

## Biochemistry and Biophysics 2017 Publications

### Kevin Ahern

Ahern K. (2017) [Teaching biochemistry online at Oregon State University](#). *Biochem Mol Biol Educ*. Jan 2;45(1):25-30. doi: 10.1002/bmb.20979. Epub 2016 May 26.

### Matt Andrews

Perez de Lara Rodriguez CE, Drewes LR, Andrews MT. (2017) [Hibernation-based blood loss therapy increases survivability of lethal hemorrhagic shock in rats](#). *J Comp Physiol B*. Jul;187(5-6):769-778. doi: 10.1007/s00360-017-1076-7. Epub 2017 Mar 21.

Ballinger MA, Schwartz C, Andrews MT. (2017) [Enhanced oxidative capacity of ground squirrel brain mitochondria during hibernation](#). *Am J Physiol Regul Integr Comp Physiol*. Mar 1;312(3):R301-R310. doi: 10.1152/ajpregu.00314.2016. Epub 2017 Jan 11.

### Bill Baird

Madeen EP, Löhr CV, You H, Siddens LK, Krueger SK, Dashwood RH, Gonzalez FJ, Baird WM, Ho E, Bramer L, Waters KM, Williams DE. (2017) [Dibenzo\[def,p\]chrysene transplacental carcinogenesis in wild-type, Cyp1b1 knockout, and CYP1B1 humanized mice](#). *Mol Carcinog*. Jan;56(1):163-171. doi: 10.1002/mc.22480. Epub 2016 Mar 17.

### Elisar Barbar

Morgan JL, Jensen MR, Ozenne V, Blackledge M, Barbar E. (2017) [The LC8 Recognition Motif Preferentially Samples Polyproline II Structure in Its Free State](#). *Biochemistry*. Sep 5;56(35):4656-4666. doi: 10.1021/acs.biochem.7b00552. Epub 2017 Aug 23.

Jie J, Löhr F, Barbar E. (2017) [Dynein Binding of Competitive Regulators Dynactin and NudE Involves Novel Interplay between Phosphorylation Site and Disordered Spliced Linkers](#). *Structure*. Mar 7;25(3):421-433. doi: 10.1016/j.str.2017.01.003. Epub 2017 Feb 2.

### Joe Beckman

Trias E, Ibarburu S, Barreto-Núñez R, Varela V, Moura IC, Dubreuil P, Hermine O, Beckman JS, Barbeito L. (2017) [Evidence for mast cells contributing to neuromuscular pathology in an inherited model of ALS](#). *JCI Insight*. Oct 19;2(20). pii: 95934. doi: 10.1172/jci.insight.95934. [Epub ahead of print]

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Kim MJ, Vargas MR, Harlan BA, Killoy KM, Ball LE, Comte-Walters S, Gooz M, Yamamoto Y, **Beckman JS**, Barbeito L, Pehar M. (2017) [Nitration and Glycation Turn Mature NGF into a Toxic Factor for Motor Neurons: A Role for p75<sup>NTR</sup> and RAGE Signaling in ALS.](#) *Antioxid Redox Signal.* Jun 26. doi: 10.1089/ars.2016.6966. [Epub ahead of print]

Mukherjee S, Kapp EA, Lothian A, Roberts AM, Vasil'ev YV, Boughton BA, Barnham KJ, Kok WM, Hutton CA, Masters CL, Bush AI, **Beckman JS**, Dey SG, Roberts BR. (2017) [Characterization and Identification of Dityrosine Cross-Linked Peptides Using Tandem Mass Spectrometry.](#) *Anal Chem.* Jun 6;89(11):6136-6145. doi: 10.1021/acs.analchem.7b00941. Epub 2017 May 18.

Hilton JB, Mercer SW, Lim NK, Faux NG, Buncic G, **Beckman JS**, Roberts BR, Donnelly PS, White AR, Crouch PJ. (2017) [Cu<sup>II</sup>\(atsm\) improves the neurological phenotype and survival of SOD1<sup>G93A</sup> mice and selectively increases enzymatically active SOD1 in the spinal cord.](#) *Sci Rep.* Feb 13;7:42292. doi: 10.1038/srep42292

### Rick Cooley

Cooley **RB**, Sondermann H. (2017) [Probing Protein-Protein Interactions with Genetically Encoded Photoactivatable Cross-Linkers.](#) *Methods Mol Biol.* 1657:331-345. doi: 10.1007/978-1-4939-7240-1\_26.

