

CURRICULUM VITAE

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EDUCATION

- 2020 Ph.D., Sackler Institute of Biomedical Science, New York University School of Medicine
- 2008 B.S. in Biology, SUNY Farmingdale, Department of Biology

ACADEMIC APPOINTMENTS

- 2022 – Present **Assistant Professor**, The Jackson Laboratory for Genomics Medicine

RESEARCH EXPERIENCE

- 2020 – 2022 **Postdoctoral Fellow**, Memorial Sloan Kettering Cancer Center
Principal investigator: Omar Abdel-Wahab, M.D.
- 2015 – 2020 **Graduate student**, New York University School of Medicine
Principal investigator: Iannis Aifantis, Ph.D.
- 2008 – 2015 **Laboratory Technician**, Cold Spring Harbor Laboratory
Principal investigator: Christopher R. Vakoc, M.D./Ph.D.

PUBLICATIONS

*Equal contribution

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1. Witkowski MT^{*,#}, Lee S^{*}, **Wang E**^{*}, Lee A.K, Talbot A, Tsooulidis N, Brumbaugh J, Hogg S.J, Nomikou S, Ghebrechristos Y, Thandapani P, Hochedlinger K, Abdel-Wahab O, Eyquem J, Aifantis I[#]. Transcriptional regulation of CD19 antigen abundance in B-cell malignancy. **Nature Immunology (Accepted)**. 2022.
2. Yeaton A, Cayanan G, Loghavi S, Dolgalev I, Leddin EM, Loo C, Torabifard H, Nicolet D, Wang J, Corrigan K, Paraskevopoulou V, **Wang E**, Abdel-Wahab O, Stone RM, Byrd JC, Guryanova OA, Kohli R, Cisneros GA, Tsirigos A, Eisfeld AK, Aifantis I, Guillaumot M. The impact of inflammation-induced tumor plasticity during myeloid transformation. **Cancer Discovery (Accepted)**. 2022.
3. Chen S, Vedula RS, Cuevas-Navarro A, Lu B, Hogg SJ, **Wang E**, Benbarche S, Knorr K, Kim WJ, Stanley RF, Cho H, Erickson C, Singer M, Cui D, Tittley S, Durham BH, Pavletich TS, Fiala E, Walsh MF, Inoue D, Monette S, Taylor J, Rosen N, McCormick F, Lindsley RC, Castel P, Abdel-Wahab O. Impaired proteolysis of non-canonical RAS proteins drives clonal hematopoietic transformation. **Cancer Discov**. 2022 Jul 29;CD-21-1631. doi: 10.1158/2159-8290.CD-21-1631. Epub ahead of print. PMID: 35904492.
4. **Wang E**^{*}, Mi X^{*}, Thompson MC^{*}, Montoya S, Notti RQ, Afaghani J, Durham BH, Penson A, Witkowski MT, Lu SX, Bourcier J, Hogg SJ, Erickson C, Cui D, Cho H, Singer M, Totiger TM, Chaudhry S, Geyer M, Alencar A, Linley AJ, Palomba ML, Coombs CC, Park JH, Zelenetz A, Roeker L, Rosendahl M, Tsai DE, Ebata K, Brandhuber B, Hyman DM, Aifantis I, Mato A, Taylor J, Abdel-Wahab O. Mechanisms of Resistance to Noncovalent Bruton's Tyrosine Kinase Inhibitors. **N Engl J Med**. 2022;386(8):735-43. Epub 2022/02/24. doi: 10.1056/NEJMoa2114110. PubMed PMID: 35196427.

