Curriculum Vitae

Peter K. Jackson, Ph. D.
Professor
Baxter Laboratory for Stem Cell Biology
Department of Microbiology & Immunology *and*
Department of Pathology
Stanford University School of Medicine
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Recent Positions Held

Professor **2014-**
Stanford University School of Medicine
Director, Stanford University Mass Spectrometry
Fellow and Director of Proteomics, Stanford Cancer Center
Director & Fellow, Stanford Institute for Chemical Biology

Genentech, Inc. **2005-2013**
Staff Scientist & Director

Responsibilities

- Develop, present, and implement new strategic opportunities for cancer therapy targets.
- Conduct basic research in cancer cell biology.
- Enable target validation and assays for small molecule drug discovery.
- Provide strategic leadership and technical oversight for in-house approved drug programs.
- Work with research and business development to in-license new drug targets for oncology.
- Served as Director of the Department of Cell Regulation, including seven scientists and their laboratories, plus core staff.
- Member of Research Oncology Senior Staff, Oncology Portfolio Committee, Oncology Biomarkers Review Committee, Small Molecule Patent Committee, New Target Progression Committee.

Accomplishments & Contributions

- Directed Department of Cell Regulation with seven scientists and helped direct project team leaders for 7 major drug targets (Chk1, Plk1, PARP1, VCP, Cdc6, NAMPT, LDHA)
- Proposed and organized Chk1 as a small molecule drug target, organized and provided research oversight for the Chk1 team through Early and Late Stage Research, and delivery of a lead molecule GDC-0425 to Early Development.
- Established new program in Tumor Metabolism (multiple targets proposed for ESR, one in-house early stage research program, one program late stage research acquired through business development, multiple targets in validation). Progressed NAMPT and LDHA inhibitors to IND enabling studies.
- Provided leadership for program in mitosis targets (1 Target (Plk1) in Early Stage Research, HTS screen and hits evaluated, and program concluded following strategic review; 1 Late Stage Research

Program concluded following pre-clinical efficacy and pharmacokinetic studies (Aurora Kinase)).

- Proposed and helped establish a Late Stage Research and Early Development program for a PARP1 inhibitor. Program concluded after Phase I clinical trial showed drug toxicity.
- Established a collaborative program with Nerviano Medical Sciences leading to discovery of inhibitors of the AAA ATPase class of enzymes, resulting in the identification and chemical optimization of a novel allosteric inhibitor of p97/VCP. Definition of a new allosteric regulatory mechanism and site on VCP resulted in a major publication in *Nature Chemical Biology.*
- Provided leadership for discovery of a small molecule inhibitor of Kras, the most common oncogene. Helped discover a small molecule inhibitor usable for functional studies, published in *PNAS* in 2012.
- Presentations to the Research Review Committee (RRC), Development Review Committee (DRC), and Executive Committee (EC), leading to successful drug target selection (nine) and business development programs (four), including major late stage research and early development programs, and discovery programs.
- Reviewed over 100 business development opportunities for small molecule projects in oncology, cell cycle, tumor metabolism, signaling pathways.
- Screen for genes sensitizing or providing resistance to Taxol (published in *Cell).*
- Screen for genes that synergize with p53 loss to induce cell death & discovery of the importance of metabolic control in p53-defective tumors (defined rationale for Tumor Metabolism).
- Screen for genes synthetically lethal with DNA damaging agents.
- Reorganization and expansion of microscopy resources, high-content screening, and image analysis.
- Established new tools in metabolomics and extensive metabolomics analysis to profile tumor metabolism. Curated over thirty targets in tumor metabolism. Established new bioinformatics structure for analysis of candidate targets and tumor suppressors.
- Developed new vector technology for rapid tagging, expression, and proteomic network building.
- Established new technology for proteomic analysis of protein networks in tumor suppressors, ciliopathies, and neurological diseases.
- Received Key Contributor Awards in every bonus and options cycle while at Genentech.

Education/Academic Positions

1978-1982 Yale College, B. A., *Magna cum Laude*, in Mathematics and Economics, 1982.

1982-1983 University of Chicago, courses toward the Ph.D. in Chemical Physics.

1983 Harvard University, Ph. D. in Biophysics, 1990.
Coursework in the medical curriculum at Harvard Medical School.

1985-1989 Whitehead Institute, Massachusetts Institute of
Technology, Cambridge, MA.
Thesis advisor: David Baltimore (1975 Nobelist, Medicine & Physiology)
Thesis: Functional domains of the c-abl protein tyrosine kinase.

1990 Whitehead Institute, Postdoctoral Fellow with David Baltimore.

1991 University of Geneva, Department of Cell Biology
Visiting Fellow (4 months) with Dr. Didier Picard, Chairman of Cell Biology

1991-1993 University of California, San Francisco,

Department of Biochemistry & Biophysics.
Postdoctoral Fellow with Marc Kirschner,
Professor of Biochemistry & Biophysics

1993-1995 Harvard Medical School, Department of Cell Biology, in the relocated lab of Marc Kirschner (the new Chair, Department of Cell Biology, HMS)

1995- Stanford University School of Medicine
Assistant Professor
Departments of Pathology and Microbiology & Immunology
Programs in Chemical Biology, Cancer Biology, Biophysics, Genetics, and Medical Scientist Training Program
Affiliate, Department of Pharmacology (1997-)

2000- Stanford University School of Medicine
Associate Professor (with tenure)
Departments of Pathology and Microbiology & Immunology

2005-2011 On leave from Stanford University.

2005-2013 Staff Scientist & Director
Directed Department of Cell Regulation (2006-2012)
Genentech, Inc.

- Developed new programs for small molecule inhibitor for enzyme inhibitors in cancer and metabolic diseases.
- Recruited and supervised five new scientists and staff, established new programs in cell cycle, chemosensitization, and metabolic control of cancer.
- Initiated collaborations for business development an early development program, two late stage projects, and other external programs in research or technology development.
- Initiated four in-house early stage research drug discovery/drug development programs for cell cycle and tumor metabolism and championed these ESR teams.
- Organized and present the research, development, and clinical strategy for chemotherapy targets in the small molecule portfolio.
- Advised the Oncology Portfolio for Small Molecules for long-term research and development strategies.
- Established new technology for high-throughput proteomics, cell biology, and cell line engineering.
- Developed bioinformatic curation methods for identify critical cancer targets
- Developed in-house and collaborative capabilities for tumor metabolism and metabolomics.

Positions/Honors

1978-1982 National Merit Scholar, Yale College.
Majors: Mathematics, Economics
Magna cum Laude, with Distinction in Economics.
Economics Thesis Prize

Luce Scholar Finalist

1979-1981 Software Engineer, RCA Corporation, Gibbsboro, NJ
Summer Internships, Mathematical Modeling for Antenna Engineering.

1982 Mathematician, RCA Corporation, Moorestown, NJ.
Summer Internship, Green's Functions for Near-Field Approximations in antenna engineering of AEGIS Array Antennas.

1982-1983 Teaching Assistant, undergraduate physical chemistry, University of Chicago.

1983 Johnson Foundation, University of Pennsylvania, Summer Intern.
Software development for pulsed-field NMR applications with Professor Britton Chance.

At Harvard/MIT

1983-1985 Research Rotations in the laboratories of Mark Ptashne, Don Wiley, and Brian Seed, Harvard University. Independent research with Don Wiley on maximum entropy methods for crystallographic refinement.

1984 Teaching Assistant, undergraduate quantum mechanics (Martin Karplus), Harvard University.

1985-1989 Instructor, graduate course in biophysics of proteins and nucleic acids (Don Wiley), Harvard University.

1988 Teaching assistant, undergraduate project lab (Richard Mulligan), Massachusetts Institute of Technology.

1989 Teaching assistant, undergraduate biochemistry lab (Paul Matsudaira), Massachusetts Institute of Technology.

1991-1994 Merck Fellow of the Life Sciences Research Foundation

At Stanford

1996-2005 Lecturer and Discussion Section Leader, Graduate Cell Biology (MCP214 Cell Biology of Physiological Processes. Lectures on cytoskeletal processes (2 hours), cell cycle (4-6 hours), nuclear structure (2 hours).

1996-2007 Lecturer, Medical School Pathology course (Pathology 500), Lectures on the molecular basis of cancer, cell cycle, and mutagenesis.

1996-2007 Lecturer, Medical School Course on Methods in Molecular Biology,
Lectures on protein assay development, protein purification, and mass spectrometry.

2002 Lecturer, Graduate School Course in Chemical Biology, 8 hours on enzyme kinetics, enzyme mechanism, design of inhibitors, cases studies in signal transduction and cell cycle.

1997	Baxter Foundation Award
1997	American Cancer Society, New Investigator Award
1998	Lutje-Stubbs Scholar Award
1998	Howard Hughes Medical Institute, New Investigator Award
1999	William Cohen Memorial Lecturer, Dana-Farber Cancer Institute
1999	Hume Faculty Scholar, Stanford University
2000	Founding member, Stanford University School of Medicine, Program in Chemical Biology
2003	Kirsch Scholar. National competition for top US associate professors.
2005	Elected Member of the American Association of University Pathologists "Pluto Society" for Distinguished Research in Pathology.

At Genentech

2005	Selected Staff Scientist, Genentech. First person to be hired directly as Staff Scientist.
2007	Eppley Visiting Professor of Oncology, U. Nebraska Medical School
2007	Visiting Lecturer, Fudan University, Shanghai, China.
2008	Elected Fellow, American Association for the Advancement of Science (AAAS).
2009	Visiting Lecturer, Russian Academy of Sciences.
2009-	Advisor, Cancer Prevention and Research Institute of Texas (CPRIT).
2009-2013	Board Member, Life Sciences Research Foundation.

At Stanford

2014-2016	Board Member, Anamar Pharmaceuticals, Inc., Gothenburg, Sweden. Anamar has three major chemical series for antagonists of a G-protein coupled receptor for inflammatory pain, fibrosis, and arthritis. I provided scientific and clinical guidance for ongoing Phase I and Phase II trials and partnering/business development discussions with Pharma. The company is now focused on one series and partnering discussions, led by a core team of stakeholders in Sweden.
2014-	Lead partnering programs and established the Sir James Black Fellows program, a postdoctoral

program sponsored by GSK for postdoctoral students at Stanford. Four three year, $115K/year fellowships were funded.

