

**University of Pittsburgh**  
**School of Medicine**  
**CURRICULUM VITAE FORMAT**

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**BIOGRAPHICAL**

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**EDUCATION and TRAINING**

**UNDERGRADUATE**

Dates Attended	Name and Location of Institution	Degree Received and Year	Major Subject
2005-2009	Nanjing University, China	B.S. 2009	Biochemistry

**GRADUATE**

Dates Attended	Name and Location of Institution	Degree Received and Year	Major Subject
2009-2015	University of Wisconsin-Madison, USA	Ph.D. 2015	Molecular and Cellular Pharmacology

**POSTGRADUATE**

Dates Attended	Name and Location of Institution	Degree Received and Year	Major Subject
2016-2019	UT Southwestern, USA	Postdoctoral training	Molecular Biology

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**APPOINTMENTS and POSITIONS**

**ACADEMIC**

Years Inclusive	Name and Location of Institution or Organization	Rank/Title
2019-	Aging Institute & Department of Cell Biology, University of Pittsburgh, USA	Research Assistant Professor

2022-

Aging Institute & Department of  
Cell Biology, University of  
Pittsburgh, USA

Assistant Professor

**NON-ACADEMIC**

N/A

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**CERTIFICATION and LICENSURE**

N/A

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**MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES**

<b>Organization</b>	<b>Year</b>
American Society for Cell Biology	2014-
American Association for the Advancement of Science	2017-
American Society for Biochemistry and Molecular Biology	2019 -

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**HONORS**

<b>Title of Award</b>	<b>Year</b>
Haiyu Fellowship	2005, 2006
Chen-Ning Yang Scholarship	2006
Ruziniu Fellowship	2007
Scholarship for Innovation in Science & Technology	2007
National Encouragement Scholarship	2008
Alumi Fund Fellowship	2008
National Fellowship	2008
Herman I. Shapiro Fellowship, University of Wisconsin-Madison	2009
Howard Hughes Medical Institute (HHMI) International Student Research Fellowship	2012-2014
American Heart Association (AHA) Pre-doctoral Fellowship (declined)	2012
American Society for Cell Biology (ASCB) Graduate Travel Award	2014
Keystone Symposia Future of Science Fund Scholarship	2015
Cancer Research Institute Irvington Postdoctoral Fellowship	2016-2019
Award for Exceptional Contribution to the Phospholipid Signaling Field, FASEB Science Research Conference	2016
FASEB Science Research Conference Travel Award	2018
UPMC Competitive Medical Research Fund (CMRF) Award	2021
NIH/NIA K01 Mentored Research Scientist Development Award	2022 - 2026

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## PUBLICATIONS

### Complete List of Published Work:

**Pubmed:** <https://www.ncbi.nlm.nih.gov/myncbi/1zOHcXAAwiDk-/bibliography/public/>

**Google Scholar:** <https://scholar.google.com/citations?user=0saDSHsAAAAJ&hl=en>

### ORIGINAL PEER REVIEWED ARTICLES

- 1 Thapa N, Choi S, Hedman A, **Tan X**, Anderson RA. Phosphatidylinositol phosphate 5-kinase Iy12 in association with Src controls anchorage-independent growth of tumor cells. **J Biol Chem**. 2013;288(48):34707-18.
- 2 Sun Y, **Hedman AC\***, **Tan X\***, Schill NJ, Anderson RA. Endosomal type Iy PIP 5-kinase controls EGF receptor lysosomal sorting. **Dev Cell**. 2013;25(2):144-55. **\*Equal-authorship**
- 3 **Tan X**, Thapa N, Sun Y, Anderson RA. A kinase independent role for EGF receptor in autophagy initiation. **Cell**. 2015;160(1-2):145-60.
- 4 **Tan X**, Sun Y, Thapa N, Liao Y, Hedman AC, Anderson RA. LPTM4B is a PtdIns(4,5)P<sub>2</sub> effector that regulates EGFR signaling, lysosomal sorting, and degradation. **EMBO J**. 2015;34(4):475-90.
- 5 Thapa N, Choi S, **Tan X**, Anderson RA. Phosphatidylinositol phosphate 5-kinase Igamma and PI3K/Akt signaling couple to promote oncogenic growth. **J Biol Chem**. 2015;290 (30), 18843-54.
- 6 **Tan X**, Thapa N, Liao Y, Choi S, Anderson RA. PtdIns(4,5)P<sub>2</sub> signaling regulates ATG14 and autophagy. **PNAS**. 2016;113(39):10896-901. doi: 10.1073/pnas.1523145113.
- 7 Thapa N, **Tan X**, Choi S, Wise T, Anderson RA. PIPKly and talin couple phosphoinositide and adhesion signaling to control the epithelial to mesenchymal transition. **Oncogene**. 2016.
- 8 Gui X, Yang H, Li T, **Tan X**, Shi P, Du F, Chen ZJ. Autophagy Induction through STING Vesicle Trafficking Is a Primordial Function of the cGAS Pathway. **Nature**. 2019;567(7747):262-266.
- 9 **Tan JX** and Finkel T. A Phosphoinositide Signaling Pathway Mediates Rapid Lysosomal Repair. **Nature**. In press. 2022