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5. Thandapani P, Kloetgen A, Witkowski MT, Glytsou C, Lee AK, **Wang E**, Wang J, LeBoeuf SE, Avrampou K, Papagiannakopoulos T, Tsirigos A, Aifantis I. Valine tRNA levels and availability regulate complex I assembly in leukaemia. **Nature**. 2022;601(7893):428-33. Epub 2021/12/24. doi: 10.1038/s41586-021-04244-1. PubMed PMID: 34937946.
6. Lu SX, De Neef E, Thomas JD, Sabio E, Rousseau B, Gigoux M, Knorr DA, Greenbaum B, Elhanati Y, Hogg SJ, Chow A, Ghosh A, Xie A, Zamarin D, Cui D, Erickson C, Singer M, Cho H, **Wang E**, Lu B, Durham BH, Shah H, Chowell D, Gabel AM, Shen Y, Liu J, Jin J, Rhodes MC, Taylor RE, Molina H, Wolchok JD, Merghoub T, Diaz LA, Jr., Abdel-Wahab O, Bradley RK. Pharmacologic modulation of RNA splicing enhances anti-tumor immunity. **Cell**. 2021;184(15):4032-47 e31. Epub 2021/06/26. doi: 10.1016/j.cell.2021.05.038. PubMed PMID: 34171309; PMCID: PMC8684350.
7. Inoue D, Polaski JT, Taylor J, Castel P, Chen S, Kobayashi S, Hogg SJ, Hayashi Y, Pineda JMB, El Marabti E, Erickson C, Knorr K, Fukumoto M, Yamazaki H, Tanaka A, Fukui C, Lu SX, Durham BH, Liu B, **Wang E**, Mehta S, Zakheim D, Garippa R, Penson A, Chew GL, McCormick F, Bradley RK, Abdel-Wahab O. Minor intron retention drives clonal hematopoietic disorders and diverse cancer predisposition. **Nat Genet**. 2021;53(5):707-18. Epub 2021/04/14. doi: 10.1038/s41588-021-00828-9. PubMed PMID: 33846634; PMCID: PMC8177065.
8. **Wang E**[#], Zhou H, Nadorp B, Cayan G, Chen X, Yeaton AH, Nomikou S, Witkowski MT, Narang S, Kloetgen A, Thandapani P, Ravn-Boess N, Tsirigos A, Aifantis I[#]. Surface antigen-guided CRISPR screens identify regulators of myeloid leukemia differentiation. **Cell Stem Cell**. 2021. Epub 2021/01/16. doi: 10.1016/j.stem.2020.12.005. PubMed PMID: 33450187.
9. **Wang E**[#], Aifantis I. RNA Splicing and Cancer. **Trends Cancer**. 2020;6(8):631-44. Epub 2020/05/22. doi: 10.1016/j.trecan.2020.04.011. PubMed PMID: 32434734.
10. Zhou Y, Han C, **Wang E**, Lorch AH, Serafin V, Cho BK, Gutierrez Diaz BT, Calvo J, Fang C, Khodadadi-Jamayran A, Tabaglio T, Marier C, Kuchmiy A, Sun L, Yacu G, Filip SK, Jin Q, Takahashi YH, Amici DR, Rendleman EJ, Rawat R, Bresolin S, Paganin M, Zhang C, Li H, Kandela I, Politanska Y, Abdala-Valencia H, Mendillo ML, Zhu P, Palhais B, Van Vlierberghe P, Taghon T, Aifantis I, Goo YA, Guccione E, Heguy A, Tsirigos A, Wee KB, Mishra RK, Pflumio F, Accordi B, Basso G, Ntziachristos P. Posttranslational Regulation of the Exon Skipping Machinery Controls Aberrant Splicing in Leukemia. **Cancer Discov**. 2020;10(9):1388-409. Epub 2020/05/24. doi: 10.1158/2159-8290.CD-19-1436. PubMed PMID: 32444465; PMCID: PMC7483384.
11. Papaioannou D, Petri A, Dovey OM, Terreri S, **Wang E**, Collins FA, Woodward LA, Walker AE, Nicolet D, Pepe F, Kumchala P, Bill M, Walker CJ, Karunasiri M, Mrozek K, Gardner ML, Camilotto V, Zitzer N, Cooper JL, Cai X, Rong-Mullins X, Kohlschmidt J, Archer KJ, Freitas MA, Zheng Y, Lee RJ, Aifantis I, Vassiliou G, Singh G, Kauppinen S, Bloomfield CD, Dorrance AM, Garzon R. The long non-coding RNA HOXB-AS3 regulates ribosomal RNA transcription in NPM1-mutated acute myeloid leukemia. **Nat Commun**. 2019;10(1):5351. Epub 2019/11/27. doi: 10.1038/s41467-019-13259-2. PubMed PMID: 31767858; PMCID: PMC6877618.
12. Bharathy N, Berlow NE, **Wang E**, Abraham J, Settlemeyer TP, Hooper JE, Svalina MN, Bajwa Z, Goros MW, Hernandez BS, Wolff JE, Pal R, Davies AM, Ashok A, Bushby D, Mancini M, Noakes C, Goodwin NC, Ordentlich P, Keck J, Hawkins DS, Rudzinski ER, Mansoor A, Perkins TJ, Vakoc CR, Michalek JE, Keller C. Preclinical rationale for entinostat in embryonal rhabdomyosarcoma. **Skelet Muscle**. 2019;9(1):12. Epub 2019/05/23. doi: 10.1186/s13395-019-0198-x. PubMed PMID: 31113472; PMCID: PMC6528217.