2014- Director, Stanford University Mass Spectrometry
Fellow, Stanford Cancer Center
Director & Fellow, Stanford Institute for Chemical Biology
Fellow, CHEM-H program in Chemical Biology
Executive Committee, Cancer Biology Program

2017 Elected Fellow Sigma Xi

Recent teaching and academic committee work

2013- Lectures in Cancer Biology 240: Basic Histology, Oncogenes I and II

2013- Lectures on Proteomics & Cancer MED221 Translational Medicine. Course organizer: Dean Felsher

2013- Lectures in Methods in Microbiology: Proteomics and protein purification (Spring course)

Committees/Consultancy

1997-2006 Steering Committee, Mass Spectrometry at Stanford University. Worked to establish mass spectrometry core facilities at Stanford and Stanford University

1997-1999 Faculty Senate

1998-2000 Committee on Tissue Banking, Stanford U. School of Medicine

1998-2005 Committee on Radiation Safety, Stanford U. School Med.

1999 Collaborator, Proteomics, Large Scale Biology, Rockville, MD

1999- Scientific Advisory Board, Genomics Collaborative, Inc., a tissue banking company, Cambridge, MA

1999 Consultant and Charter Lab, BellaBio, Inc., an online bioprotocols company, San Francisco, CA

2000 Committee on Education, American Association for Cancer Research (AACR)

1999-2003 Consultant, Rigel Pharmaceuticals, Inc., Ubiquitin ligases, Cell cycle, and Oncology projects, South San Francisco, CA. Worked with scientists and managers to develop program in ubiquitin ligase inhibitors including 14 business development presentations at major pharmaceutical companies and biotech companies for partnering the program. Additional work in target identification, target validation, and new technology development.

2000-2005 Ad Hoc Committee Member, Cell Biology Study Section (CDB2, CDB3 (2 times), CDB4),

National Institutes of Health.

2004-2008 Member, CSD Study Section

2001-2005 Founding Member, Committee on Chemical Biology, Stanford University

2001-2002 Consultant, Axys Pharmaceuticals, S. San Francisco, CA.

2001-2003 Consultant, Abbot Pharmaceuticals, Abbott Park, IL.

2002-2005 Consultant, Genentech, Inc., S. San Francisco, CA

2002 Consultant, Signal Pharmaceuticals, La Jolla, CA

2002 Consultant and SAB Member, Celgene Corporation, Summit, NJ

2003 National Academy of Sciences, Workshop on Bioterrorism & Smallpox virus.

2004-2006 Stanford Comprehensive Cancer Center, Director of Proteomics.
Member, Stanford CCC Grant Committee.

2004-2016 Council Member, Leukemia and Lymphoma Society

2005 Site visit team member reviewing the Laboratory of Protein Dynamics & Signaling, NCI Frederick (11/30/05)

2005-2008 Study Section Member, CD3 Study Section, Institute of General Medical Sciences, NIH

2006-2011 Scientific Advisory Board, Rosetta Bioequity Hedge Fund

2008- Keystone Meeting, Program Advisor

2009-2010 Organizer, Keystone Meeting, "Cilia, Signaling, and Human Disease".

2009- Review Committee Member, Cancer Prevention and Research Institute of Texas (CPRIT), Translational and Clinical Review Committee-3 (TCRC-3)

2010- Founding Editor, *Cilia,* a journal on ciliary biology & ciliopathies

2011 Program Organizer for the national meeting of the ASBMB.

2011-2015 American Association for Cancer Research, Program Committee

2014 Keystone Organizing Committee, Tumor Metabolism Meeting

2014- Funded program and program consultant for the the Spark program, an internationally organized and recognized industry partnering program for Stanford and an international consortium of top Universities, including National University of Singapore (NUS).

2014	Sponsor/Organizer, Cell Press, Lab Links meeting on Primary Cilia, Stanford University
2015	Keystone Organizing Committee, Computational and Systems Biology of Cancer, San Francisco
2015-	Core member of Cancer Cell Map Initiative (CCMI), a collaborative research group
2015-	Core member of the national SolveRas consortium, funded by a U01 grant to three investigators at Stanford (among five teams at Harvard, DFCI, Stanford, UCSF, and MSKCC).
2016	Organized Saturday Symposium of 12 international speakers at ASCB, San Francisco: *"Cilia, Signaling, and Human Disease"*
2017	Organized Saturday Symposium of 14 international speakers at ASCB, Philadelphia: *"Cilia: Traffic, Signals, Disease"*
2017-	SAB Chair, E3X Bio, a company focused on E3 ubiquitin ligase
2017-2018	SAB member, Cleave Biosciences.
2017-	Scientific advisor and collaborator, target discovery, Goldfinch Bio, focused on renal disease
2017-	Founding SAB member, Cullgen, a company focused on targets using ProTac technology
2017-	SAB member and advisor, Juvena Therapeutics, Palo Alto, CA.
2018	Organized Saturday Symposium of 12 international speakers at ASCB, San Francisco: *"Cilia and Cell Signaling in Development and Tissue Regeneration"*

Editorial Boards & Reviewing

Developmental Cell, Editorial Board 2003-
Faculty of 1000, Editorial Board, 2002-2015
BMC Cell Cycle, Editor 2004-
Cilia (a new journal), Founding Co-Editor-in-Chief. 2010-

Frequent Reviewer for *Nature, Science, Cell, Molecular Cell, Developmental Cell, J. Cell Biology, Molecular Biology of the Cell, Current Biology, EMBO J, Nature Cell Biology, Nature Medicine.*

Professional Societies: American Society for Cell Biology, American Association for Cancer Research, American Society for Biochemistry and Molecular Biology, VHL Family Alliance, Leukemia & Lymphoma Society, Pluto Society.

Publications

[most publications list Jackson, P. K., early publications list Jackson, P.]

Graduate Studies

1. Jackson, P. and D. Baltimore (1989). N-terminal mutations activate the leukemogenic potential of the myristoylated form of c-abl. *EMBO J.* 8: 449-456.

2. Van Etten, R.A., P. Jackson, and D. Baltimore (1989). The mouse type IV c-abl gene product is a nuclear protein, and activation of transforming ability is associated with cytoplasmic localization. *Cell* 58: 669-676.

3. Mayer, B. J., P. Jackson, and D. Baltimore (1991). High-affinity binding of the non-catalytic SH2 segment of the abl tyrosine kinase to tyrosine-phosphorylated cellular proteins. *Proc. Natl. Acad. Sci. USA* 88: 627-631.

4. Varticovski, L., G. Q. Daley, P. Jackson, D. Baltimore, and L. C. Cantley (1991). Activation of PI 3-kinase in cells expressing abl oncogene variants. *Mol. Cell. Biol.* 11: 1107-1113.

5. Tybulewicz, V. L. J., C. E. Crawford, P. K. Jackson, and R.C. Mulligan (1991). Neonatal lethality and lymphopenia in mice with a homozygous disruption of the c-abl protooncogene. *Cell* 65: 1153-1163. (*Citation Award for over 1000 Citations).*

6. Mayer, B. J., P. K. Jackson, R. A. Van Etten, and D. Baltimore (1992). Point mutations in the abl SH2 domain coordinately impair phosphotyrosine binding in vitro and transforming activity in vivo. *Mol. Cell. Biol.*12: 609-618. *Co-first author paper.*

7. Daley, G. Q., R. A. Van Etten, P. K. Jackson, A. Bernards, and D. Baltimore (1992). Non-myristoylated Abl proteins transform a factor-dependent hemapoetic cell line. *Mol. Cell. Biol.* 12: 1864-1871.

8. Jackson, P. K., M. Paskind, and D. Baltimore (1993). Mutation of a phenylalanine conserved in SH3-containing tyrosine kinases activates the transforming ability of c-Abl. *Oncogene* 8: 1943-1956.

9. Jackson, P. K., D. Baltimore, and D. Picard (1993). Hormone-conditional transformation by fusion proteins of c-Abl and its transforming variants. *EMBO J.* 12: 2809-2819.

10. Sugiyama, H., Y. Wang, P. Jackson, C. L. Sawyers, and G. Klein (1994). Molecular requirements for rapid plasmacytoma and pre-B lymphoma induction by Abelson murine leukemia virus in myc-transgenic mice. *Int. J. Cancer.* 58: 135-41.

11. Van Etten, R. A., P. K. Jackson, D. Baltimore, M. C. Sanders, P. T. Matsudaira, and P. A. Janmey (1994). The C-terminus of the c-Abl tyrosine kinase contains distinct F- and G-actin binding domains with bundling activity. *J. Cell Biol.* 124: 325-340.

12. Mattioni, T., P. K. Jackson, O. Hooft, and D. Picard (1995). Inhibition of G1 progression by the c-Abl protein tyrosine kinase. *Oncogene* 10: 132-1333. *Co-first author paper.*

Postdoctoral Studies

13. R. W. King, P. K. Jackson, and M. W. Kirschner (1994). Mitosis in Transition. *Cell* 79: 563-571.

14. P. K. Jackson, S. Chevalier, M. Phillipe, and M. W. Kirschner (1995). Early events in DNA replication require cyclin E and are blocked by p21CIP1. *J. Cell Biol.* 130: 755-769.

15. Chen, J., P. K. Jackson, M. W. Kirschner, and A. Dutta (1995). Inhibition of cdk2 kinase, but not PCNA, is essential for the growth suppression activity of p21. *Nature* 374: 386-388.

16. Wen, S., P. K. Jackson, and R. A. Van Etten (1996). Multiple nuclear localization signals control the cytostatic function of c-Abl. *EMBO J.* 15: 1583-1595.

Studies as an independent Principle Investigator at Stanford and at Genentech

17. Jackson, P. K. (1996). Cull and Destroy. *Current Biology* 6: 1209-1212.

18. Wolf, D. A. and P. K. Jackson (1998). Oiling the gears of anaphase. *Current Biology* 8: 636-639.

19. Wolf, D.A., F. McKeon, and P. K. Jackson (1998). F-box/WD-repeat proteins Pop1p and Popo2p form heterooligomeric complexes to bind and direct proteolytic destruction of Cdc18p. *Current Biology* 9: 373-376.

20. Lacey, K., P. K. Jackson, and T. Stearns (1999). Cyclin-dependent kinases direct centrosome duplication. *Proc. Natl. Acad. Sci. USA* 96: 2817-2822. *Collaborative study with another lab.*

21. Wolf, D. A., F. McKeon, and P. K. Jackson (1999). Budding yeast Cdc6p induces re-replication in fission yeast by inhibition of SCFPop-mediated Proteolysis. *Molecular and General Genetics* 262: 473-480.