O'Donnell JP, Cooley **RB**, Kelly CM, Miller K, Andersen OS, Rusinova R, Sondermann H. (2017) [Timing and Reset Mechanism of GTP Hydrolysis-Driven Conformational Changes of Atlastin.](#) *Structure.* Jul 5;25(7):997-1010.e4. doi: 10.1016/j.str.2017.05.007. Epub 2017 Jun 9.

### Alvaro Estevez

Ramdial K, Franco **MC**, Estevez AG. (2017) [Cellular mechanisms of peroxynitrite-induced neuronal death.](#) *Brain Res Bull.* Jul;133:4-11. doi: 10.1016/j.brainresbull.2017.05.008. Epub 2017 Jun 24. Review.

Rossi FH, Rossi EM, Hoffmann M, Liu W, Cruz RR, Antonovich N, Rezaei A, Gonzalez E, Franco **MC**, Estevez A, Thomas F. (2017) [Permanent Cerebellar Degeneration After Acute Hyperthermia with Non-toxic Lithium Levels: a Case Report and Review of Literature.](#) *Cerebellum.* Dec;16(5-6):973-978. doi: 10.1007/s12311-017-0868-3. Review.

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### Maria Clara Franco

- Fuse MA, Plati SK, Burns SS, Dinh CT, Bracho O, Yan D, Mittal R, Shen R, Soulakova JN, Copik AJ, Liu XZ, Telischi FF, Chang LS, **Franco MC**, Fernandez-Valle C. (2017) [Combination Therapy with c-Met and Src Inhibitors Induces Caspase-Dependent Apoptosis of Merlin-Deficient Schwann Cells and Suppresses Growth of Schwannoma Cells](#). *Mol Cancer Ther.* Nov;16(11):2387-2398. doi: 10.1158/1535-7163.MCT-17-0417. Epub 2017 Aug 3.
- Ramdial K, **Franco MC**, Estevez AG. (2017) [Cellular mechanisms of peroxynitrite-induced neuronal death](#). *Brain Res Bull.* Jul;133:4-11. doi: 10.1016/j.brainresbull.2017.05.008. Epub 2017 Jun 24. Review.
- Rossi FH, Rossi EM, Hoffmann M, Liu W, Cruz RR, Antonovich N, Rezaei A, Gonzalez E, **Franco MC**, Estevez A, Thomas F. (2017) [Permanent Cerebellar Degeneration After Acute Hyperthermia with Non-toxic Lithium Levels: a Case Report and Review of Literature](#). *Cerebellum.* Dec;16(5-6):973-978. doi: 10.1007/s12311-017-0868-3. Review.

### Balz Frei

- Blumberg JB, **Frei B**, Fulgoni VL, Weaver CM, Zeisel SH (2017) [Contribution of Dietary Supplements to Nutritional Adequacy by Socioeconomic Subgroups in Adults of the United States](#). *Nutrients.* Dec 22;10(1). pii: E4. doi: 10.3390/nu10010004.
- Blumberg JB, **Frei B**, Fulgoni VL, Weaver CM, Zeisel SH. (2017) [Contribution of Dietary Supplements to Nutritional Adequacy in Various Adult Age Groups](#). *Nutrients.* Dec 6;9(12). pii: E1325. doi: 10.3390/nu9121325.
- Blumberg JB, **Frei B**, Fulgoni VL, Weaver CM, Zeisel SH. (2017) [Contribution of Dietary Supplements to Nutritional Adequacy in Race/Ethnic Population Subgroups in the United States](#). *Nutrients.* Nov 28;9(12). pii: E1295. doi: 10.3390/nu9121295.
- Blumberg JB, Frei BB, Fulgoni VL, Weaver CM, Zeisel SH. (2017) [Impact of Frequency of Multi-Vitamin/Multi-Mineral Supplement Intake on Nutritional Adequacy and Nutrient Deficiencies in U.S. Adults](#). *Nutrients.* Aug 9;9(8). pii: E849. doi: 10.3390/nu9080849.

