

CURRICULUM VITAE

Qing Deng, Ph.D.

**Assistant Professor
Department of Biological Sciences**

OFFICE ADDRESS:

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EDUCATION:

1999 - 2003 B.S., Fudan University, Shanghai, P.R.China
2003 - 2009 Ph.D., Medical College of Wisconsin, Milwaukee, WI

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

2009 - 2013 Postdoctoral Scholar, Department of Medical Microbiology and Immunology,
University of Wisconsin - Madison, WI

FACULTY APPOINTMENTS:

2014 – pres. Assistant Professor, Department of Biological Sciences, Purdue University, West Lafayette, IN

AWARDS AND HONORS:

1999 - 2003 People's Scholarship, Fudan University
2007 Graduate Student Travel Award, Medical College of Wisconsin
2010 American Society for Cell Biology, 50th Annual Meeting, "Novel and News Worthy" top pick
2010 Postdoctoral Travel Award, American Society for Cell Biology
2012 Oral Abstract Award, the 19th Annual Midwest Microbial Pathogenesis Conference, Milwaukee, WI
2016 Maximizing Investigators' Research Award for Early Stage Investigators, NIH
2018 G. Jeanette Thorbecke award, Society of Leukocyte Biology

MEMBERSHIPS/PROFESSIONAL SOCIETIES:

2005 - 2009 American Society for Microbiology
2010 - 2011 The American Society for Cell Biology
2014 – pres. Zebrafish Disease and Mechanism Society
2016 – pres. The American Association of Immunologists
2018 – pres. Society for Leukocyte Biology

JOURNAL REVIEWS:

PLOS Pathogens
Cellular Microbiology
PLOS One
Scientific Reports
International Immunopharmacology

Inflammation
Journal of Interferon & Cytokine Research

GRANT REIEWS:

Total Cost fellowships, Medical Research Council, UK
 Indiana CTSI, Biomedical Research Grant
 Sir Henry Dale Fellowship Extension, Wellcome Trust, UK
 Independent Research Fund Denmark, Natural Sciences
 Wellcome Trust DBT India Alliance Fellowship
 Ad hoc, NIAID III study section

RESEARCH GRANTS:Completed:

Title: Mir-223 in the resolution of inflammation
 Source: Jim and Diann Robbers Cancer Research
 Purdue Center for Cancer Research
 Role: Principal Investigator
 Dates: 1/1/2015 - 12/31/2015
 Direct Funds: \$30,000

Title: Mechanisms of mitochondria-regulated neutrophil motility in vivo
 Source: Showalter Foundation
 Role: Principal Investigator
 Dates: 07/01/2016-06/30/2017
 Direct Funds: \$75,000

Title: Revealing the roles of membrane potential in tumor-neutrophil interaction using a zebrafish model
 Source: Purdue Institute for Inflammation and Infectious Disease
 Role: co-Principal Investigator
 Dates: 08/01/2016-07/30/2017
 Direct Funds: \$25,000

Title: microRNA-target interaction in p53 mutant zebrafish
 Source: Purdue Center for Cancer Research
 Role: Principal Investigator
 Dates: 01/01/2018-12/31/2018
 Direct Funds: \$15,000

Title: Collaborative Idea Proposal
 Source: Purdue Center for Cancer Research
 Role: co-Principal Investigator
 Dates: 08/01/2018-07/30/2019
 Direct Funds: \$3,000

Current:

Title: Role of microRNAs in neutrophil migration
 Source: NIH/MIGMS
 Role: Principal Investigator
 Dates: 08/01/2016-07/30/2021
 Direct Funds: \$1,200,000

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:**International**

1. 10th International Conference on Zebrafish Development and Genetics, Workshop, Models of Infection and Immunity in Zebrafish, Madison, WI (June, 2012)
2. 4th Summer Workshop Label-free Spectroscopic Imaging, West Lafayette, IN (July 2014)
3. 7th Asia Oceania Zebrafish Meeting, Singapore (Oct 2016)
4. The 9th Zebrafish Disease Model Conference, Singapore (Oct, 2016)
5. The 10th zebrafish disease models conference, San Diego, CA (Aug 2017)
6. The 11th zebrafish disease models conference, Leiden, Netherlands (July 2018)
7. Joint Meeting of the Society for Leukocyte Biology & the International Endotoxin and Innate Immunity Society "Myeloid Cells: Development, Environment and Inflammation", Chandler, AZ (Oct 2018)
8. The 12th zebrafish disease models conference, Boston, MA (July 2019)