22. Freed, E., K. Lacey, P. Huey, S. Lyapina, R. Deshaies, T. Stearns, and P. K. Jackson (1999). SCF components Skp1 and Cul1 localize to and direct the duplication of the centrosome. *Genes & Development* 3: 2242-2257.

23. Regan, J., Q. Duong, and P. K. Jackson (1999). Screening for Skp1-interacting proteins in Xenopus laevis. *Current Biology* 9: R762-763.

24. Swanson, C. S., J. Roth, and P. K. Jackson (2000). Nuclear accumulation of cyclin E/Cdk2 triggers a concentration-dependent switch for the destruction of p27Xic1. *Proc. Natl. Acad. Sci. USA* 97:7796-801.

25. Furstenthall, L, B. K. Kaiser, C. S. Swanson, and P. K. Jackson (2001). Cyclin E uses Cdc6 as a chromatin-associated receptor required for DNA replication. *Journal of Cell Biology*, 152: 1267-78.

26. **th***(Distinguished Citation Award-over 500 citations).*

27. Reimann, J. D. R., E. Freed, J. Hsu, E. R. Kramer, J. M. Peters, and P. K. Jackson (2001). Emi1 is a mitotic regulator that interacts with Cdc20 and inhibits the anaphase promoting complex. *Cell* 105: 645-55. (see Research Roundup, J. Cell Biology 154: 14 (2001*). (Reviewed Faculty of 1000, Recommended).*

28. Furstenthal, L., C. S. Swanson, B. K. Kaiser, A. E. Eldridge, and P. K. Jackson (2001). Triggering Cdk inhibitor destruction at origins of DNA replication. *Nature Cell Biology* 3: 715-722. *(see News and Views, Nature Cell Biology 3: E183-184).*

29. Reimann, J. D. R, B. E. Gardner, F. Margottin-Goguet, and P. K. Jackson (2001). Emi1 regulates the Anaphase-Promoting Complex by a different mechanism than Mad2 proteins. *Genes & Development* 15: 3278-3285.

30. Jackson, P. K. (2001). A New Ring for SUMO. *Genes & Development* 15: 3053-8.

31. Reimann, J. D.R., and P. K. Jackson (2002). Emi1 is required for cytostatic factor arrest in Xenopus eggs. *Nature* 416: 850-854. *(See News & Views, Nature 416, 804-805, (Reviewed Faculty of 1000, Must Read).*

32. Hsu, J. Y., J. D.R. Reimann1, C. S. Sorensen, J. Lukas, and P. K. Jackson (2002). The E2F-dependent accumulation of hEmi1 regulates S phase entry by inhibiting APCCdh1. *Nature Cell Biology* 4: 358-366. (See News & Views, Nature Cell Biology 416, E119-120. *(Reviewed Faculty of 1000, Must Read).*

33. Mailand, N., C. Lukas, B. K. Kaiser, P. K. Jackson*, J. Bartek, and J. Lukas (2002). Centrosome amplification and aberrant chromosome segregation induced by deregulated human Cdc14 phosphatase. Deregulated human Cdc14A phosphatase disrupts centrosome separation and chromosome segregation. *Nature Cell Biology* 4: 318-22. *Collaborative study with another lab.*

34. Kaiser, B. K., Z. A. Zimmerman, H. Charbonneau, and P. K. Jackson (2002). Deregulated human Cdc14A phosphatase disrupts centrosome maturation, chromosome segregation, and cytokinesis. *Molecular Biology of the Cell* 13: 2289-2300.

35. Jackson, P. K. and A. G. Eldridge (2002). The SCF Ubiquitin Ligase: An Extended Look. *Molecular Cell* 9: 923-5.

36. Borchers, A. G. M., A. L. Hufton, A. G., Eldridge, P. K. Jackson*, R. M. Harland, and J. C., Baker (2002). The E3 ubiquitin ligase GREUL1 causes ectopic cement gland development in Xenopus embryos. *Developmental Biology* 251: 395-408. *Collaborative study with another lab.*

37. Hansen, D., J. H. Hsu, A. G. Eldridge, B. K. Kaiser, and P. K. Jackson (2002). Control of the centriole and centrosome cycles by ubiquitin ligases. *Oncogene* 21: 6209-6221.

38. He, L., X. Y. Lu, A. F. Jolly, A. G. Eldridge, S. J. Watson, P. K. Jackson*, G. S. Barsh, and T. M. Gunn (2003). Spongiform degeneration in mahoganoid mutant mice. *Science* 299: 710-3. *(Reviewed Faculty of 1000, Must Read). Collaborative study with another lab.)*

39. Jackson, P. K. (2003). Ubiquitinating a Phosphorylated Cdk Inhibitor on the Blades of the Cdc4 Beta-Propeller. *Cell* 112: 142-4.

40. Margottin-Goguet, F., J. Y. Hsu, A. Loktev, H-M. Hsieh, J. D. R. Reimann, and P. K. Jackson (2003). Destruction of Emi1 in late prophase requires the SCFbetaTrCP/Slimb ubiquitin ligase and triggers activation of the Anaphase Promoting Complex to allow progression beyond prometaphase *Developmental Cell* 4: 813-26. *(see News & Views, Peters JM. Emi1 proteolysis: how SCF(beta-Trcp1) helps to activate the anaphase-promoting complex. Mol Cell. 2003 11:1420-1).*

41. Guardavaccaro, D., Y. Kudo, J. Boulaire, M. Barchi, L. Busino, M. Donzelli, F. Margottin-Goguet, P. K. Jackson, *, L. Yamasaki and M. Pagano (2003). Control of Meiotic and Mitotic Progression by the F Box Protein beta-Trcp1 in Vivo Developmental Cell 4: 799-812. *(see News & Views, Peters J. M. Emi1 proteolysis:*

how SCF(beta-Trcp1) helps to activate the anaphase-promoting complex. Mol Cell. 2003 11:1420-1). Collaborative study with another lab.

42. He, L., A. G. Eldridge, P. K. Jackson*, T. M. Gunn, and G. S. Barsh (2003). Accessory proteins for melanocortin signaling: attractin and mahogunin. Ann N Y Acad Sci. 994: 288-98. *Collaborative study with another lab.*

43. Jackson, P. K. (2004). An Introduction to Posttranslational Control by Ubiquitin-dependent Proteolysis. In Inborn Error of Development. Editors Epstein, CJ, Erickson, RP, and Wynshaw-Boris, A. Oxford Monographs on Medical Genetics No. 49, Oxford.

44. Kaiser, B. K., M. V. Nachury, B. E. Gardner, P. K. Jackson (2004). Xenopus Cdc14a/b are localized to the nucleolus and centrosome and are required for embryonic cell division. *BMC Cell Biol*. 3: 27.

45. Jackson, P. K. (2004). Linking tumor suppression, DNA damage and the anaphase-promoting complex. *Trends Cell Biol.* 14:331-4.

46 Hansen, D. V., A. Loktev, K. Ban and P. K. Jackson (2004). Plk1 Regulates Activation of the Anaphase Promoting Complex by Phosphorylating and Triggering SCFβTrCP-Dependent Destruction of the APC Inhibitor Emi1. *Mol Biol Cell.* 15: 5623-5634. *(Reviewed Faculty of 1000, Recommended).*

47. Pagano, M. and P. K. Jackson (2004). Wagging the Dogma: Tissue specific Cell Cycle Control in the Mouse Embryo. *Cell* 118: 535-8. *Reviews recent surprising papers on cyclin knockouts in mice*.

48. Baumeister, W., A. Bachmair, V. Chau, R. Cohen, P. Coffino, G. Demartino, R. J. Deshaies, J. Dohmen, S. Emr, D. Finley, R. Hampton, C. Hill, M. Hochstrasser, R. Huber, P. K. Jackson, S. Jentsch, E. Johnson, Y. T. Kwon, M. Pagano, C. Pickart, M. Rechsteiner, M. Scheffner, T. Sommer, W. Tansey, M. Tyers, R. Vierstra, A. Weissman, K. D. Wilkinson, and D. Wolf (2004). Varshavsky's contributions. *Science* 306: 1290-2. Editorial.

49. Tung, J. T., and P. K. Jackson (2005). Emi1 class of proteins regulate entry into meiosis and the meiosis I to meiosis II transition in Xenopus oocytes. *Cell Cycle* 4: 478-82.

50. Tung, J. J., D. V. Hansen, K. H. Ban, A. V. Loktev, M. K. Summers, J. R. Adler, and P. K. Jackson. (2005). A role for the anaphase-promoting complex inhibitor Emi2/XErp1, a homolog of early mitotic inhibitor 1, in cytostatic factor arrest of Xenopus eggs. *Proc. Natl. Acad. Sci. USA*. 102: 4318-23. *(Reviewed Faculty of 1000, Recommended).*

51. Casaletto, J. B., L. K. Nutt, Q. Wu, J. D. Moore, L. D. Etkin, P. K. Jackson*, T. Hunt and S. Kornbluth (2005). Inhibition of the anaphase-promoting complex by the Xnf7 ubiquitin ligase. *J. Cell Biol*. 169: 61-71. (Reviewed Faculty of 1000, Must Read). *Collaborative study with another lab.*

52. Lehman, N. L., M. van de Rijn, and P. K. Jackson* (2005). Screening of tissue microarrays for ubiquitin proteasome system components in tumors. *Methods Enzymol*. 399: 334-55

53. Hansen, D. V., Tung J. J., and P. K. Jackson* (2006). CaMKII and Polo-like kinase 1 sequentially phosphorylate the cytostatic factor Emi2/XErp1 to trigger its destruction and meiotic exit. *Proc. Natl. Acad. Sci. USA* 103: 608-13.

54. Eldridge, A. G., A. V. Loktev, D. V. Hansen, E. W. Verschuren, J. D. R. Reimann, and P. K. Jackson* (2006) The Evi5 oncogene regulates cyclin accumulation by stabilizing the anaphase-promoting complex inhibitor Emi1. *Cell* 124: 367-80. *(Reviewed Faculty of 1000, Exceptional).*

55. Jackson, P. K. (2006). Climbing the Greatwall to Mitosis. *Molecular Cell* 22: 156-7.

56. Huntzicker, E. G., I. S. Estay, H. Zhen, L. A. Lokteva, P. K. Jackson*, and A. E. Oro AE. (2006). Dual degradation signals control Gli protein stability and tumor formation. *Genes & Development* 20: 276-81.

