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POSITIONS AND EMPLOYMENT

ASSISTANT MEMBER

CELL BIOLOGY PROGRAM - SLOAN KETTERING INSTITUTE,
MEMORIAL SLOAN KETTERING CANCER CENTER

January 2021 – Current
New York, U.S.A

ASSISTANT PROFESSOR

CELL AND DEVELOPMENTAL BIOLOGY PROGRAM - WEILL CORNELL MEDICAL COLLEGE,
CORNELL UNIVERSITY

January 2021 – Current
New York, U.S.A

ASSISTANT PROFESSOR

GERSTNER SLOAN KETTERING (GSK) GRADUATE SCHOOL OF BIOMEDICAL SCIENCES,
MEMORIAL SLOAN KETTERING CANCER CENTER

January 2021 – Current
New York, U.S.A

TRAINING

POST-DOCTORAL RESEARCH SCIENTIST

DEPARTMENT OF CELL BIOLOGY – HARVARD MEDICAL SCHOOL
Supervisor: Professor J. Wade Harper

November 2012 – December 2020
Boston, U.S.A

POST-DOCTORAL RESEARCH SCIENTIST

MEDICAL RESEARCH COUNCIL PROTEIN PHOSPHORYLATION UNIT - UNIVERSITY OF DUNDEE
Supervisor: Professor Sir Philip Cohen, FRS, FRSE, FMedSci, FAA

October 2011 – October 2012
Dundee, U.K.

PH.D. STUDENT

MEDICAL RESEARCH COUNCIL PROTEIN PHOSPHORYLATION UNIT - UNIVERSITY OF DUNDEE
Supervisor: Professor Sir Philip Cohen, FRS, FRSE, FMedSci, FAA

January 2007 – September 2011
Dundee, U.K.

EDUCATION

Ph.D., Biochemistry and Biomedical Sciences

UNIVERSITY OF DUNDEE – MRC-PPU

Thesis: An investigation of the role of E3 ubiquitin ligases in regulating innate immunity.

January 2007 – October 2011
Dundee, United Kingdom

Master (M.S.) of Biology Biotechnology and Therapeutic Research

FACULTY OF SCIENCES AND TECHNOLOGIES – UNIVERSITY OF NANTES

September 2004 – May 2006
Nantes, France

Licence (B.S.) of Pharmacology and Physiology

FACULTY OF SCIENCES AND TECHNOLOGIES – UNIVERSITY OF NANTES

September 2002 – May 2004
Nantes, France

FELLOWSHIPS AND AWARDS

Honors: - Pew Biomedical Scholars, The Pew Charitable Trusts (2022)

- Kathryn W. Davis Aging Brain Scholars (2022).

Fellowship: - Medical Research Council Four-Year Ph.D. Studentship (2007 - 2010)

- Edward R. and Anne G. Lefler Center Postdoctoral Fellowship (2015 - 2017)

