

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]

Biochemistry and Biophysics 2017 Publications

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^{NTR} 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^{II}\(atsm\) improves the neurological phenotype and survival of SOD1^{G93A} 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.

Biochemistry and Biophysics 2017 Publications

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 Iii 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.

Biochemistry and Biophysics 2017 Publications

- 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) [CO₂-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 \[¹³C\]₂-, \[¹³C\]₃-, and \[¹³C\]₅-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.

Julie Greenwood

Gamble J, Tanguay R, Greenwood JA (2017) 4D Quantitative Image Analysis of Cancer Cell Invasion in a Brain Microenvironment Using ImageJ Software. *Microsc. Microanal.* Aug; 23(SI), 1182-1183.

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.

Biochemistry and Biophysics 2017 Publications

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.

Sall, K., Hendrix, D., Sekine, T., Katsuragawa, Y., Koyari, R. and Nonogaki, H., 2017. [Transcriptomics of nine-cis-epoxycarotenoid dioxygenase 6 induction in imbibed seeds reveals feedback mechanisms and long non-coding RNAs](#). *Seed Science Research*, 27(4), pp.251-261.

Henning, J., Hill, S., Darby, P. and Hendrix, D., 2017. [QTL examination of a bi-parental mapping population segregating for “short-stature” in hop \(*Humulus lupulus* L.\)](#). *Euphytica*, 213(3), p.77.

Henning, J.A., Gent, D.H., Townsend, M.S., Woods, J.L., Hill, S.T. and Hendrix, D., 2017. [QTL analysis of resistance to powdery mildew in hop \(*Humulus lupulus* L.\)](#). *Euphytica*, 213(4), p.98.

Hill, S.T., Sudarsanam, R., Henning, J. and Hendrix, D., 2017. [HopBase: a unified resource for *Humulus* genomics](#). *Database*, 2017(1).

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.

Biochemistry and Biophysics 2017 Publications

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⁺ 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 C₇-Cyclitol Synthases in Prokaryotes and Eukaryotes](#). *ACS Chem Biol.* Apr 21;12(4):979-988. doi: 10.1021/acscchembio.7b00066. Epub 2017 Feb 17.

Popchock AR, Tseng KF, Wang P, **Karplus PA**, Xiang X, Qiu W. (2017) [The mitotic kinesin-14 KlpA contains a context-dependent directionality switch](#). *Nat Commun.* Jan 4;8:13999. doi: 10.1038/ncomms13999.

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.

Mathews CK. (2017) "Book Review: Junk DNA: A Journey through the Dark Matter of the Genome" Published Online:11 Oct 2017 <https://doi.org/10.1096/fj.201700951>

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.

Biochemistry and Biophysics 2017 Publications

- Alghamdi M, Zhang J, Oswalt A, Porter JJ, **Mehl RA**, Kong W. (2017) [Doping of Green Fluorescent Protein into Superfluid Helium Droplets: Size and Velocity of Doped Droplets](#). *J Phys Chem A*. Sep 14;121(36):6671-6678. doi: 10.1021/acs.jpca.7b05718. Epub 2017 Aug 31.
- Lambert WD, Scinto SL, Dmitrenko O, Boyd SJ, Magboo R, **Mehl RA**, Chin JW, Fox JM, Wallace S. (2017) [Computationally guided discovery of a reactive, hydrophilic trans-5-oxocene dienophile for bioorthogonal labeling](#). *Org Biomol Chem*. Aug 9;15(31):6640-6644. doi: 10.1039/c7ob01707c. Correction in *Org Biomol Chem*. 15(35):7476.
- Row RD, Shih HW, Alexander AT, **Mehl RA**, Prescher JA. (2017) [Cyclopropenones for Metabolic Targeting and Sequential Bioorthogonal Labeling](#). *J Am Chem Soc*. May 31;139(21):7370-7375. doi: 10.1021/jacs.7b03010. Epub 2017 May 17.
- 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.
- Scholfield MR, Ford MC, Carlsson AC, Butta H, **Mehl RA**, Ho PS. (2017) [Structure-Energy Relationships of Halogen Bonds in Proteins](#). *Biochemistry*. Jun 6;56(22):2794-2802. doi: 10.1021/acs.biochem.7b00022. Epub 2017 Apr 22.

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.
- 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.