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152. Chien-Ting Wu, Keren I. Hilgendorf, Romina J. Bevacqua, Yan Hang, Janos Demeter, Seung K. Kim, **Peter K. Jackson** (2020). Discovery of ciliary G protein-coupled receptors regulating pancreatic islet insulin and glucagon secretion. *Genes & Development*, *resubmitted.*
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154. Keren I. Hilgendorf, Carl T. Johnson, Kyuho Han, Atefeh Rabiee, Janos Demeter, Ran Cheng, Yingdi Zhu, Zewen Jiang, Katrin J. Svensson, Michael C. Bassik, **Peter K. Jackson** (2020).
A CRISPR-based genome-wide screen for adipogenesis reveals new insights into mitotic expansion and lipogenesis. *Cell Reports,* in revision.
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155. Shamik Mascharak, Heather E. desJardins-Park, Michael Januszyk, Kellen Chen, Michael F. Davitt, Janos Demeter, Dominic Henn, Michelle Griffin, Clark A. Bonham, Deshka S. Foster, Nancie Mooney, Ran Cheng, **Peter K. Jackson**, Derrick C. Wan, Geoffrey C. Gurtner, Michael T. Longaker (2020). Divergent molecular signatures of regeneration and fibrosis during wound repair. Cell Stem Cell, submitted.
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Christina Curtis, Dmitri Petrov, Michael C. Bassik, Monte M. Winslow, Julien Sage (2021). The AMBRA1 E3 ligase adaptor regulates Cyclin D protein stability. *Nature* 592: 794-798. PMID: 33854239

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164. Mascharak, S., desJardins-Park, H. E., Januszyk, M., Chen, K., Davitt, M. F., Demeter, J., Henn, D., Griffin, M., Bonham, C. A., Mooney, N., Cheng, R., **Jackson, P. K.,** Wan, D. C., Gurtner, G. C., Longaker, M. (2021). Wnt-active Engrailed-1 Lineage-negative Fibroblasts Mediate Postnatal Skin Regeneration (2021). T.WILEY. 2021: A30

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166. Christopher W. Murray, Jennifer J. Brady, Mingqi Han, Sarah E. Pierce, Min K. Tsai, Hongchen Cai, Ran Cheng[4], David M. Feldser, Peter K. Jackson, David Shackelford, and Monte M. Winslow (2021). *Lkb1* restoration in lung tumors drives stasis and alveolar type II differentiation. Submitted *Molecular Cell* June 17, 2021.

BioRxiv/MedRxiv Submissions

Patricia R. Nano, Takamasa Kudo, Nancie A. Mooney, Jun Ni, Janos Demeter, **Peter K. Jackson**, James K. Chen (2020). Multiple domains in ARHGAP36 regulate PKA degradation and Gli activation bioRxiv 2020.05.14.094961; doi: https://doi.org/10.1101/2020.05.14.094961

Keren I. Hilgendorf, Carl T. Johnson, Kyuho Han, Atefeh Rabiee, Janos Demeter, Ran Cheng, Yingdi Zhu, Zewen Jiang, Katrin J. Svensson, Michael C. Bassik, **Peter K. Jackson** (2020). A CRISPR-based genome-wide screen for adipogenesis reveals new insights into mitotic expansion and lipogenesis. bioRxiv 2020.07.13.201038; doi: https://doi.org/10.1101/2020.07.13.201038

Shamik Mascharak, Heather E. desJardins-Park, Michael Januszyk, Kellen Chen, Michael F. Davitt, Janos Demeter, Dominic Henn, Michelle Griffin, Clark A. Bonham, Deshka S. Foster, Nancie Mooney, Ran Cheng, **Peter K. Jackson**, Derrick C. Wan, Geoffrey C. Gurtner, Michael T. Longaker (2020). Divergent molecular signatures of regeneration and fibrosis during wound repair. bioRxiv 2020.12.17.423181; doi: https://doi.org/10.1101/2020.12.17.423181

Ivan T. Lee, Tsuguhisa Nakayama, Chien-Ting Wu, Yury Goltsev, Sizun Jiang, Phillip A. Gall, Chun-Kang Liao, Liang-Chun Shih, Christian M. Schürch, David R. McIlwain, Pauline Chu, Nicole A. Borchard, David Zarabanda, Sachi S. Dholakia, Angela Yang, Dayoung Kim, Tomoharu Kanie, Chia-Der Lin, Ming-Hsui Tsai, Katie M. Phillips, Raymond Kim, Jonathan B. Overdevest, Matthew A. Tyler, Carol H. Yan, Chih-Feng Lin, Yi-Tsen Lin, Da-Tian Bau, Gregory J. Tsay, Zara M. Patel, Yung-An Tsou, Chih-Jaan Tai, Te-Huei Yeh, Peter H. Hwang, Garry P. Nolan, Jayakar V. Nayak, **Peter K. Jackson** (2020). Robust ACE2 protein expression localizes to the motile cilia of the respiratory tract epithelia and is not increased by ACE inhibitors or angiotensin receptor blockers. medRxiv 2020.05.08.20092866; doi: https://doi.org/10.1101/2020.05.08.20092866

Marcus R. Kelly, Kaja Kostyrko, Kyuho Han, Nancie Mooney, Edwin E. Jeng, Keene L. Abbott, Dana M. Gwinn, E. Alejandro Sweet-Cordero, Michael C. Bassik, **Peter K. Jackson** (2020). Combined Proteomic and Genetic Interaction Mapping Reveals New RAS Effector Pathways and Susceptibilities bioRxiv 2020.04.20.051623; doi: https://doi.org/10.1101/2020.04.20.051623

Balyn W. Zaro, Joseph J. Noh, Victoria L. Mascetti, Janos Demeter, Benson M. George, Monika Zukowska, Gunsagar S. Gulati, Rahul Sinha, Rachel M. Morganti, Allison M. Banuelos, Allison Zhang, **Peter K. Jackson**, Irving L. Weissman (2020). Mass spectrometry analysis of mouse hematopoietic stem cells and their progenitors reveals differential expression within and between proteome and transcriptome throughout adult and aged hematopoiesis. bioRxiv 836692; doi: https://doi.org/10.1101/836692

Joshua Broyde, David R. Simpson, Diana Murray, Federico M. Giorgi, Alexander Lachmann, **Peter K. Jackson**, E. Alejandro Sweet-Cordero, Barry Honig, Andrea Califano (2020). Systematic Elucidation and Validation of OncoProtein-Centric Molecular Interaction Maps. bioRxiv 289538; doi: https://doi.org/10.1101/289538

Abstracts

Over 1000 abstracts

Lectures (selected from over 400)

1982
"Complex Functions on the Holographic Plane", Department of Mathematics, Yale College
"The Labor Theory of Value", Department of Economics, Yale College

1983
"Extended Huckel Calculations on Linear Triatomics", Department of Chemistry, University of Chicago.

1984-1988
"Maximum Entropy Calculations", Department of Biochemistry & Molecular Biology, Harvard College, Cambridge, MA

Harvard University, Spring Semester, 1985-1988 (four years), Lectures in BMB 152, "Biochemistry & Biophysics of Proteins and Nucleic Acids", Course Instructor with Don Wiley, a graduate course in Biochemistry & Molecular Biology *and* Biophysics.

"X-Ray Structure of Nucleic Acids"
"Binding Analysis for Proteins"
"Polymer Calculations"
"Size and Shape Determination by Gel Filtration, Sedimentation, and Gel Electrophoresis"
"DNA Sequencing Chemistry"
"Protein Sequencing and Peptide Mapping"
"Antibody Binding Studies"
"Structure of Antibodies and T-Cell Receptors"

1988
CSHL RNA Tumor Virus Meeting, "Transformation by Abl Tyrosine Kinases"

1989
NATO Summer School, Spetsai, Greece: "Transformation by Abl Tyrosine Kinases", *September 6, 1989.*
Netherlands Cancer Institute, Amsterdam (host: Piet Borst), "Transformation by Abl Tyrosine Kinases" *September 14, 1989.*
EMBO Cancer Meeting, Heidelberg, Germany (Session with T. Pawson, T. Hunter): "c-Abl, a nuclear tyrosine kinase", *September 19, 1989*
Oxford University, Department of Biochemistry (host: Paul Nurse). "Molecular Studies of Tyrosine Kinases", *September 25, 1989.*

1990

Leukemia Meeting, Martha's Vineyard. "Creating A Regulatable Abl Tyrosine Kinase by Fusion to the ER Hormone Binding Domain".
UCSF, Hooper Foundation (host: J. Michael Bishop), "Creating A Regulatable Abl Tyrosine Kinase by Fusion to the ER Hormone Binding Domain".
Genetics Institute, Cambridge, MA.
Rockefeller University (host: Hidesaburo Hanafusa), "Domain Structure of the Abl Tyrosine Kinase"

1991
Department of Biochemistry and Molecular Biology, Harvard College, Cambridge, MA (host: Mark Ptashne). "Functions of SH2 and SH3 Domains in Tyrosine Kinases". *February 1991.*
Whitehead Institute, MIT, Cambridge, MA. "Functions of SH2 and SH3 Domains in Tyrosine Kinases". *April 1991.*
Department of Cell Biology, University of Geneva, "Function of SH2 and SH3 Domains in Tyrosine Kinases". *May 1991.*
University of California, San Francisco, Student Faculty Journal Club, San Francisco, CA: "Regulation of Transformation by Abl Tyrosine Kinases". *October 1991.*

1992
CSHL, Cell Cycle Meeting, "Control of Replication Initiation by Cyclin E/Cdk2"

1993
CSHL, Eukaryotic DNA Replication Meeting, "Separating Replication Initiation and Elongation with p21, a Cdk2 inhibitor"

1994
CSHL, Cell Cycle Meeting, "Cyclin Control of DNA Replication"
Department of Biochemistry and Molecular Biology, Harvard College, "Cyclin Control of DNA Replication"

1995 ("Cyclin Control of DNA Replication")

Department of Microbiology and Immunology, Stanford University School of Medicine
Department of Cellular, Viral, and Molecular Biology, U. of Utah Medical School
Department of Cell Biology, Harvard Medical School
Department of Pathology, Harvard Medical School
Department of Biochemistry and Biophysics, Columbia U., College of Phys. & Surgeons
Department of Genetics, Yale University School of Medicine
Department of Biology, Yale College
National Institute of Child Health and Human Development, NIH
Department of Chemistry, California Institute of Technology
Department of Biological Sciences, Stanford University
Department of Pathology, Stanford University.
European Congress of Developmental Biology, Session: Cell Cycle & Development (Pat O'Farrell, Chair), Toulouse, France.
Eukaryotic DNA Replication meeting, Cold Spring Harbor, NY