COMPLETE PUBLICATION LIST (53) - AS OF JUNE 2024

- Sinha, N.K., McKenney, C., Yeow, Z.Y.*, Li, J.J.*, Nam, K.H.*, Yaron-Barir, T.M., Johnson, J.L., Huntsman, E.M., Cantley, L.C., **Ordureau, A.**[†], Regot, S.[†], Green, R.[†]. (2024) The ribotoxic stress response drives UV-mediated cell death. *Cell*, in press ([†]Co-Corresponding Author)
- Yi, S.A., Sepic, S., Schulman, B.A., **Ordureau, A.**, An, H. (2024) mTORC1-CTLH E3 Ligase Regulates the Degradation of HMG-CoA Synthase 1 through the Pro/N-Degron Pathway. *Mol Cell*, 20:S1097-2765(24)00393-9.
- Nam, K.H., **Ordureau, A.** (2024) How does the neuronal proteome respond to nutrient stress? *Biochemical Society Transactions*. 52(2), 581-592.
- Paul, S., Sarraf, S.A., Nam, K.H., Zavar, L., DeFoor, N., Biswas, S.R., Fritsch, L.E., Yaron, T.M., Johnson, J.L., Huntsman, E.M., Cantley, L.C., **Ordureau, A.**, Pickrell, A.M. (2024) NAK-associated protein 1/NAP1 activates TBK1 to ensure accurate mitosis and cytokinesis. *J Cell Biol* 223(2):e202303082.
- DaRosa, P.A., Penchev, I., Gumbin, S.C., Scavone, F., Wąchalska, M., Paulo, J.A., **Ordureau, A.**, Peter, J.J., Kulathu, Y., Harper, J.W., Becker, T., Beckmann, R., Kopito, R.R. (2024) UFM1 E3 ligase promotes recycling of 60S ribosomal subunits from the ER. *Nature* 627(8003):445-452.
- Watts, M.E., Giadone, R.M., **Ordureau, A.**, Holton, K.M., Harper, J.W., Rubin, L.L. (2024) Analyzing the ER stress response in ALS patient-derived motor neurons identifies druggable neuroprotective targets. *Front. Cell. Neurosci.* 17, 1327361
- Morrone Parfitt, G., Coccia, E., Goldman, C., Whitney, K., Reyes, R., Sarrafha, L., Nam, K.H., Sohail, S., Jones, D.R., Crary, J.F., **Ordureau, A.**, Blanchard, J., Ahfeldt, T. (2024) Disruption of lysosomal proteolysis in astrocytes facilitates midbrain organoid proteostasis failure in an early-onset Parkinson's disease model. *Nat Communication*. 15(1):447
- Park, H.M., Le, L., Nguyen, T.T., Nam, K.H., **Ordureau, A.**, Lee, J.E., Nguyen, T.V. (2023) The CRL3^{gigaxonin} ubiquitin ligase-USP15 pathway governs the destruction of neurofilament proteins. *Proc Natl Acad Sci USA*. 120(45):e2306395120.
- Yang, N., Wang, Y., Dai, P., Li, T., Zierhut, C., Tan, A., Zhang, T., Xiang, J.Z., **Ordureau, A.**, Funabiki, H., Chen, Z., Deng, L., (2023) Vaccinia E5 is a major inhibitor of the DNA sensor cGAS. *Nature Communication*. 14 (1), 2898
- Jordan, V.N., **Ordureau, A.**, An H. (2023) Identifying E3 Ligase Substrates with Quantitative Degradation Proteomics. *ChemBioChem*. e202300108.
- Fiesel, F.C., Fričová, D., Hayes, C.S., Coban, M.A., Hudec, R., Bredenberg, J.M., Broadway, B.J., Markham, B.N., Yan, T., Boneski, P.K., Fiorino, G., Watzlawik, J.O., Hou, X., McCarty, A.M., Lewis-Tuffin, L.J., Zhong, J., Madden, B.J., **Ordureau, A.**, An, H., Puschmann, A., Wszolek, Z.K., Ross, O.A., Harper, J.W., Caulfield, T.R., Springer, W. (2023) Substitution of PINK1 Gly411 modulates substrate receptivity and turnover. *Autophagy*. 19 (6), 1711-1732.
- Nam, K.H, **Ordureau, A.** (2022) Quantitative proteome remodeling characterization of two human reference pluripotent stem cell lines during neurogenesis and cardiomyogenesis. *Proteomics*. 22 (19-20), 2100246.
- Goldsmith, J., **Ordureau, A.**, Harper, J.W., Holzbaur, E.L.F. (2022) Brain-derived autophagosome profiling reveals the engulfment of nucleoid-enriched mitochondrial fragments by basal autophagy in neurons. *Neuron*. 110(6):967-976.e8.
- Welsh, K.A., Bolhuis, D.L., Nederstigt, A.E., Boyer, J., Temple, B.R.S., Bonacci, T., Gu, L., **Ordureau, A.**, Harper, J.W., Steimel, J.P., Zhang, Q., Emanuele, M.J., Harrison, J.S., Brown, N.G. (2021) Functional conservation and divergence of the helix-turn-helix motif of E2 ubiquitin-conjugating enzymes. *EMBO Journal*. 41(3):e108823.
- **Ordureau, A.**[†], Kraus, F., Zhang, J., An, H., Park, S., Ahfeldt, T., Paulo, J.A., Harper, J.W. [†] (2021) Temporal Proteomics During Neurogenesis Reveals Large-scale Proteome and Organelle Remodeling via Selective Autophagy. *Molecular Cell*. 81(24):5082-5098.
 - *Commentary*: Lazarou, M. (2021). Programmed autophagy prevents excess organelle baggage during neurogenesis. *Mol. Cell*, 81(24):4960-4961.
- Antico, O.*, **Ordureau, A.***, Stevens, M., Singh, F., Nirujogi, R.S., Gierlinski, M., Barini, E., Rickwood, M.L., Prescott, A., Toth, R., Ganley, I.G., Harper, J.W., Muqit, M.M.K. (2021) Global ubiquitylation analysis of mitochondria in primary neurons identifies endogenous Parkin targets following activation of PINK1. *Science Advances*. 7(46):eabj0722.
- **Ordureau, A.**, Yu, Q., Bomgarden, R.D., Rogers, J.C., Harper, J.W., Gygi, S.P., Paulo, J.A. (2021) Super Heavy TMTpro Labeling Reagent: An Alternative and Higher-Charge-State-Amenable Stable-Isotope-Labeled TMTpro Variant. *J Proteome Research*. 20(5): 009-3013.
- Najafov, A., Luu, H.S., Mookhtiar, A.K., Mifflin, L., Xia, H.G., Amin, P.P., **Ordureau, A.**, Wang, H., Yuan, J. (2021) RIPK1 Promotes Energy Sensing by the mTORC1 Pathway. *Molecular Cell*. 2021 81(2):370-385
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- Sinha, N.K.*, **Ordureau, A.***, Best, K.M.*, Saba, J.A., Zinshteyn, B., Sundaramoorthy, E., Fulzele, A., Garshott, D.M., Denk, T., Thoms, M., Paulo, J.A., Harper, J.W., Bennett, E.J., Beckmann, R., Green, R. (2020) EDF1 coordinates cellular responses to ribosome collisions. *eLife* 9, e58828