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13. Chen X, Glytsou C, Zhou H, Narang S, Reyna DE, Lopez A, Sakellaropoulos T, Gong Y, Kloetgen A, Yap YS, **Wang E**, Gavathiotis E, Tsirigos A, Tibes R, Aifantis I. Targeting Mitochondrial Structure Sensitizes Acute Myeloid Leukemia to Venetoclax Treatment. **Cancer Discov.** 2019;9(7):890-909. Epub 2019/05/03. doi: 10.1158/2159-8290.CD-19-0117. PubMed PMID: 31048321; PMCID: PMC6606342.
14. **Wang E**^{*}, Lu SX^{*}, Pastore A^{*}, Chen X, Imig J, Chun-Wei Lee S, Hockemeyer K, Ghebrechristos YE, Yoshimi A, Inoue D, Ki M, Cho H, Bitner L, Kloetgen A, Lin KT, Uehara T, Owa T, Tibes R, Krainer AR, Abdel-Wahab O, Aifantis I. Targeting an RNA-Binding Protein Network in Acute Myeloid Leukemia. **Cancer Cell.** 2019;35(3):369-84 e7. Epub 2019/02/26. doi: 10.1016/j.ccell.2019.01.010. PubMed PMID: 30799057; PMCID: PMC6424627.
15. Bharathy N, Berlow NE, **Wang E**, Abraham J, Settelmeyer TP, Hooper JE, Svalina MN, Ishikawa Y, Zientek K, Bajwa Z, Goros MW, Hernandez BS, Wolff JE, Rudek MA, Xu L, Anders NM, Pal R, Harrold AP, Davies AM, Ashok A, Bushby D, Mancini M, Noakes C, Goodwin NC, Ordentlich P, Keck J, Hawkins DS, Rudzinski ER, Chatterjee B, Bachinger HP, Barr FG, Liddle J, Garcia BA, Mansoor A, Perkins TJ, Vakoc CR, Michalek JE, Keller C. The HDAC3-SMARCA4-miR-27a axis promotes expression of the PAX3:FOXO1 fusion oncogene in rhabdomyosarcoma. **Sci Signal.** 2018;11(557). Epub 2018/11/22. doi: 10.1126/scisignal.aau7632. PubMed PMID: 30459282; PMCID: PMC6432638.
16. Aranda-Orgilles B, Saldana-Meyer R, **Wang E**, Trompouki E, Fassl A, Lau S, Mullenders J, Rocha PP, Raviram R, Guillamot M, Sanchez-Diaz M, Wang K, Kayembe C, Zhang N, Amoasii L, Choudhuri A, Skok JA, Schober M, Reinberg D, Sicinski P, Schrewe H, Tsirigos A, Zon LI, Aifantis I. MED12 Regulates HSC-Specific Enhancers Independently of Mediator Kinase Activity to Control Hematopoiesis. **Cell Stem Cell.** 2016;19(6):784-99. Epub 2016/08/30. doi: 10.1016/j.stem.2016.08.004. PubMed PMID: 27570068; PMCID: PMC5268820.
17. Shen C, Ipsaro JJ, Shi J, Milazzo JP, **Wang E**, Roe JS, Suzuki Y, Pappin DJ, Joshua-Tor L, Vakoc CR. NSD3-Short Is an Adaptor Protein that Couples BRD4 to the CHD8 Chromatin Remodeler. **Mol Cell.** 2015;60(6):847-59. Epub 2015/12/03. doi: 10.1016/j.molcel.2015.10.033. PubMed PMID: 26626481; PMCID: PMC4688131.
18. Matthews GM, Mehdipour P, Cluse LA, Falkenberg KJ, **Wang E**, Roth M, Santoro F, Vidacs E, Stanley K, House CM, Rusche JR, Vakoc CR, Zuber J, Minucci S, Johnstone RW. Functional-genetic dissection of HDAC dependencies in mouse lymphoid and myeloid malignancies. **Blood.** 2015;126(21):2392-403. Epub 2015/10/09. doi: 10.1182/blood-2015-03-632984. PubMed PMID: 26447190; PMCID: PMC4653767.
19. Shi J, **Wang E**, Milazzo JP, Wang Z, Kinney JB, Vakoc CR. Discovery of cancer drug targets by CRISPR-Cas9 screening of protein domains. **Nat Biotechnol.** 2015;33(6):661-7. Epub 2015/05/12. doi: 10.1038/nbt.3235. PubMed PMID: 25961408; PMCID: PMC4529991.
20. **Wang E**, Kawaoka S, Roe JS, Shi J, Hohmann AF, Xu Y, Bhagwat AS, Suzuki Y, Kinney JB, Vakoc CR. The transcriptional cofactor TRIM33 prevents apoptosis in B lymphoblastic leukemia by deactivating a single enhancer. **Elife.** 2015;4:e06377. Epub 2015/04/29. doi: 10.7554/eLife.06377. PubMed PMID: 25919951; PMCID: PMC4409649.
21. Shi J, Whyte WA, Zepeda-Mendoza CJ, Milazzo JP, Shen C, Roe JS, Minder JL, Mercan F, **Wang E**, Eckersley-Maslin MA, Campbell AE, Kawaoka S, Shareef S, Zhu Z, Kendall J, Muhar M, Haslinger C, Yu M, Roeder RG, Wigler MH, Blobel GA, Zuber J, Spector DL, Young RA, Vakoc CR. Role of SWI/SNF in acute leukemia maintenance and enhancer-mediated Myc regulation. **Genes Dev.** 2013;27(24):2648-62. Epub 2013/11/29. doi: 10.1101/gad.232710.113. PubMed PMID: 24285714; PMCID: PMC3877755.