1996

Molecular Oncology Lectures, Cancer Education Series, Stanford Medical School.
Department of Molecular Pharmacology, Stanford University School of Medicine, "Cyclin Control of DNA

Replication"
Department of Biochemistry, Stanford University School of Medicine, "Cyclins"
Cell Cycle Meeting, Cold Spring Harbor, NY, "Cyclin Control of DNA Replication"
European Congress of Developmental Biology, Toulouse, France, "Cyclin Control of Replication Initiation"
ASCB, San Francisco, CA, "Controlling Replication Initiation"

1997

Department of Developmental Biology, Stanford, "Cell Cycle Control of Replication"
Burroughs-Wellcome Foundation, "Discovering New Replication Regulators"
Onyx Corporation, Richmond, CA, "Cyclin E and Cdk2 Regulation"
The Seattle Project, Fred Hutchison Cancer Research Center, Seattle, WA, "Controlling the G1-S Transition"
The Institute for Molecular Pathology (IMP), Vienna, Austria, "Controlling the G1-S Transition"
ASCB Meeting, Washington, DC, "Cyclin E and Replication Initiation Factors"

1998

Cell Cycle Meeting, Cold Spring Harbor, NY, "Cyclin E Phosphorylation of Cdc6"
Lawrence Berkeley Laboratory, Berkeley CA, "Cyclin E and Control of Replication Initiation"
Dana-Farber Cancer Institute, William Cohen Lecture, "Cell Cycle Control by the Cdc14 Phosphatase"
Stanford University, Department of Developmental Biology, "The Eukaryotic G1-S Transition"
Department of Cell Biology, Harvard Medical School, "The G1-S Transition", ASCB, San Francisco, CA

1999

Sugen Corporation, South San Francisco, CA, "Cyclin E and Cdk2"
Research Program, Stanford Medical School, Palo Alto VA Hospital, "Cyclin Control of DNA replication"
Proteolysis Meeting, Cold Spring Harbor, NY, "The SCF Ubiquitin Ligase Controls Centrosome Duplication"
Proteolysis Symposium, ASCB Meeting, Washington DC, "The SCF Ubiquitin Ligase Controls Centrosome Duplication"
Rhone-Poulenc Rorer, Hayward, CA, "The SCF Ubiquitin Ligase Controls Centrosome Duplication"

2000

Cancer, Cell Cycle, and Therapeutics, Speaker, Keystone Symposia, January, "The SCF Ubiquitin Ligase Controls Centrosome Duplication"
Stanford University, Dept. of Pharmacology, February, "F-boxes, the SCF Ubiquitin Ligase, and Centrosome Duplication"
Rigel Pharmaceuticals, South San Francisco, "Ubiquitin Ligases"
AACR Meeting, April 2000. Cell Cycle Educational Symposium. Chairman and Lecturer, "Cell Cycle and Cancer"
Harvard University, Dept. of Cell Biology, "The SCF Ubiquitin Ligase Controls Centrosome Duplication"
Aventis Pharma, NJ, "Inhibitors of Ring Finger E3 Ubiquitin Ligases"
Smith-Kline Beecham. Princeton, NJ, "Inhibitors of Ring Finger E3 Ubiquitin Ligases"
Bristol-Myers Squibb, NJ, "Inhibitors of Ring Finger E3 Ubiquitin Ligases"
Merck & Co., West Point, PA, "Inhibitors of Ring Finger E3 Ubiquitin Ligases"
Dept. of Cell Biology University of Geneva, Switzerland, Cell Biology Symposium, "Emi1, an Inhibitor of the Anaphase Promoting Complex"

ISREC, Lausanne, Switzerland, "Emi1, an Inhibitor of the Anaphase Promoting Complex"
Friedrich-Miescher Institute, Basel, "Emi1, an Inhibitor of the Anaphase Promoting Complex"
Novartis, Basel, "Inhibitors of Ring Finger E3 Ubiquitin Ligases"
Genentech, S. San Francisco, "Inhibitors of Ring Finger E3 Ubiquitin Ligases"
Amgen, Thousand Oaks, CA, "Inhibitors of Ring Finger E3 Ubiquitin Ligases"
ASCB Meeting, San Francisco, Ubiquitination Symposium, "Emi1 binds to Cdc20 and Inhibits the Anaphase Promoting Complex"

2001
Stanford University School of Medicine, VA Hospital, "Emi1 binds to Cdc20 and Inhibits the Anaphase Promoting Complex"
Rigel Pharmaceuticals, "Emi1 binds to Cdc20 and Inhibits the Anaphase Promoting Complex"
U. California, San Francisco, Dept. of Chemical Biology, "Emi1 binds to Cdc20 and Inhibits the Anaphase Promoting Complex"
University of Oklahoma, Dept. of Biochemistry, "Emi1 binds to Cdc20 and Inhibits the Anaphase Promoting Complex"
Von Hippel Lindau Society, San Francisco, CA, "The Von Hippel Lindau Protein"
Axys Pharmaceuticals, S. San Francisco, "Cell Cycle Control by the Cdc14 Phosphatase"
U. California, San Francisco, Cancer Center, "Regulation of the Anaphase Promoting Complex by Emi1"
Abbott Pharmaceuticals, Abbott Park, IL, "Cell Cycle Control by the Cdc14 Phosphatase"
CSHL, DNA replication meeting, "Control of the G1-S Transition by Emi1, an APC Inhibitor"
Stanford University School of Medicine, Dept. of Pharmacology, "Control of the G1-S Transition by Emi1, an APC Inhibitor"
Yale University School of Medicine, Dept. of Molecular Biology & Biophysics, "Regulation of Cyclin Degradation"
Genentech, S. San Francisco, "Cell Cycle Control of Cyclin Degradation"
ASCB Meeting, Washington, DC, Cell Cycle Regulation Symposium Speaker, "Cell Cycle Control of Cyclin Degradation"

2002

Wellcome-CRC Laboratory, Cambridge, England, "Cell Cycle Control of Cyclin Degradation"
Signal Transduction 2002 Meeting, Luxembourg City, Luxembourg,
Danish Cancer Society, Copenhagen, Denmark
University of Cologne, Cologne, Germany
CSHL, Cell Cycle Meeting
FASEB Meeting, Calcium Signaling, Salt Lake City, Utah
Molecular Genetics Gordon Conference, Connecticut College
Abbott Laboratoires
European Cell Cycle Meeting, Roscoff, France
AACR Meeting on Ubiquitination in Cancer, Vancouver
UT Southwestern, Dept. of Pharmacology
Van Andel Institute, Grand Rapids, Michigan
M-phase Progression Workshop, University of Tokyo, Shonon Village, Japan
American Society for Cell Biology Annual Meeting, San Francisco

2003

Celgene Corporation, Signal Division, San Diego
Massachusetts General Hospital, Cancer Center
Massachusetts General Hospital, Dept. of Molecular Biology
University of North Carolina, Lineweaver Center, 10th Anniversary Symposium
Celgene Corporation, Analyst's Meeting, Targeting Ubiquitination as Cancer Therapy
Cold Spring Harbor, Ubiquitination Meeting
National Academy of Sciences, Washington DC
Fertilization Gordon Conference
The Oncogene Meeting, Salk Institute, San Diego, CA
International Meiosis Meeting, Sudbannhoff, Austria
IMP Vienna
Stanford Colloquium Talk, Dept. of Developmental Biology
Memorial Sloan-Kettering
Baxter Foundation, Award Lecture
NYU Cancer Center
Dana-Farber Cancer Institute, Symposium (Jimmy Fund).
ASCB Meeting, Washington, DC, Session on DNA Replication

2004

Stanford Program on Epithelial Biology.
AACR National Meeting, March, Plenary Talk
Kirsch Foundation
CSHL, Cell Cycle Meeting
American Society for Mass Spectrometry Meeting, Nashville, TN
FASEB Meeting, Ubiquitination
AACR Meeting on Cancer & Cell Cycle, Ft. Lauderdale
U. of Oregon, Eugene, OR

2005

Leukemia Society Meeting, NY, NY.
Pluto Society, Tamarindo, Costa Rica.
Meiosis Meeting, Cargese, Corsica.
Genentech, Inc., S. San Francisco, CA
AACR Meeting
CSHL Meeting, The Ubiquitin Family.
Fred Hutchison Cancer Research Center, Seattle, WA
U. of Alberta, Edmonton, Cananda
New York University School of Medicine, NY, NY
Columbia University School of Medicine, NY, NY

2006

AACR Ubiquitin & Cancer Meeting, Orlando FL
AACR Meeting
CSHL Cell Cycle Meeting
FASEB Ubiquitin Meeting
Nerviano Medical Sciences, Inc, Milan, Italy

Ubiquitin & Human Disease, Institute for Advanced Study, Hebrew University, Israel.
EORTC Meeting, Prague
Yale University School of Medicine, Dept. of Cell Biology
Harvard University School of Medicine, Dept. of Biochemistry and Molecular Pharmacology
University of California, Berkeley, Dept. of Cell Biology.
ASCB Meeting, San Diego, CA.

2007

Stanford University, Department of Developmental Biology.
Stowers Institute, Kansas City, Missouri.
Stanford University, Epithelial Biology Program.
CSHL Ubiquitin Family Meeting.
University of Minnesota, School of Medicine
Ubiquitin & Medicine Eppley Symposium Organizer & Speaker, U. of Nebraska
Cell Growth & Proliferation Gordon Conference, Biddeford, Maine
Primary Cilia FASEB Meeting, Saxton's River Vermont
4th Annual Dundee Upstate/Millipore Cell Signaling Symposium
Cancer Research UK Centre for Cancer Therapeutics
Notch Meeting, Athens, Greece
International Meeting on Protein Modification, Chinese National Academy of Science, Beijing, China.
Keynote Lecturer, International Symposium on Ubiquitination, Fudan University, Shanghai
Leukemia & Lymphoma Society

2008

Keystone Meeting, Molecular Basis for Biological Membrane Organization, Big Sky, Montana: *"Rab Trafficking Builds the Primary Cilium" January 15, 2008*

University of North Carolina, Medical School and Cancer Center: *"Assembly and Function of the Primary Cilium: Signaling at the Tip, March 10, 2008*

Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany: *"Assembly and Function of the Primary Cilium (With Lessons from Proteomics and Human Genetics), March 10, 2008*

Life Sciences Meeting, Drug Targets in the Ubiquitin Pathway, Berlin, Germany: "*Targeting the E2-E3 and E3-Substrate Interfaces" March 12, 2008*

International Society for Nephrology (Montreal). *"Assembly and Function of the Primary Cilium (With Lessons from Proteomics and Human Genetics) April 23, 2008*

CSHL Cell Cycle Meeting (Chair), *"Controlling Cyclin Destruction", May 14, 2008*

Ubiquitin Meeting, Saxton's River. "*Pseudosubstrate Inhibitors of the APC", June 16, 2008*

Memorial Sloan-Kettering, Department of Cell Biology, *"Assembly and Function of the Primary Cilium", May, 2008*

Harvard Medical School, BCMP Department.