- An, H.*, **Ordureau, A.***, Korner, M., Paulo, J.A., Harper, J.W. (2020) Systematic Quantitative Analysis of Ribosome Inventory During Nutrient Stress. *Nature*, 583(7815), 303-309
- Martinez-Chacin, R.C., Bodrug, T., Bolhuis, D.L., Kedziora, K.M., Bonacci, T., **Ordureau, A.**, Gibbs, M.E., Weissmann, F., Qiao, R., Grant, G.D., Cook, J.G., Peters, J.-M., Harper, J.W., Emanuele, M.J., Brown, N.G. (2020) Ubiquitin chain elongating E2 UBE2S activates the RING E3 APC/C for substrate priming with UBE2C. *Nature Structural & Molecular Biology*, 27(6):550-560.
- **Ordureau, A.**, Paulo, J.A., Zhang, J., An, H., Swatek, K.N., Cannon, J.R., Wan, Q., Komander, D., Harper J.W. (2020) Global landscape and dynamics of Parkin and USP30-dependent ubiquitylomes in iNeurons during mitophagic signaling. *Molecular Cell*. 77(5):1124-1142.
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- Jacoupy, M., Hamon-Keromen, E., **Ordureau, A.**, Erpapazoglou, Z., Coge, F., Corvol, J.-C., Nosjean, O., Mannoury La Cour, C., Millan, M. J., Boutin, J. A., Harper, J. W., Brice, A., Guedin, D., Gautier, C. A., Corti, O. (2019) The PINK1 kinase-driven ubiquitin ligase Parkin promotes mitochondrial protein import through the presequence pathway in living cells. *Scientific Reports*. 9(1):11829
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- Najafov, A., Mookhtiar, A.K., Luu, H.S., **Ordureau, A.**, Pan, H., Amin, P.P., Li, Y., Lu, Q., Yuan, J. (2019) TAM Kinases Promote Necroptosis by Regulating Oligomerization of MLKL. *Molecular Cell*. 75(3):457-468
- An, H., **Ordureau, A.**, Paulo, J.A., Shoemaker, C.J., Denic, V., Harper, J.W. (2019) TEX264 is an ER-resident ATG8-interacting protein critical for endoplasmic reticulum remodeling during nutrient stress. *Molecular Cell*. 74(5):891-908.
 - Featured in a Spotlight of Trends in Biochemical Science as well as Editor's Corner of Autophagy
- Heo, J.M., **Ordureau, A.**, Swarup, S., Paulo, J.A., Shen, K., Sabatini, D.M., Harper, J.W. (2018) RAB7A phosphorylation by TBK1 promotes mitophagy via the PINK-PARKIN pathway. *Science Advances*. Nov 21;4(11)
- **Ordureau, A.**, Paulo, J.A., Zhang, W., Ahfeldt, T., Zhang, J., Cohn, E.F., Hou, Z., Heo, J.M., Rubin, L.L., Sidhu, S.S., Gygi, S.P., Harper, J.W. (2018) Dynamics of PARKIN-Dependent Mitochondrial Ubiquitylation in Induced Neurons and Model Systems Revealed by Digital Snapshot Proteomics. *Molecular Cell*. 70(2) 211-227
- Harper, J.W., **Ordureau, A.**, Heo, J.M. (2018) Building and decoding ubiquitin chains for mitophagy. *Nat Rev Mol Cell Biol*. 19(2):93-108
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- Heo, J.H., **Ordureau, A.**, Paulo, J.A., Rinehart, J., and Harper, J.W. (2015) The PINK1-PARKIN Mitochondrial Ubiquitylation Pathway Drives a Program of OPTN/NDP52 Recruitment and TBK1 Activation to Promote Mitophagy. *Molecular Cell* 60, 7–20.
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 - **Ordureau, A.**, Munch, C., and Harper, J.W. (2015). Quantifying ubiquitin signaling. *Molecular Cell* 58, 660-676.
 - **Ordureau, A.**, Heo, J.M., Duda, D.M., Paulo, J.A., Olszewski, J.L., Yanishevski, D., Rinehart, J., Schulman, B.A., and Harper, J.W. (2015). Defining roles of PARKIN and ubiquitin phosphorylation by PINK1 in mitochondrial quality control using a ubiquitin replacement strategy. *Proc Natl Acad Sci USA* 112, 6637-6642.
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 - *Commentary:* Stolz, A., & Dikic, I. (2014). PINK1-PARKIN interplay: down to ubiquitin phosphorylation. *Mol. Cell*, 56(3), 341-342.
 - **Ordureau, A.**, and Harper, J.W. (2014). Cell biology: balancing act. *Nature* 510, 347-348.
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 - **Ordureau, A.**, Enesa, K., Nanda, S., Le Francois, B., Peggie, M., Prescott, A., Albert, P.R., and Cohen, P. (2013). DEAF1 is a Pellino1-interacting protein required for interferon production by Sendai virus and double-stranded RNA. *J Biol Chem* 288, 24569-24580.
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 Full bibliography with article citations: [Alban Ordureau](#)