### OTHER PEER REVIEWED PUBLICATIONS

- 9 Choi S, Thapa N, **Tan X**, Hedman AC, Anderson RA. PIP kinases define PI4,5P<sub>2</sub> signaling specificity by association with effectors. **BBA**. 2015;1851(6):711-723. Review.
- 10 **Tan X**, Thapa N, Choi S, Anderson RA. Emerging roles of PtdIns(4,5)P<sub>2</sub> – beyond the plasma membrane. **J Cell Sci**. 2015;128(22):4047-56. Review.
- 11 Thapa N, **Tan X**, Choi S, Lambert PF, Rapraeger AC, Anderson RA. The Hidden Conundrum of Phosphoinositide Signaling in Cancer. **Trends Cancer**. 2016;2(7): 378-390. Review.
- 12 **Tan X**, Lambert PF, Rapraeger AC, Anderson RA. Stress-induced EGFR trafficking: mechanisms, functions, and therapeutic implications. **Trends Cell Biol**. 2016;26(5):352-66. Review.
- 13 **Tan X**, Sun L, Chen J, Chen ZJ. Detection of microbial infections through innate immune sensing of nucleic acids. **Annual Review of Microbiology**. 2018;72:447-78. Review.

- 14 **Tan JX**, Finkel T. Mitochondria as intracellular signaling platforms in health and disease. **Journal of Cell Biology**. 2020;219(5): e202002179. Review.

#### **OTHER NON-PEER REVIEWED PUBLICATIONS**

- 15 **Tan JX**, Finkel T. Autophagy goes nuclear. **Nat Cell Biol**. 2020 Oct;22(10):1159-1161. doi: 10.1038/s41556-020-00587-5. PubMed PMID: 32989248.
- 16 **Tan X**, Anderson RA. Keeping in touch with the ER network. **Science**. 2017;12;356(6338): 584-585.
- 17 Sun Y\*, Hedman AC\*, **Tan X\***, Anderson RA. An unexpected role for PI4,5P2 in EGF receptor endosomal trafficking. **Cell Cycle**. 2013;12(13):1991-2. \*Equal-authorship

#### **4. BOOKS, BOOK CHAPTERS AND MONOGRAPHS**

- 18 Schramp M, Hedman A, Li W, **Tan X**, Anderson R. PIP kinases from the cell membrane to the nucleus. **Subcell Biochem**. 2012;58: 25-59. Review.

#### **5. PUBLISHED ABSTRACTS (in Scientific Journals)**

- 19 Swick AD, **Tan X**, Fowler T, Nickel K, Anderson RA, Kimple RJ. Induction of autophagy as a mechanism of therapeutic resistance in head and neck cancer. *Cancer Research*. 2016;76 (14 Supplement), 2129-2129.
- 20 **Tan X**, Zhang C, Chen ZJ. Abstract A116: Lipid control of DNA-stimulated innate immunity. *Cancer Immunology Research*. 2019;7 (2 Supplement), A116-A116.

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### **PROFESSIONAL ACTIVITIES**

#### **TEACHING**

- Provide a summary of courses and tutorials taught (include numbers and types of students taught, contact hours, number of lectures, etc)
- Include dates for **ALL** teaching activities
- Other lectures and seminars given
- Theses completed under your direction, service on PhD committees, comprehensive exam committees, etc.
- Supervision of pre- and post-doctoral students, house staff physicians and fellows (clinical and research)
- Faculty development, such as continuing medical education activities, include courses and workshops taught to medical professionals
- Web based curriculum, podcasts, and broadcasts
- Mentored grant funding (your mentee's recognized K-award)

*Consider using the following format:*

### **Medical Student Teaching:**

Dates Role, Title of teaching session(s), type of learner, number of learners, number of sessions/year