International Society for Nephrology (Montreal). *"Assembly and Function of the Primary Cilium: Explaining Bardet-Biedl Syndrome, Nov. 2008.*

2009

NYU School of Medicine, Department of Pathology, February 2009
Gordon Conference Cilia Meeting, Il Cioccio, Italy, February 2009
University of Chicago, Department of Molecular Biology, May 2009
Northwestern University School of Medicine, Department of Cell Biology, May 2009
Cell Growth & Proliferation Gordon Conference, *July 8, 2009*
Mitosis Gordon Conference, Il Cioccio., *September, 2009*
UT Southwestern, Department of Pharmacology, *Oct. 2009*
Ubiquitin Drug Discovery and Diagnostics Meeting, Philadelphia, PA, September 2009
University of California, San Francisco, Department of Biochemistry & Biophysics, Nov. 2009.
ASCB, San Diego, CA.

2010

Dana-Farber Cancer Institute, Boston, Massachusetts: "How the Cell Smells: Signaling in Primary Cilia", *January 5, 2010.*

Keystone Meeting ("Cilia, Signaling, and Human Disease"), Monterrey, California, February 22-26, 2010. Organizer, Chair, and Speaker: "The NPHP-Joubert-Meckel-Gruber Network", *February 24, 2010.*

Burnham Institute*,* San Diego, California: "How the Cell Smells: Signaling in Primary Cilia", *March 29, 2010.*

CSHL Cell Cycle Meeting, Cold Spring Harbor, New York: "Serum Control of Rab Trafficking Regulates the Formation of Primary Cilia", *May 21, 2010.*

M.D. Anderson Cancer Center, Dallas, Texas, *June 2010*: "How the Cell Smells: Signaling in Primary Cilia"

FASEB Cilia Meeting, Saxton's River, *July 9, 2010*: "The NPHP-Joubert-Meckel-Gruber Network"

Gulbenkian Institute, Lisbon, Portugal: "How the Cell Smells: Signaling in Primary Cilia", "Cell Cycle Control and Cancer", "Perspectives on Science in Industry versus Academics", Oct. 29, 2010

American Society for Cell Biology, Philadelphia, PA. *December 2010*

2011

California Institute of Technology, Department of Biology, Pasadena, California, January 10

"How the Cell Smells: Signaling in Primary Cilia"

The Carnegie Institute, Baltimore, Maryland, February

Johns Hopkins School of Medicine, Department of Molecular Biology, Baltimore, Maryland, February
University of Virginia, Department of Biochemistry, February
AACR Meeting, Major Symposium on Systems Biology
CSHL Asia, Suzhou, High Throughput Cell Biology, "Tools for High Throughput Cell Biology & Proteomics"
University of Washington, Department of Pharmacology
Keynote Speaker, Gordon Conference on Polycystic Kidney Disease, Saxton's River, Vermont, June
Invited Speaker, Gordon Conference on Cell Growth and Proliferation, Biddeford, Maine.
Hôpital Necker Enfants Malades [Neurogenetics], Paris 15 e, France
University College London, Department of Human Genetics.
Sanger Center, Hinxton, England.
Garvan Institute, Sydney, Australia. Leaders in Science Seminar Series.
National University of Singapore, Institute of Molecular and Cell Biology.
Yale University, Department of Biology.
Emory University School of Medicine, Department of Human Genetics
American Society for Cell Biology, symposium speaker.

2012

UCSF Cancer Center, San Francisco, CA, Invited Speaker. January 27.
ASBMB-Theme Chair and Organizer, Drug Development Theme; Speaker: New Methods for Drug Development
University of Arizona, Department of Cell Biology.
Brandeis University, Departmental Seminar.
ESF-EMBO meeting "Cell polarity and membrane traffic", March 2012. Invited Speaker.
American Association for Cancer Research, Chicago, Meet the Experts session and Program Organization Committee. March 30.
ARVO (American Association for Research in Vision & Opthalmology) Annual Meeting, Ft. Lauderdale, May 6.
1st International Conference CILIA IN DEVELOPMENT AND DISEASE, London, 16-18 May. Keynote Speaker.
Cell Symposium: Sharing a Common Language of Genetics and Chemistry, Boston, MA, May 23. Invited Symposium Speaker.
Baxter Laboratory, Stanford University. *"Cilia, Quiescence Control, and Stem Cells".*
HUPO Proteomics Meeting, Sept. 8. Invited Speaker, Session Chair.
AACR Chemistry and Biology Symposium. Boston, MA June. Invited Symposium Speaker. June 13
September 24.
Metabolon Conference on Metabolomics, Featured Speaker.
University of Massachusetts, Worcester, seminar speaker, Oct. 4
Boulder Symposium. Oct. 13, invited speaker.
Institute for Molecular Medicine Finland/EMBL, invited speaker, EMBL Helsinki, Institute Seminar.
ASCB, Saturday early program session on Primary Cilia. Keynote Speaker.
ASCB, Major Symposium on Membrane Trafficking, Invited speaker.
Harvard Medical School, Department of Cell Biology, Nov. 19.
Columbia University College of Physicians and Surgeons, Irvington Cancer Center, Oct. 31
Stanford University School of Medicine, Nov. 30.
University of California, San Francisco, Cardiovascular Research Center, Dec. 10

2013

AACR Think Tank on Cancer Systems Biology, Philadelphia, PA.
New York University School of Medicine, Department of Pathology, Jan. 31.
NCI Federick National Lab, Feb. 14.
National Cancer Institute, Feb. 15
Sage Bionetworks Annual Meeting
Weill Cornell Medical College, New York City.
Gordon Conference on *Cilia and Mucociliary Interactions,* Il Ciochho, Italy. April. Invited speaker.
AACR Program Committee, Major Symposium Organizer & Speaker. April. Washington, D. C.
Gordon Conference on Epithelial Cell Biology, Il Cioccho, Italy, May 12-17. Invited Speaker.
Japanese Society for Cell Biology, Keynote Speaker: "Cilia and Ciliopathies", Nagoya Japan, May 20. Keynote speaker.
Pezcoller Foundation Meeting, Trento Italty, June. Invited Speaker.
Cell Growth and Proliferation Gordon Conference, Maine, June. Invited Speaker.
FASEB Meeting on Cilia, Niagra Falls, NY. Invited Speaker.
Stanford University School of Medicine. Department of Microbiology & Immunology.
Stanford University School of Medicine. Department of Chemical and Systems Biology
Regenerative Medicine at Stanford Colloquium.
Frontiers in Diabetes Research "Diabesity" Symposium, Naomi Berrie Center Columbia University College of Physicians and Surgeons. November 16. Title: "*Primary Cilia in Obesity".*

2014

Leukemia & Lymphoma Society Meeting
Keystone Obesity Meeting: *Neuropeptide Y Family Receptors Traffic via the Bardet-Biedl Syndromepathway to Signal in Neuronal Primary Cilia. January 15 Talk.*
Personalized Medicine World Congress, Palo Alto
Keystone Ciliary Signaling and Disease Meeting, Granlibakken
Keystone Tumor Metabolism, Whistler, BC. Organizers
AACR, San Diego, California
EMBO/FEBS, Paris, September 4, 2014
Cell LabLinks, Organizer/Speaker, Sept. 9. Primary Cilia.

2015
Anamar Inc, Gothenberg/Lund, February, *"GPCR signaling"*
FIMM/EMBL Helsinki, March 30*,* "*Ciliary IGF1-Akt signaling programs asymmetric cell division and differentiation in mesenchymal lineages" *
FIMM/EMBL Helsinki March 31 "*Biotech and academic contributions to drug development"*
Stanford Regenerative Medicine Symposium, "*Ciliary IGF1-Akt signaling programs asymmetric cell division and differentiation in mesenchymal lineages",* April 2.
Mayo Clinic, April 28.
Duke University, Department of Pharmacology. Nov. 2015. "*Ciliary IGF1-Akt signaling programs asymmetric cell division and differentiation in mesenchymal lineages"*

2016
Keystone Obesity Meeting. Banff, Canada.
TRAMM Program in Translational Medicine, Stanford University
Kras Symposium, NCI Frederick
Kras Team meeting, NCI

ASCB Saturday Symposium, Organizer/Speaker "*Human obesity genetics reveals a new ciliary tracking mechanism*"

2017
AACR Synthetic Lethal Meeting, San Diego CA, "A Kras protein and genetic interaction map"
Mucociliary interactions Gordon Conference, Galveston Texas, "An ancient GTPase cycle controls intraflagellar transport".
Keystone Obesity Meeting, Keystone Colorado, "A new obesity gene controls a GTPase cycle controlling intraflagellar transport"
CSHL-Asia Cilia and Centrosomes Meeting
TRAMM Program in Translational Medicine, Stanford University
NCI Kras Meeting
Cell Growth and Division Gordon Conference, "A network of Kras physical and genetic interactions"
FASEB Cilia Meeting, "Allosteric control of a GTPase cycle controlling intraflagellar transport"
UCLA, Department of Biochemistry, "A new ciliary stem cell pathway for preadipocytes"
UCSF, Cancer Cell Map Initiative, "The Kras interactome"
ASCB, "Cilia, Signaling and Disease" Symposium: "A new ciliary stem cell pathway for preadipocytes", Organizer and Speaker

2018
AACR Lung Cancer Meeting, San Diego CA, "Kras: Protein and Genetic Interactions predict cancer susceptibility in NSCLC"
UCSF Cancer Center Day, San Francisco
Goldfinch Biopharma
AACR Chicago
66th ASMS Conference, San Diego, CA (2 days or so)
Ras Synthetic Lethal Network Annual Meeting, Frederick, Maryland
Parker Institute, University of Pennsylvania.
2018 Cilia Meeting Copenhagen
ASCB/EMBO San Diego Talk, Organizer and Speaker

2019
Dana Farber Cancer Institute, Boston, MA
Takeda Pharma, Cambridge, MA
ASMB, Atlanta, GA
Cilia FASEB Meeting, Aspen Colorado
Ras Synthetic Lethal Network Annual Meeting, Stanford, CA
Mechanisms and Models of Cancer, Salk Institute, La Jolla, CA
Stanford Diabetes Center, Stanford, CA.
Research in Regenerative Medicine (REMS). "Reformulating adipogenesis: activation of ciliary ω-3 fatty acid receptor FFAR4/GPR120 triggers cAMP-dependent differentiation of preadipocytes". Nov. 16.
ASCB/EMBO. Washington DC.