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22. **Wang E**, Kawaoka S, Yu M, Shi J, Ni T, Yang W, Zhu J, Roeder RG, Vakoc CR. Histone H2B ubiquitin ligase RNF20 is required for MLL-rearranged leukemia. **Proc Natl Acad Sci U S A**. 2013;110(10):3901-6. Epub 2013/02/16. doi: 10.1073/pnas.1301045110. PubMed PMID: 23412334; PMCID: PMC3593849.
23. Shi J*, **Wang E***, Zuber J, Rappaport A, Taylor M, Johns C, Lowe SW, Vakoc CR. The Polycomb complex PRC2 supports aberrant self-renewal in a mouse model of MLL-AF9;Nras(G12D) acute myeloid leukemia. **Oncogene**. 2013;32(7):930-8. Epub 2012/04/04. doi: 10.1038/onc.2012.110. PubMed PMID: 22469984; PMCID: PMC4102143.
24. Zuber J, Rappaport AR, Luo W, **Wang E**, Chen C, Vaseva AV, Shi J, Weissmueller S, Fellmann C, Taylor MJ, Weissenboeck M, Graeber TG, Kogan SC, Vakoc CR, Lowe SW. An integrated approach to dissecting oncogene addiction implicates a Myb-coordinated self-renewal program as essential for leukemia maintenance. **Genes Dev**. 2011;25(15):1628-40. Epub 2011/08/11. doi: 10.1101/gad.17269211. PubMed PMID: 21828272; PMCID: PMC3182026.
25. Zuber J*, Shi J*, **Wang E**, Rappaport AR, Herrmann H, Sison EA, Magoon D, Qi J, Blatt K, Wunderlich M, Taylor MJ, Johns C, Chicas A, Mulloy JC, Kogan SC, Brown P, Valent P, Bradner JE, Lowe SW, Vakoc CR. RNAi screen identifies Brd4 as a therapeutic target in acute myeloid leukaemia. **Nature**. 2011;478(7370):524-8. Epub 2011/08/05. doi: 10.1038/nature10334. PubMed PMID: 21814200; PMCID: PMC3328300.
26. Blobel GA, Kadauke S, **Wang E**, Lau AW, Zuber J, Chou MM, Vakoc CR. A reconfigured pattern of MLL occupancy within mitotic chromatin promotes rapid transcriptional reactivation following mitotic exit. **Mol Cell**. 2009;36(6):970-83. Epub 2010/01/13. doi: 10.1016/j.molcel.2009.12.001. PubMed PMID: 20064463; PMCID: PMC2818742.

