, M.O.**, Tanenbaum, M.E., Weissman, J.S.
Combined CRISPRi/a-based chemical genetic screens reveal that rigosertib is a microtubule-destabilizing agent.
Mol. Cell., 68, 210-223 (2017).

131. Atherton, J., Jiang, K., Stangier, M.M., Luo, Y., Hua, S., Houben, K., van Hooff, J.J.E., Joseph, A.P., Scarabelli, G., Grant, B.J., Roberts, A.J., Topf, M., **Steinmetz, M.O.**, Baldus, M., Moores, C.A., Akhmanova, A.
A structural model for microtubule minus-end recognition and protection by CAMSAP proteins.
Nat. Struct. Mol. Biol., 24, 931-943 (2017).
130. Weinert, T., Olieric, N., Cheng, R., Brünle, S., James, D., Ozerov, D., Gashi, D., Vera, L., Marsh, M., Jaeger, K., Dworkowski, F., Panepucci, E., Basu, S., Skopintsev, P., Doré, A., Geng, T., Cooke, R., Liang, M., Panneels, V., Prota, A., Nogly, P., Ermler, U., Schertler, G., Hennig, M., **Steinmetz, M.O.**, Wang, M., Standfuss, J.
Serial millisecond crystallography for routine room-temperature structure determination at synchrotrons.
Nat. Comm., 8:542 (2017).
129. Hamel, V., Steib, E., Hamelin, R., Armand, F., Borgers, S., Flückiger, I., Busso, C., Olieric, N., Sorzano, C.O.S., **Steinmetz, M.O.**, Guichard, P., Gönczy, P.
Identification of Chlamydomonas central core centriolar proteins reveals a role for human WDR90 in ciliogenesis.
Curr. Biol., 27, 2486-2498 (2017).
128. Sharma, A., Sáez-Calvo, G., Olieric, N., Balaguer, F.A., Barasoain, I., Lamberth, C., Díaz, J.F.* , **Steinmetz, M.O.***
Quinolin-6-yloxyacetamides are microtubule destabilizing agents that bind to the colchicine site of tubulin.
Int. J. Mol. Sci., 18, E1336 (2017).
127. Saez-Calvo, G., Sharma, A., de Asís Balaguer, F., Barasoain, I., Rodríguez-Salarichs, J., Muñoz-Hernández, H., Álvaro Berbís, M., Wendeborn, S., Peñalva, M.A., Matesanz, R., Canales, A., Prota, A.E., Jiménez-Barbero, J., Andreu, J.M., Lamberth, C., **Steinmetz, M.O.**, Díaz, J.F.
Triazolopyrimidines stabilize microtubules by binding to the vinca inhibitor site of tubulin.
Cell Chem. Biol., 24, 737-750 (2017).
126. Kumar, A., Manatschal, C., Rai, A., Grigoriev, I., Steiner Degen, M., Jaussi, R., Kretschmar, I., Prota, A.E., Volkmer, R., Kammerer, R.A., Akhmanova, A., **Steinmetz, M.O.**
A novel sequence motif targets diverse proteins to growing microtubule ends.
Structure, 25, 924–932 (2017).
125. Jiang, K.* , Rezabkova, L., Hua, S., Liu, Q., Capitani, G., Altelaar, A.F.M., Heck, A.J.R., Kammerer, R.A.* , **Steinmetz, M.O.*** , Akhmanova, A.*
Mechanistic and structural insights into spindle pole organization by ASPM and katanin.
Nat. Cell Biol., 19, 480-492 (2017).
124. van Riel, W.E., Rai, A., Bianchi, S., Katrukha, E.A., Liu, Q., Heck, A.J.R., Hoogenraad, C.C., **Steinmetz, M.O.**, Kapitein, L.C., Akhmanova, A.
Kinesin-4 KIF21B is a potent microtubule pausing factor.
eLife, 6:e24746 (2017).
123. Prota, A.E., Bargsten, K., Redondo, M., Smith III, A.B., Yang, C.-P.H. McDaid, H.M., Paterson, I., Horwitz, S.B., Díaz, J.F., **Steinmetz, M.O.**
Structural Basis of Microtubule Stabilization by Discodermolide.
ChemBioChem, 18, 905–909 (2017).