2020
Keystone Diabetes Meeting, Santa Fe, New Mexico. "Reformulating adipogenesis: activation of ciliary ω-3 fatty acid receptor FFAR4/GPR120 triggers cAMP-dependent differentiation of preadipocytes". January 30, 2020.

COVID-19. MARCH 2021! Seminars Cancelled!

British Society for Cell Biology "The ACE2 SARS-CoV2 receptor and TMPRSS2/4 coreceptors localize to motile cilia of the respiratory tract during viral infection", September 29, 2020.

American Society for Cell Biology "The ACE2 SARS-CoV2 receptor and TMPRSS2/4 coreceptors localize to motile cilia of the respiratory tract during viral infection". December 9, 2020.

British Society for Cell Biology "Ciliary control of Pancreatic Secretion", December 15, 2020

Patents

US Patent 7,189,569 "Modulation of Cell Division By An Early Mitotic Inhibitor Protein" S01-097

Public Funding History
Active
1R01DK127665 Jackson (PI). 12/15/2020-11/30/2024
"Fatty Acid Signaling via GPCRs in Primary Cilia Controls Adipogenesis and Insulin Secretion, Regulating Obesity and Diabetes". Major Goals: 1: Define ciliary Ffar4 signaling in adipogenesis. 2: Ciliary Ffar4 control of hyperplasia versus hypertrophy in DIO. 3: Interrogate localized transmodulation of ciliary signaling via □-3, IGF1R, & PGE2 regulating adipogenesis.

1R01CA250534 Jackson (PI). 12/10/2020 – 11/30/2025.
"Identifying and Targeting Mechanisms for Membrane Signaling in Human Cancer". *Major Goals*
1. Genetic analysis of RAP1GDS1 isoforms and Rho family GTPases in LUAD. 2. Proteomic analysis of oncogenic interactions of RAP1GDS1 and linked small GTPases in LUAD 3. In vivo functional analysis of RhoA and Rap1GDS isoforms in LUAD.

3U01CA19921604S1 (Peter Jackson - SPO 118326) National Institutes of Health Using Protein Interaction Networks and Combinatorial Screens to target KRAS driven cancer
09/02/2015 - 07/31/2020 $896,131 (Subs: $425,268). 2.40 calendar

1R01HD085901 (Peter Jackson - SPO 119022) National Institutes of Health / University of Texas at Austin Mapping the CPLANE interactome, an extensive protein interaction network underlying human ciliopathies
09/05/2016 - 06/30/2021 $106,329. 0.24 calendar

5R01GM12156503 (Peter Jackson - SPO 123690) National Institutes of Health Ciliary trafficking mechanisms underlying the human genetics of obesity
03/01/2017 - 02/28/2021 $363,201 directs 2.40 calendar

5R01CA211657-03 (Peter Jackson - SPO 125921) National Institutes of Health / University of California, San Francisco Role of long non-coding RNAs in sarcoma pathogenesis
03/13/2017 - 02/28/2022 $13,858 directs. 0.60 calendar
Role of long non-coding RNAs in sarcoma pathogenesis

138137 (Peter Jackson - SPO 138137) Stanford ChEM-H Drugging Kras and Ral GTP exchange factors for adenocarcinomas of lung, pancreas, and colon
06/01/2018 - 05/31/2020 $75,000 directs.

Fund Raising
Mass spectrometry fund raising to support new Bruker timsTOF and mass spectrometry program.
Individual grants:

B:	$100,000
F:	$50,000
M:	$50,000
W:	$150,000
X, Y, Z, XX:	$25,000, $25,000, $20,000, $20,000
Anamar Pharma:	$25,000
Juvena Bio	$50,000 (pending contract finalization)

Individual Fellowship Grants to student and postdoctoral lab members upon request

Completed
5R01GM11427604 (Peter Jackson - SPO 116067) National Institutes of Health Centriolar-ciliary signaling mechanisms in tissue regeneration and differentiation
04/01/2015 - 02/28/2019 $956,112 (Subs: $0)
7.76 calendar

N/A (Peter Jackson - SPO 125899) Stanford ChEM-H Genome-wide screen for regulators of adipogenesis
09/01/2016 - 08/31/2017 $50,000 (Subs: $0). 0.00 calendar

SCI-Jackson-2018 (Peter Jackson - SPO 134762) Stanford Cancer Institute Enable clinically ready Kras- and tumor suppressor-dependent markers predicting NSCLC therapeutic choices
01/01/2018 - 12/31/2018 $46,300 (Subs: $0)
0.12 calendar

128487 (Peter Jackson - SPO 128487) Goldfinch Biopharma, Inc. Identification of Targets for Drug Discovery in Autosomal Polycystic Kidney Disease
01/01/2017 - 12/31/2020 $171,525 directs. 0.96 calendar

Multiple RO1s, New Investigator awards, Fellowships. and grants from 1995-2000, pre-Genentech. Specifics upon request.

Circa 2005

National Institutes of Health: RO1 GM73023-02 (Renewed)
Title: Cell Cycle Control of Protein Stability
Amount $345,000 (Total) x 5 years. Ended 6/01/09.

National Institutes of Health: RO1 GM54811-09 (Second Renewal)
Title: Cyclin Control of DNA replication.
Amount: $406,000 (Total) x 5 years
Third Renewal 2006 granted.

National Institutes of Health, RO1 GM 60437-03 (First renewal)
Title: Control of Mitosis by a novel SCF complex
Amount: $320,000 (Direct) x 5 years

National Institutes of Health: RO1 GM73023S-02
Title: Cell Cycle Control of Human Stem Cells
Amount $150,000 (Direct) x 2 years

National Institutes of Health: RO1 GM77411-01
Title: Control of Cyclin Stability in Meiosis
Awarded 2007, gratefully declined.

Sponsored projects (older)

E3 Ubiquitin Ligases in Cancer. Rigel Pharmaceuticals, $200,000.

Cdc14 in human cancer, Abbott Pharmaceuticals, $150,000

Axys Pharmaceuticals. $150,000/year x 2 years.

Previous Funding

HHMI, Graduate Fellowships, Adam Eldridge and Jerry Hsu
Presidential Fellowship, David Hansen
MSTP funding, Julie Reimann and Julie Miller.
Von Humbolt Fellowship, Dieter Wolf
Helen Hay Whitney/Jane Coffin Childs, Max Nachury
Jane Coffin Childs, Emmy Verschuren
Leukemia & Lymphoma Society, Jorge Torres
NIH Fellowship, Matt Summers
Prostate Cancer Research Program, US Army, $75,000 x 2 years.
Stanford Cancer Council Research Grant, $50,000
Lutje-Stubbs Scholar Award, $150,000
Baxter Foundation Award, $150,000
Howard Hughes Medical Institute, New Investigator Award, $15,000
American Cancer Society, Institutional Research Grant, $15,000
Research Incentive Funds, Office of Technology & Licensing, Stanford SUMS, $5,000
Program in Molecular and Genetic Medicine, Beckman Foundation, $50,000.

Current

Human Frontiers Postdoctoral Fellow, Kanie Tomoharu
EMBL Postdoctoral Fellow, Marcelo Chavez

Damon Runyan postdoctoral fellow, Keren Hilgendorf
Jeremy O'Connell, Stanford Fellowship, scientist
Henrietta Bennett, NSF Fellowship
Carl Johnson, Stanford Stem Cell studentship
Chien Ting Wu, Stanford Dean's Fellowship

Jackson Lab: Personnel & Projects

Person	**Project**
Peter Jackson, Ph. D. Principal Investigator	Signaling by the Primary Cilium Bioinformatic Methods for Data Mining Mass spectrometry for proteomics and metabolomics Identification of tumor suppressors Regeneration in ciliated tissues Regulation of membrane insertion of myristoylated and prenylated proteins: Arl3, Unc119, PDE6D Cilia in pancreatic cancer
Janos Demeter, Ph. D. (Stanford) Senior Research Scientist	Bioinformatic tools for analyzing PPI networks Consolidating cancer lesions into pathways
Jeremy O'Connell, Ph. D. (UT Austin) Senior Scientist	Mass spectrometry of cancer and arginine methyltransferases
Kanie Tomoharu, Ph. D.# Postdoctoral Fellow	Mechanisms controlling ciliary trafficking Human Frontiers Science Program Fellow
Chien-Ting Wu Postdoctoral Fellow	Ciliary control of pancreatic beta cells and cell cycle Dean's Fellowship
Keren Hilgendorf, Ph. D.# (MIT) Postdoctoral Fellow	GPCRs in adipose tissue; pre-adipocyte stem cells Damon Runyan Postdoctoral Fellow
Marcelo Chavez, M. D./Ph. D. Postdoctoral Fellow	Identifying ligands for new ciliary GPCRs EMBO Fellowship
Carl Johnson, Ph. D. student (UCLA)	Epigenetic and stem cell mechanism in adipogenesis
Ran Cheng, Ph. D. student (UC Berkeley)	Proteomics of secreted factors
Marcus Kelly, Ph. D. student (Brandeis)	Identifying novel Kras effectors in NSCLC
Henrietta Bennett, Ph. D. student (Yale)	Superresolution microscopy of primary cilia
Nancie Mooney, B.A., M. S. (UC Davis)	Proteomics Technology and Tools for Enzymology
Luda Lokteva, B. S., Research Associate	Ciliary control of cystic kidney disease

Nandita Naik, Undergraduate	Computational classifiers of primary cilia
Tracey Lang, undergraduate	Ciliary and hypoxia control of renal function