PUBLICATIONS UNDER REVIEW/SUBMITTED

*Equal contribution

27. Tan J, Rodriguez-Hernaez J, **Wang E**, Sakellaropoulos T, Boccalatte F, Aifantis I, Skok J, Fenyó D, Xia B[#], Tsirigos A[#]. Cell type-specific prediction of 3D chromatin architecture enables high-throughput *in silico* genetic screening. (**Manuscript in submission**).
28. **Wang E***, Pineda JM*, Bourcier J, Stahl M, Hogg SJ, Bewersdorf JP, Singer ME, Cui D, Erickson CE, Tittley SM, Penson AV, Knorr K, Stanley R, McMillan E, Bossard C, Mak CC, Jarvis M, Beaupre DM, Bradley RK[#], Abdel-Wahab O[#]. Modulation of RNA splicing enhances response to BCL2 inhibition in leukemia. (**In Revision**).

CONFERENCES

- 2022 Tri-Institutional RNA Club Symposium, New York.
Short talk: Modulation of RNA splicing enhances response to BCL2 inhibition in acute myeloid leukemia.
- 2021 63rd ASH Annual Meeting & Exposition. Atlanta, Georgia
Short talk: Modulation of RNA splicing enhances response to BCL2 inhibition in acute myeloid leukemia.
- 2021 Cell Symposium: Overcoming Therapy Resistance in Cancer (Online)
Short talk: Resistance Mechanisms for Non-covalent Inhibitors of Bruton's Tyrosine Kinase.

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- 2019 Regeneron Science to Medicine Forum. Tarrytown, New York.
Poster: Targeting an RNA-binding Protein Network in Acute Myeloid Leukemia.
- 2019 Cancer Genetics and Epigenetics Gordon Research Conference. Tuscany, Italy.
Poster: Targeting an RNA-binding Protein Network in Acute Myeloid Leukemia.
- 2018 PCC Cancer Genome Dynamics Retreat. Bronx, New York.
Poster: Targeting an RNA-binding Protein Network in Acute Myeloid Leukemia.
- 2018 Post-Transcriptional Gene Regulation Gordon Research Conference. Newry, Maine.
Poster: Targeting an RNA-binding Protein Network in Acute Myeloid Leukemia.
- 2016 Max Planck 4th Epigenetics Meeting. Freiburg, Germany
Invited Talk: The transcriptional cofactor TRIM33 prevents apoptosis in B lymphoblastic leukemia by deactivating a single enhancer
- 2015 CSHL 80th Symposium: 21st Century Genetics. Cold Spring Harbor, New York.
Poster: The transcriptional cofactor TRIM33 prevents apoptosis in B lymphoblastic leukemia by deactivating a single enhancer
- 2015 Keystone Symposia: Epigenetics and Cancer. Keystone, Colorado.
Poster: The transcriptional cofactor TRIM33 prevents apoptosis in B lymphoblastic leukemia by deactivating. a single enhancer

RESEARCH SUPPORT

- 2021 – 2022 **Translational Research in Oncology Training (TROT) Fellowship** (Memorial Sloan Kettering Cancer Center).
- 2018 – 2019 **Office of Therapeutics Alliances (OTA) Intramural Funding-** Discovery of Novel Cancer Pathway Dependencies: Therapeutic Targeting of RNA Helicases in Acute Myeloid Leukemia (\$85,000/year).
- 2017 – 2019 **NIH Ruth L. Kirschstein Institutional National Research Service Award (T32)**
5T32GM115313

HONORS AND AWARDS

- 2018/2019 NYU Sackler Travel Award
- 2015 Published work selected as one of eLife's outstanding research articles
- 2016 – 2017 Farmingdale State College Dean's list

MENTORING EXPERIENCE

- Isaac Wakiro- MSKCC Graduate student (2020)
- Niklas Boess- NYU Graduate student (2019)
- Geraldine Cayan- NYU Graduate student with Dr. Aifantis (2018)
- Yohana Ghebrechristos- NYU Graduate student with Dr. Aifantis (2017)
- NYU Sackler "Big Sib" Program (2016)
- Dongyan Song- Stony brook University Graduate student (2014)
- Deanna Bahel- Stony brook University Graduate student (2012)
- Nitin Shirole- Stony brook University Graduate student (2011)

REFERENCES

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