Institutional

1. University of Illinois-Chicago, Dept. of Pharmacology, Chicago, IL (March, 2013)
2. The University of Maine, Dept. of Molecular & Biomedical Sciences, Orono, ME (Oct, 2015)
3. RIKEN Center for Developmental Biology (CDB), Kobe, Japan (Jun, 2016)
4. Fudan University, Shanghai Medical College, Shanghai, China (Jun 2016)
5. School of Life Sciences, Fudan University, Shanghai, China (Jun 2016)
6. The Hong Kong Polytechnic University Food Safety and Technology Research Center, Hong Kong, China (Sep 2016)
7. University of Edinburg (Jun 2017)
8. The University of Texas at El Paso, El Paso, TX (Sep 2017)
9. Indiana University–Purdue University Indianapolis (Mar 2018)

TEACHING ACTIVITIES:

2015 - pres. Instructor: Immunobiology (Purdue BIOL 53700)

2015 - pres. Instructor: Lab Module: Microscopy and Cell Biology (Purdue BIOL 44212)

OUTREACH ACTIVITIES:

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| 2011 | Mentor, the Integrated Biological Sciences Summer Research Program, Institute for Biology Education, UW-Madison, WI |
| 2015-2018 | Judge, the Lafayette Regional Science and Engineering Fair, West Lafayette, IN |
| 2016-2019 | Judge: health and disease: Science, Technology, Culture and Policy Research Poster Session, West Lafayette, IN |
| 2017 | Judge: Life Sciences Postdoc Mini-Symposium |
| 2017- pres. | External advisor, the University of West Florida ESTEEMED program |
| 2018- pres. | External advisor, the University of West Florida MARC USTAR program |
| 2019 | Mentor, Purdue Summer Research Opportunities Program |

BIBLIOGRAPHY:**Refereed Journal Publications/Original Papers**

1. Guo JH, Chen L, Chen S, Liu X, Saiyin H, **Deng Q**, Zhuang Y, Wan B, Yu L, Zhao SY. Isolation, expression pattern of a novel human RAB gene RAB41 and characterization of its intronless homolog RAB41P. *DNA Seq.* 2003 Dec;14(6):431-5. PubMed PMID: 15018353.
2. **Deng Q**, Sun J, Barbieri JT. Uncoupling Crk signal transduction by Pseudomonas exoenzyme T. *J Biol Chem.* 2005 Oct 28;280(43):35953-60. Epub 2005 Aug 25. PubMed PMID: 16123042.