### Michael Freitag

- Friedman S, **Freitag M**. (2017) [Evolving Centromeres and Kinetochores](#). *Adv Genet.*;98:1-41. doi: 10.1016/bs.adgen.2017.07.001. Epub 2017 Sep 1.

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- Tisch D, Pomraning KR, Collett JR, **Freitag M**, Baker SE, Chen CL, Hsu PW, Chuang YC, Schuster A, Dattenböck C, Stappler E, Sulyok M, Böhmendorfer S, Oberlerchner J, Wang TF, Schmoll M. (2017) [Omics Analyses of \*Trichoderma reesei\* CBS999.97 and QM6a Indicate the Relevance of Female Fertility to Carbohydrate-Active Enzyme and Transporter Levels.](#) *Appl Environ Microbiol.* Oct 31;83(22). pii: e01578-17. doi: 10.1128/AEM.01578-17. Print 2017 Nov 15.
- Friedman S, **Freitag M**. (2017) [Centrochromatin of Fungi.](#) *Prog Mol Subcell Biol.*;56:85-109. doi: 10.1007/978-3-319-58592-5\_4.
- Erlendson AA, Friedman S, **Freitag M**. (2017) [A Matter of Scale and Dimensions: Chromatin of Chromosome Landmarks in the Fungi.](#) *Microbiol Spectr.* Jul;5(4). doi: 10.1128/microbiolspec.FUNK-0054-2017.
- Freitag M**. (2017) [Histone Methylation by SET Domain Proteins in Fungi.](#) *Annu Rev Microbiol.* Sep 8;71:413-439. doi: 10.1146/annurev-micro-102215-095757. Epub 2017 Jul 17.
- Ivanov IP, Wei J, Caster SZ, Smith KM, Michel AM, Zhang Y, Firth AE, **Freitag M**, Dunlap JC, Bell-Pedersen D, Atkins JF, Sachs MS. (2017) [Translation Initiation from Conserved Non-AUG Codons Provides Additional Layers of Regulation and Coding Capacity.](#) *MBio.* Jun 27;8(3). pii: e00844-17. doi: 10.1128/mBio.00844-17.
- Boenisch MJ, Broz KL, Purvine SO, Chrisler WB, Nicora CD, Connolly LR, **Freitag M**, Baker SE, Kistler HC. (2017) [Structural reorganization of the fungal endoplasmic reticulum upon induction of mycotoxin biosynthesis.](#) *Sci Rep.* Mar 13;7:44296. doi: 10.1038/srep44296.
- Qi Z, Smith KM, Bredeweg EL, Bosnjak N, **Freitag M**, Nargang FE. (2017) [Alternative Oxidase Transcription Factors AOD2 and AOD5 of \*Neurospora crassa\* Control the Expression of Genes Involved in Energy Production and Metabolism.](#) *G3 (Bethesda).* Feb 9;7(2):449-466. doi: 10.1534/g3.116.035402.
- Dekhang R, Wu C, Smith KM, Lamb TM, Peterson M, Bredeweg EL, Ibarra O, Emerson JM, Karunaratna N, Lyubetskaya A, Azizi E, Hurley JM, Dunlap JC, Galagan JE, **Freitag M**, Sachs MS, Bell-Pedersen D. (2017) [The \*Neurospora\* Transcription Factor ADV-1 Transduces Light Signals and Temporal Information to Control Rhythmic Expression of Genes Involved in Cell Fusion.](#) *G3 (Bethesda).* Jan 5;7(1):129-142. doi: 10.1534/g3.116.034298.
- Zhou M, Wu S, Stenoiien DL, Zhang Z, Connolly L, **Freitag M**, Paša-Tolić L. (2017) [Profiling Changes in Histone Post-translational Modifications by Top-Down Mass Spectrometry.](#) *Methods Mol Biol.*;1507:153-168.