Former Lab members

Ken Ban, M. D., Ph. D.*	Assistant Professor, National University of Singapore/ASTAR.
Heather Briggs	Manager, SmithKline Beecham.
Adam Eldridge, Ph.D.*	Consultant, Biotech Industry
Laura Furstenthal, Ph. D.*	Senior Partner/Head of office, McKinsey & Company, San Francisco
Bryan Gardener	University of Pennsylvania School of Nursing, Philadelphia, PA
David Hansen, Ph.D.*	Scientist, Genentech, Inc.
Eric Huntzicker, Ph.D.**	Scientist, Gilead Corporation.
Quoc Duong	BioRad Corporation, Director.
Jerry Hsu, M.D., Ph.D *	Medical Director, Genentech, Inc.
Max Nachury, Ph. D.#	Associate Professor, Department of Opthalmology, UCSF
Ellen Freed, Ph. D.#	Researcher, Memorial Sloan Kettering Cancer Center.
Harn-Mei Hsieh, RA	Los Gatos, CA
Brett Kaiser, Postdoctoral Fellow*	Assistant Professor, U. Washington.
Karen Kingsman, M. D.#	Pediatrics practice
Katherine Lacey, Ph. D.	Private business
Norman Lehman, M. D./Ph.D.#	Associate Professor, Creighton University
Anne-Sophie Lebre, Ph.D.#	Faculty, Hôpital Necker, Paris, France
Florence Margottin-Goguet, Ph.D.#	Principal Investigator, Departement d'Hematologie, Institut Cochin, Paris, France.
Julie Miller, MSTP Student*	Neurology Attending, Partners (BWH/Mass General Harvard Med)
Saikat Mukhopadhyay, M. D/Ph. D.#	Assistant Professor, UT Southwestern, Department of Cell Biology.
Rebecca Pferdehirt, Ph. D.#	Scientist, Amgen, S. San Francisco
Julie Regan-Reimann M.D., PhD*	Dermatopathologist, Boston, MA.
Dirk Siepe, Ph. D.#	Sr. Scientist, Stanford University School of Medicine
Patricia Sitnitsky, M.D.*	Residency in Medicine, Santa Clara, CA
Amy Sherman*	Manager, Biotechnology
Matthew Summers, Ph.D.#	Professor, The Ohio State University
Jorge Torres, Ph.D.#	Associate Professor, Department of Biochemistry, UCLA
Jeff Tung, Ph.D., J. D.*	Patent lawyer, San Diego, California
Emmy Vershueren, Ph. D.#	Associate Investigator, FIMM-EMBL, Helsinki
Chris Westlake, Ph. D.#	Investigator & Head, Laboratory of Membrane Trafficking, NCI.Dieter
Dieter Wolf, M. D.#	Professor and Director of Proteomics, Sanford-Burnham Prebys Institute, San Diego, CA
Zachary Zimmerman, Ph.D.#	CEO and Co-Founder, Forge Therapeutics

*thesis primary advisor
**thesis coadvisor
#postdoctoral advisor

Visiting Scientists

Titia Sixma, Netherlands Cancer Institute, Amsterdam: Fulbright Scholar
Rachel Giles, U. Utrecht, Genentech Fellowship
Elizabeth Fisher, University College London, UCL Fellowship

Genentech
Department of Cell Regulation
Tom O'Brien, Ph. D., Senior Scientist
Laura Corson, Associate Scientist
Adam Eldridge, Associate Scientist, now Biotechnology Consultant
Mary Ludlam, Scientist
Georgia Hatzivassiliou, Senior Scientist
Ajay Pandita, Scientist
Guowei Fang, Senior Scientist, Now Head of Biology, Oncology Discovery, Abbvie, Head of Discovery, Pharmacylics
Daniel Anderson, Director, Cleave Biosciences
Lindsay Garrenton, Senior Research Associate, now Sr. Scientist, Five Prime Therapeutics
Alex Loktev, Senior Research Associate, now Sr. Scientist, Stanford University
Mandy Kwon, Research Associate
Janet Jin, Senior Research Associate, Now Sr. Manager and Principal Scientist, Roche.
Yang Xiao, Senior Research Associate
Chris Dal Nagro, Senior Research Associate
Kristy Zimmerman, Research Associate, now Postdoctoral Fellow, Genentech

Human Genetics Collaborators
Nephronophthisis, PKD, & Renal Cystic Diseases: Friedhelm Hildebrandt, University of Michigan. Rachel Giles, Utrecht. Renal cystic diseases. Peter Harris, Mayo Clinic.

Bardet-Biedl: Val Sheffield, University of Iowa. Bardet-Biedl syndrome. Phil Beales, University College London.

Retinal, Joubert, Meckel-Gruber Sensenbrenner, and acallosal syndromes: Tania Attie-Bitach. Hopital Necker, Paris. Joseph Gleeson, University of California, San Diego. Joubert syndrome. Dan Doherty, University of Washington. John Vincent, University of Toronto. Nicholas Katsanis, Duke University. Ronald Roepman, Utrecht.

Other collaborators

Val Sheffield, M.D./Ph.D., U. of Iowa	Human Genetics of Bardet-Biedl Syndrome Proteins
Francis Hildebrandt, M. D., U. of Michigan	Human Genetics of NPHP, Joubert, MKS
Jeremy Reiter, UCSF	Control of the cilium in the Hh Pathway
Tim Stearns, Stanford University	Control of spindle and centrosome function
Anthony Oro, Stanford SUMC	

Former Collaborators

Jan-Michael Peters, IMP, Vienna	Control of Emi1 and the APC
Frank Sprenger, U. Cologne	Genetics of Rca1 in Drosophila
Jim Ferrell, Stanford SUMC	Control of mitosis
Ray Deshaies, Caltech	Ubiquitination mechanisms

Current Research Interests

Stem Cell Biology

Role of primary ciliary signaling in stem cells
Cell cycle control of stem cell biology
Stem cells in adipocytes and mesenchymal precursors

Cancer, tumor metabolism & signaling

Mechanisms of chemotherapeutic efficacy via checkpoint and metabolic pathways
Tumor metabolism & Tumor acetylases
Tumor suppressors controlling metabolism

Signaling in Primary Cilia

Sensory signaling mechanisms using the Primary Cilium, including obesity signaling
The Role of Ciliary Signaling in Neural Development
Renal Insufficiency Syndromes and polycystic kidney disease
Mechanisms of Cystogenesis in kidney and pancreas
Human Genetics of Ciliary Disease

Biochemical Mechanisms

Ubiquitin-dependent proteolysis
Regulation by acetylation
Metabolic Enzyme Control in Metabolism

Other Research Interests

Lymphomagenesis and lymphoid development
Non-receptor Tyrosine Kinases
Proteolytic control of centrosome duplication and spindle assembly/disassembly
Cyclin-dependent and other protein kinases
Protein phosphatases, Cdc14 and PP2A
Mitotic exit and the mechanism of Taxane induced apoptosis
Nuclear and chromatin structure
Genomic instability

Technical Interests

Mass spectrometry and the high-throughput proteomics
Metabolomics
Genomics applied to human pathology, notably cancer and Ciliopathies
Informatics methodology for clinico-pathological correlation

Short Biographical Sketch

Peter K. Jackson, PhD
Baxter Laboratory for Stem Cell Biology
Department of Microbiology & Immunology

Dr. Jackson's work focuses on critical enzymatic mechanisms controlling eukaryotic cell growth. He has made contributions to understanding how non-catalytic domains are used to target enzymes to their intracellular sites of action. His graduate work with David Baltimore at MIT contributed to our understanding of how tyrosine kinases use modular domains, notably SH2 and SH3, to target tyrosine phosphorylation of specific targets and how nuclear localization is regulated. During his postdoctoral studies with Marc Kirschner at UCSF and Harvard Medical School, and continuing in his own laboratory at Stanford, Dr. Jackson defined mechanisms by which cyclin-dependent kinases activate DNA replication and the importance of ubiquitin ligases in the cell cycle. At Stanford, Dr. Jackson studied the role of ubiquitin ligases, cyclin-dependent kinases, and regulatory phosphatases to control the chromosome and centrosome cycles. This work led to the discovery of the role of cyclin-dependent kinases and ubiquitin ligases in the centrosome duplication cycle (with Tim Stearns), the role of the Cdc14 phosphatase in controlling cytokinesis in animal cells, and the discovery of a new class of regulators for ubiquitin ligases, exemplified by the Emi1 inhibitor of the Anaphase Promoting Complex. Work on Emi1 regulator led to fundamental insights into the control of mitosis and provided a critical link between a genetically defined pathway controlling cell growth and regulators of cell division. Notable work established that Emi2, a Emi1 homolog, was the key regulator in Cytostatic Factor, the activity that maintains vertebrate eggs in Meiosis II prior to fertilization. He contributed to the understanding of the role of ubiquitin ligases in cancer and to the possibility of drugging the ubiquitin pathway. More recent work has linked the role of vesicle trafficking to cell cycle control. Dr. Jackson's lab has made a broad set of new discoveries related to signaling in the primary cilium and the link between cilia and human genetic diseases. His research lab is currently focused on using proteomics to identify regulatory complexes important in cilia-related diseases and to explain human genetic deficiencies caused by ciliopathies. His lab is directed at discovering links between cilia and diseases of the retina, kidney, and brain. At Genentech, he initiated programs in the cell cycle, leading to the development of a Chk1 inhibitor, GNE-0425, now in Phase I clinical trials. He has worked on multiple new drug targets and in 2009 he played a key role in initiating a program in Tumor Metabolism, currently with targets in early and late stage research.

Dr. Jackson received a BA in Mathematics and in Economics *Magna cum Laude with Distinction* from Yale College. He worked at the RCA Corporation as a mathematician and computer scientist before pursuing graduate work in Chemical Physics at the University of Chicago and receiving a PhD in Biophysics from Harvard University. His thesis work was conducted at the Whitehead Institute, in the laboratory of David Baltimore. After postdoctoral work at UCSF and Harvard with Marc Kirschner, he joined the faculty at Stanford in 1996, where he was awarded tenure in 2001. At Stanford, Dr. Jackson taught courses in chemical biology, cell biology, biochemistry, and on the molecular basis of cancer. Dr. Jackson served as a consultant to the pharmaceutical, biotechnology industries and to the NIH, and has served on NIH study section. He was a Merck Fellow of the Life Sciences Research Foundation, a Baxter Scholar, a Lutje-Stubbs Scholar, the William T. Cohen Memorial Lecturer at the Dana-Farber Cancer Institute, the Eppley Professor of Oncology at the University of Nebraska, and elected a Fellow of the American Association for the Advancement of Science (AAAS) in 2009. He is a member of the editorial boards of *Developmental Cell, Faculty of 1000, Cell Cycle,* and the Founding Editor of *Cilia.* In 2006, Dr. Jackson joined Genentech, Inc, in South San Francisco, California, as a Staff Scientist and Director. In 2014, Dr. Jackson returned to Stanford to pursue a new direction in using proteomic network mapping to understand human genetic disease, stem cells, and cancer.