3. Maresso AW, **Deng Q**, Pereckas MS, Wakim BT, Barbieri JT. Pseudomonas aeruginosa ExoS ADP-ribosyltransferase inhibits ERM phosphorylation. *Cell Microbiol.* 2007 Jan;9(1):97-105. Epub 2006 Aug 2. PubMed PMID: 16889625.
4. Peterson FC, **Deng Q**, Zettl M, Prehoda KE, Lim WA, Way M, Volkman BF. Multiple WASP-interacting protein recognition motifs are required for a functional interaction with N-WASP. *J Biol Chem.* 2007 Mar 16;282(11):8446-53. doi: 10.1074/jbc.M609902200. Epub 2007 Jan 16. PubMed PMID: 17229736.
5. Zhang Y, **Deng Q**, Barbieri JT. Intracellular localization of type III-delivered Pseudomonas ExoS with endosome vesicles. *J Biol Chem.* 2007 Apr 27;282(17):13022-32. Epub 2007 Feb 20. PubMed PMID: 17311921.
6. Zhang Y, **Deng Q**, Porath JA, Williams CL, Pederson-Gulrud KJ, Barbieri JT. Plasma membrane localization affects the RhoGAP specificity of Pseudomonas ExoS. *Cell Microbiol.* 2007 Sep;9(9):2192-201. Epub 2007 May 8. PubMed PMID: 17490406.
7. **Deng Q**, Zhang Y, Barbieri JT. Intracellular trafficking of Pseudomonas ExoS, a type III cytotoxin. *Traffic.* 2007 Oct;8(10):1331-45. Epub 2007 Aug 20. PubMed PMID: 17714437.
8. **Deng Q**, Barbieri JT. Modulation of host cell endocytosis by the type III cytotoxin, Pseudomonas ExoS. *Traffic.* 2008 Nov;9(11):1948-57. doi: 10.1111/j.1600-0854.2008.00808.x. Epub 2008 Aug 4. PubMed PMID: 18778330; PubMed Central PMCID: PMC2574883.
9. Yoo SK, **Deng Q**, Cavnar PJ, Wu YI, Hahn KM, Huttenlocher A. Differential regulation of protrusion and polarity by PI3K during neutrophil motility in live zebrafish. *Dev Cell.* 2010 Feb 16;18(2):226-36. doi: 10.1016/j.devcel.2009.11.015. Erratum in: *Dev Cell.* 2011 Aug 16;21(2):384. PubMed PMID: 20159593; PubMed Central PMCID: PMC2824622.
10. **Deng Q**, Yoo SK, Cavnar PJ, Green JM, Huttenlocher A. Dual roles for Rac2 in neutrophil motility and active retention in zebrafish hematopoietic tissue. *Dev Cell.* 2011 Oct 18;21(4):735-45. doi: 10.1016/j.devcel.2011.07.013. PubMed PMID: 22014524; PubMed Central PMCID: PMC3199325.
11. Yoo SK, Starnes TW*, **Deng Q***, Huttenlocher A. Lyn is a redox sensor that mediates leukocyte wound attraction in vivo. *Nature.* 2011 Nov 20;480(7375):109-12. doi: 10.1038/nature10632. PubMed PMID: 22101434; PubMed Central PMCID: PMC3228893. (*co-contributing)
12. **Deng Q**, Harvie EA, Huttenlocher A. Distinct signalling mechanisms mediate neutrophil attraction to bacterial infection and tissue injury. *Cell Microbiol.* 2012 Apr;14(4):517-28. doi: 10.1111/j.1462-5822.2011.01738.x. Epub 2012 Jan 16. PubMed PMID: 22188170; PubMed Central PMCID: PMC3302966.
13. Berthier E, Lim FY, **Deng Q**, Guo CJ, Kontoyiannis DP, Wang CC, Rindy J, Beebe DJ, Huttenlocher A, Keller NP. Low-volume toolbox for the discovery of immunosuppressive fungal secondary metabolites. *PLoS Pathog.* 2013;9(4):e1003289. doi: 10.1371/journal.ppat.1003289. Epub 2013 Apr 11. PubMed PMID: 23592999; PubMed Central PMCID: PMC3623715.
14. **Deng Q**, Sarris M, Bennin DA, Green JM, Herbomel P, Huttenlocher A. Localized bacterial infection induces systemic activation of neutrophils through Cxcr2 signaling in zebrafish. *J Leukoc Biol.* 2013 May;93(5):761-9. doi: 10.1189/jlb.1012534. Epub 2013 Mar 8. PubMed PMID: 23475575; PubMed Central PMCID: PMC4050646.
15. Knox BP, **Deng Q**, Rood M, Eickhoff JC, Keller NP, Huttenlocher A. Distinct innate immune phagocyte responses to Aspergillus fumigatus conidia and hyphae in zebrafish larvae. *Eukaryot Cell.* 2014 Oct;13(10):1266-77. doi: 10.1128/EC.00080-14. Epub 2014 May 30. PubMed PMID: 24879123; PubMed Central PMCID: PMC4187654.
16. Jing L, Tamplin OJ, Chen MJ, **Deng Q**, Patterson S, Kim PG, Durand EM, McNeil A, Green JM, Matsuura S, Ablain J, Brandt MK, Schlaeger TM, Huttenlocher A, Daley GQ, Ravid K, Zon LI. Adenosine signaling promotes hematopoietic stem and progenitor cell emergence. *J Exp Med.* 2015 May 4;212(5):649-63. doi: 10.1084/jem.20141528. Epub 2015 Apr 13. PubMed PMID: 25870200.