## Biochemistry and Biophysics 2017 Publications

### Fritz Gombart

Jiang J, Chen S, Wang H, Carlson MA, **Gombart AF**, Xie J. (2017) [CO<sub>2</sub>-expanded nanofiber scaffolds maintain activity of encapsulated bioactive materials and promote cellular infiltration and positive host response](#). *Acta Biomater.* Dec 19. pii: S1742-7061(17)30784-5. doi: 10.1016/j.actbio.2017.12.018. [Epub ahead of print]

Ellinwood DC, El-Mansy MF, Plagmann LS, Stevens JF, Maier CS, **Gombart AF**, Blakemore PR. (2017) [Total synthesis of \[<sup>13</sup>C\]<sub>2</sub>-, \[<sup>13</sup>C\]<sub>3</sub>-, and \[<sup>13</sup>C\]<sub>5</sub>-isotopomers of xanthohumol, the principal prenylflavonoid from hops](#). *J Labelled Comp Radiopharm.* Dec;60(14):639-648. doi: 10.1002/jlcr.3571. Epub 2017 Nov 20.

Chen S, Ge L, **Gombart AF**, Shuler FD, Carlson MA, Reilly DA, Xie J. (2017) [Nanofiber-based sutures induce endogenous antimicrobial peptide](#). *Nanomedicine (Lond)*. Nov;12(21):2597-2609. doi: 10.2217/nmm-2017-0161. Epub 2017 Sep 29.

Chen S, Liu B, Carlson MA, **Gombart AF**, Reilly DA, Xie J. (2017) [Recent advances in electrospun nanofibers for wound healing](#). *Nanomedicine (Lond)*. Jun;12(11):1335-1352. doi: 10.2217/nmm-2017-0017. Epub 2017 May 18. Review.

### David Hendrix

Li S, Teegarden A, Bauer EM, Choi J, Messaddeq N, **Hendrix DA**, Ganguli-Indra G, Leid M, Indra AK. (2017) [Transcription Factor CTIP1/ BCL11A Regulates Epidermal Differentiation and Lipid Metabolism During Skin Development](#). *Sci Rep.* Oct 18;7(1):13427. doi: 10.1038/s41598-017-13347-7.

Garcia GR, Goodale BC, Wiley MW, La Du JK, **Hendrix DA**, Tanguay RL. (2017) [In Vivo Characterization of an AHR-Dependent Long Noncoding RNA Required for Proper Sox9b Expression](#). *Mol Pharmacol.* Jun;91(6):609-619. doi: 10.1124/mol.117.108233. Epub 2017 Apr 6.

Kuintzle RC, Chow ES, Westby TN, Gvakharia BO, Giebultowicz JM, **Hendrix DA**. (2017) [Circadian deep sequencing reveals stress-response genes that adopt robust rhythmic expression during aging](#). *Nat Commun.* Feb 21;8:14529. doi: 10.1038/ncomms14529.

Beaver LM, Kuintzle R, Buchanan A, Wiley MW, Glasser ST, Wong CP, Johnson GS, Chang JH, Löhr CV, Williams DE, Dashwood RH, **Hendrix DA**, Ho E. (2017) [Long noncoding RNAs and sulforaphane: a target for chemoprevention and suppression of prostate cancer](#). *J Nutr Biochem.* Apr;42:72-83. doi: 10.1016/j.jnutbio.2017.01.001. Epub 2017 Jan 12.

Danaee P, Ghaeini R, **Hendrix DA**. (2017) [A DEEP LEARNING APPROACH FOR CANCER DETECTION AND RELEVANT GENE IDENTIFICATION](#). *Pac Symp Biocomput.* ;22:219-229. doi: 10.1142/9789813207813\_0022.

## Biochemistry and Biophysics 2017 Publications

### Pat Iversen

Annalora AJ, Marcus CB, **Iversen PL**. (2017) [Alternative Splicing in the Cytochrome P450 Superfamily Expands Protein Diversity to Augment Gene Function and Redirect Human Drug Metabolism](#). *Drug Metab Dispos.* Apr;45(4):375-389. doi: 10.1124/dmd.116.073254. Epub 2017 Feb 10. Review.

### Colin Johnson

**Johnson CP**. (2017) [Emerging Functional Differences between the Synaptotagmin and Ferlin Calcium Sensor Families](#). *Biochemistry.* Dec 12;56(49):6413-6417. doi: 10.1021/acs.biochem.7b00928. Epub 2017 Nov 29.