122. Bohnacker, T. Prota, A.E., Beaufils, F., Burke, J.E., Melone, A., Inglis, A.J., Rageot, D., Sele, A.M., Cmiljanovic, V., Cmiljanovic, N., Bargsten, K., Aher, A., Akhmanova, A., Díaz, J.F., Fabbro, D., Zvelebil, M., Williams, R.L., **Steinmetz, M.O.**, Wymann, M.P.
One Dalton change in Buparlisib defines specific PI3K and tubulin inhibitors for therapeutic intervention.
Nat. Comm., 8:14683 (2017).
121. Gaspari, R., Prota, A.E., Bargsten, K., Cavalli, A., **Steinmetz, M.O.**
Structural basis of cis- and trans-combretastatin binding to tubulin.
Chem., 2, 102–113 (2017).
120. Canela, M.-D., Noppen, S., Bueno, O., Prota, A.E., Bargsten, K., Sáez-Calvod, G., Jimeno, M.-L., Benkheil, M., Ribatti, D., Velázquez, S., Camarasa, M.-J., Díaz, F., **Steinmetz, M.O.**, Priego, E.-M., Pérez-Pérez, M.-J., Liekens, S.
Antivascular and antitumor properties of the tubulin-binding chalcone TUB091.
Oncotarget, 8, 14325-14342 (2017).

2016

119. Trigili, C., Barasoain, I., Sánchez-Murcia, P., Bargsten, K., Redondo-Horcajo, M., Nogales, A., Gardner, N., Meyer, A., Naylor, G., Gómez-Rubio, E., Gago, F., **Steinmetz, M.O.**, Paterson, I., Prota, A.E., Díaz, J.
Structural determinants of the dictyostatin chemotype for tubulin binding affinity and antitumor activity against taxane- and epothilone-resistant cancer cells.
ACS Omega, 1, 1192–1204 (2016).
118. Wieczorek, M., Tcherkezian, J., Bernier, C., Prota, A.E., Chaaban, S., Rolland, Y., Godbout, C., Hancock, M.A., Arezzo, J.C., Ocal, O., Rocha, C., Olieric, N., Hall, A., Ding, H., Bramoullé, A., Annis, M.G., Zogopoulos, G., Harran, P.G., Wilkie, T.M., Brekken, R.A., Siegel, P.M., **Steinmetz, M.O.**, Shore, G.C., Brouhard, G., Roulston, A.
The synthetic diazamide DZ 2384 has distinct effects on microtubule curvature and dynamics without neurotoxicity.
Science Transl. Med., 8, 365ra159 (2016).
117. Manatschal, C., Farcas, A.-M., Steiner Degen, M., Bayer, M., Kumar, A., Landgraf, C., Volkmer, V., Barral, Y., **Steinmetz, M.O.**
Molecular basis of Kar9-Bim1 complex function during mating and spindle positioning.
Mol. Biol. Cell, mbc.E16-07-0552 (2016).
116. Guesdon, A., Bazile, F., Buey, R.M., Mohan, R., Monier, S., Rodríguez García, R., Angevin, M., Heichette, C., Wieneke, R., Tampé, R., Duchesne, L., Akhmanova, A., **Steinmetz, M.O.***, Chrétien, D*.
EB1 interacts with outwardly curved and straight regions of the microtubule lattice: implications for the GTP-cap architecture
Nat. Cell Biol., 18, 1102-1108 (2016).
115. Waight, A.B., Bargsten, K., Doronina, S., **Steinmetz, M.O.**, Sussman, D., Prota, A.E.
Structural Basis of Microtubule Destabilization by Potent Auristatin Anti-Mitotics.
PLOS One, 11:e0160890 (2016).
114. Bianchi, S., van Riel, W.H., Kraatz, S.H.W., Olieric, N., Frey, D., Katrukha, E.A., Jaussi, R., Missimer, J., Grigoriev, I., Olieric, V., Benoit, R.M., **Steinmetz, M.O.***, Akhmanova, A.*, Kammerer, R.A.*
Structural basis for misregulation of kinesin KIF21A autoinhibition by CFEOM1 disease mutations.
Sci. Rep., 6:30668 (2016).

113. Rezabkova, L., Kraatz, S.H., Akhmanova, A., **Steinmetz, M.O.**, Kammerer RA.
Biophysical and Structural Characterization of the Centriolar Protein Cep104 Interaction Network.
J. Biol. Chem., 291, 18496-184504 (2016).
112. Prota, A.E., Setter, J., Waight, A.B., Bargsten, K., Murga, J., Diaz, J.F., **Steinmetz, M.O.**
Pironetin binds covalently to Cys316 and perturbs a major loop and helix of β -tubulin to inhibit microtubule formation.
J. Mol. Biol., 428, 2981–2988 (2016).
111. Kraatz, S., Guichard, P., Obbineni, J.M., Olieric, N., Hatzopoulos, G.N., Hilbert, M., Sen, I., Missimer, J., Gönczy, P., **Steinmetz, M.O.**
The human centriolar protein CEP135 contains a two-stranded coiled-coil domain critical for microtubule binding.
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