17. Zhang Q, Wang D, Jiang G, Liu W, **Deng Q**, Li X, Qian W, Ouellet H, and Sun JJ. EsxA membrane-permeabilizing activity plays a key role in mycobacterial cytosolic translocation and virulence: effects of single-residue mutations at glutamine 5. *Scientific Reports*. 2016 Sep 7;6:32618
18. Rosowski EE, **Deng Q**, Keller NP, Huttenlocher A. Rac2 Functions in Both Neutrophils and Macrophages To Mediate Motility and Host Defense in Larval Zebrafish. *J Immunol*. 2016 Nov 11.
19. Powell D, Tausin S, Hind LE, **Deng Q**, Beebe DJ, Huttenlocher A. Chemokine Signaling and the Regulation of Bidirectional Leukocyte Migration in Interstitial Tissues. *Cell Rep*. 2017 May 23;19(8):1572-1585.
20. Hsu AY, Wang D, Gurol T, Zhou W, Zhu X, Lu HY, **Deng Q**. Overexpression of microRNA-722 fine-tunes neutrophilic inflammation through inhibiting Rac2 in zebrafish. *Dis Model Mech*. 2017 Sep 27. pii: dmm.030791. doi: 10.1242/dmm.030791. (Selected for first person interview)
21. Zhou W, Pal AS, Hsu AY, Gurol T, Zhu X, Wirbisky-Hershberger SE, Freeman JL, Kasinski AL, **Deng Q**. MicroRNA-223 suppresses the canonical NF- κ B pathway in basal keratinocytes to dampen neutrophilic inflammation. *Cell Reports*. 2018 Feb 13;22(7):1810-1823. doi: 10.1016/j.celrep.2018.01.058.
22. Zhou W, Cao L, Jeffries J, Zhu X, Staiger CJ, **Deng Q**. Neutrophil-specific knockout demonstrates a role for mitochondria in regulating neutrophil motility in zebrafish. *Dis Model Mech*. 2018 Mar 28;11(3). pii: dmm033027. doi: 10.1242/dmm.033027. (Selected for first person interview)
23. Hsu AY., Gurol T, Sobreira T. J. P., Zhang S, Moore N, Cai C, Zhang ZY, **Deng Q**. Development and Characterization of an Endotoxemia Model in Zebra Fish. *Frontiers in Immunology*. 2018 March 29 (9). doi: 10.3389/fimmu.2018.00607
24. Weaver CJ, Terzi A, Roeder H, Gurol T, **Deng Q**, Fai Leung Y, Suter DM. nox2/cybb deficiency affects zebrafish retinotectal connectivity. *J Neurosci*. 2018 May 23. pii: 1483-16. doi: 10.1523/JNEUROSCI.1483-16.2018.
25. Hsu AY, Liu S, U Syahirah R, U Brasseale KA, Wan J, **Deng Q**. Inducible overexpression of zebrafish microRNA-722 suppresses chemotaxis of human neutrophil like cells. *Molecular Immunology* 2019 August 112, pii: 206-214; doi: 10.1016/j.molimm.2019.06.001
26. Hsu AY, Wang D, Liu S, Lu J, Syahirah R, Bennin DA, Huttenlocher A, Umulis D, Wan J, **Deng Q**. Phenotypical microRNA screen reveals a noncanonical role of Cdk2, in regulating neutrophil migration. 2019 (BIORXIV/2019/574335), in press, *PNAS*.

Books, Chapters, and Reviews

1. **Deng Q**, Barbieri JT. Molecular mechanisms of the cytotoxicity of ADP-ribosylating toxins. *Annu Rev Microbiol*. 2008;62:271-88. doi: 10.1146/annurev.micro.62.081307.162848. Review. PubMed PMID: 18785839.
2. **Deng Q**, Huttenlocher A. Leukocyte migration from a fish eye's view. *J Cell Sci*. 2012 Sep 1;125(Pt 17):3949-56. doi: 10.1242/jcs.093633. Review. PubMed PMID: 23104739; PubMed Central PMCID: PMC3482313.
3. Gurol T, Zhou W, **Deng Q**. MicroRNAs in neutrophils: potential next generation therapeutics for inflammatory ailments. *Immunological reviews* 2016 Sep;273(1):29-47. PMID: 27558326
4. Jeffries J, Zhou W, Hsu AY, **Deng Q**. miRNA-223: A Master Regulator in the Inflammation-Cancer Axis. *Cancer Letters*, in press