Hams N, Padmanarayana M, Qiu W, **Johnson CP**. (2017) [Otoferlin is a multivalent calcium-sensitive scaffold linking SNAREs and calcium channels](#). *Proc Natl Acad Sci U S A.* Jul 25;114(30):8023-8028. doi: 10.1073/pnas.1703240114. Epub 2017 Jul 10.

### Andy Karplus

Kean KM, Carpenter RA, Pandini V, Zanetti G, Hall AR, Faber R, Aliverti A, **Karplus PA**. (2017) [High-resolution studies of hydride transfer in the ferredoxin:NADP<sup>+</sup> reductase superfamily](#). *FEBS J.* Oct;284(19):3302-3319. doi: 10.1111/febs.14190. Epub 2017 Aug 29.

Osborn AR, Kean KM, **Karplus PA**, Mahmud T. (2017) [The sedoheptulose 7-phosphate cyclases and their emerging roles in biology and ecology](#). *Nat Prod Rep.* Aug 2;34(8):945-956. doi: 10.1039/c7np00017k. Review.

Nelson KJ, Perkins A, Van Swearingen AED, Hartman S, Brereton AE, Parsonage D, Salsbury FR Jr, **Karplus PA**, Poole LB. (2017) [Experimentally Dissecting the Origins of Peroxiredoxin Catalysis](#). *Antioxid Redox Signal.* Apr 4. doi: 10.1089/ars.2016.6922. [Epub ahead of print]

Osborn AR, Kean KM, Alseud KM, Almabruk KH, Asamizu S, Lee JA, **Karplus PA**, Mahmud T. (2017) [Evolution and Distribution of C<sub>7</sub>-Cyclitol Synthases in Prokaryotes and Eukaryotes](#). *ACS Chem Biol.* Apr 21;12(4):979-988. doi: 10.1021/acschembio.7b00066. Epub 2017 Feb 17.

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### Chris Mathews

Mathews CK. (2017) [Oxidized deoxyribonucleotides, mutagenesis, and cancer](#). *FASEB J.* Jan;31(1):11-13. doi: 10.1096/fj.201601100. Epub 2016 Oct 11.

### Ryan Mehl

Pokhrel N, Origanti S, Davenport EP, Gandhi D, Kaniecki K, Mehl RA, Greene EC, Dockendorff C, Antony E. (2017) [Monitoring Replication Protein A \(RPA\) dynamics in homologous recombination through site-specific incorporation of non-canonical amino acids](#). *Nucleic Acids Res.* Sep 19;45(16):9413-9426. doi: 10.1093/nar/gkx598.

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Sungwienwong I, Hostetler ZM, Blizzard RJ, Porter JJ, Driggers CM, Mbengi LZ, Villegas JA, Speight LC, Saven JG, Perona JJ, Kohli RM, Mehl RA, Petersson EJ. (2017) [Improving target amino acid selectivity in a permissive aminoacyl tRNA synthetase through counter-selection](#). *Org Biomol Chem.* May 3;15(17):3603-3610. doi: 10.1039/c7ob00582b.

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### Viviana Perez

Maciel-Barón LÁ, Pérez VI, Torres C, González-Puertos VY, Konigsberg M, López-Diazguerrero NE. (2017) [\[Cellular senescence as a common denominator in age-related diseases\]](#). *Rev Med Inst Mex Seguro Soc.* Jul-Aug;55(4):490-497. Spanish.

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Wang R, Yu Z, Sunchu B, Shoaf J, Dang I, Zhao S, Caples K, Bradley L, Beaver LM, Ho E, Löhr CV, **Perez VI**. (2017) [Rapamycin inhibits the secretory phenotype of senescent cells by a Nrf2-independent mechanism](#). *Aging Cell*. Jun;16(3):564-574. doi: 10.1111/accel.12587. Epub 2017 Mar 31.

Wang R, Sunchu B, **Perez VI**. (2017) [Rapamycin and the inhibition of the secretory phenotype](#). *Exp Gerontol*. Aug;94:89-92. doi: 10.1016/j.exger.2017.01.026. Epub 2017 Feb 4.