### **Graduate Student Teaching:**

Dates Role, Title of teaching session(s), type of learner, number of learners, number of sessions/year

### **Resident Teaching:**

Dates Role, Title of teaching session(s), type of learner, number of learners, number of sessions/year

### **Fellow Teaching:**

Dates Role, Title of teaching session(s), type of learner, number of learners, number of sessions/year

### **Faculty Development Teaching:**

Dates Role, Title of teaching session(s), type of learner, number of learners, number of sessions/year

### **Curriculum Development/Teaching Products/Media Products:**

Dates Title of Curriculum, brief explanation

### **Mentoring:**

2022	Mentor of Callie J. Laubacher, <b>undergraduate student</b> , University of Pittsburgh, in developing biochemical research project.
2021	Mentor of Nadia Lowen Webb, <b>Summer student</b> of the Hillman Academy and the Tech Drive X (TDX) Program, University of Pittsburgh, in developing biochemical research project.
2019	Mentor of Sophia Shi, <b>Summer student</b> of the Hillman Academy and the Tech Drive X (TDX) Program, University of Pittsburgh, in developing biochemical research project.
2019	Bench mentor of Siying (Stella) Guo, <b>rotating student</b> , Tsinghua-Pitt MD/PHD Program, University of Pittsburgh
2019	Bench mentor of Mingyuan Du, <b>rotating student</b> , Xiangya-Pitt MD/PHD Program, University of Pittsburgh
2017	Bench mentor of Minghao Li, <b>Ph.D. candidate</b> in the Immunology program, UT Southwestern, in cell culture and cell signaling analysis techniques. <i>Currently completing Ph.D. thesis with James Chen at UT Southwestern.</i>
2015	Bench mentor of Adhithi Rajagopalan, <b>Ph.D. candidate</b> in Cellular and Molecular Biology Program, UW-Madison, in cell culture, molecular cloning

and immunofluorescence.

*Currently completing Ph.D. thesis with Jin Zhang at UW-Madison.*

2014-2015

Mentor of Yihan Liao, **undergraduate student**, UW-Madison, in cell culture, molecular cloning, mutagenesis, cell line generation, immunoprecipitation, and immunofluorescence. *Currently completing Ph.D. thesis with Matthew J. Hilton in the Program of Pharmacology and Cancer Biology at Duke University.*

2013

Bench mentor of Xin Gao, **Ph.D. candidate** in Cellular and Molecular Biology program, UW-Madison, in cell culture and treatment techniques & basic biochemistry and cell biology training. *Completed Ph.D. thesis with Emery Bresnick at UW-Madison and currently a postdoc with Paul S. Frenette at Albert Einstein College of Medicine.*

## RESEARCH

- If PI, include total for all years and both direct and indirect costs
- If Co-I, list sub-award amount
- Grant number should include activity code (ex R01)
- Do not include funding to your trainee in which you are listed as mentor- this would be listed in the teaching section
- List competitively renewed grants once with initial contract start date and current end date

### Current Grant Support:

Grant Number (funded)	Grant Title	Role in Project  %Effort (must not exceed 100%)  Calendar Months (must not exceed 12 months)	Years Inclusive	Source \$ Amount  (include direct and indirect if PI)  (If Co-I list sub-award)
1K01AG075142-01	Antagonizing tau spreading in Alzheimer's disease by PI4K2A-mediated lysosomal quality control	PI 80% Effort 9.6 Cal.	2022-2026	NIH-NIA \$433,953

### Pending Grant Support (Include status, date reviewed, and priority score)

Grant Number	Grant Title	Role in Project  %Effort (must not exceed 100%)  Calendar Months (must not exceed 12 months)	Years Inclusive	Source \$ Amount  (include direct and indirect if PI)  (If Co-I list sub-award)	Status, date reviewed, priority score

### Prior Grant Support:

Grant Number (funded)	Grant Title	Role in Project <small>%Effort (must not exceed 100%) Calendar Months (must not exceed 12 months)</small>	Years Inclusive	Source \$ Amount <small>(include direct and indirect if PI) (If Co-I list sub-award)</small>
N/A	Deciphering the molecular basis of rapid lysosome repair	10% 1.2 Cal.	2021-2022	UPMC \$25,000

### Non-Funded Research:

- Clinical trials, IRB/Protocols, Studies

### Other research related activities

#### LIST of CURRENT RESEARCH INTERESTS

- Lysosomal stress
- Aging
- Lipid signaling
- Neurodegeneration
- Inflammation

#### INVITED SEMINARS AND LECTURESHIPS

- 08/2022 The PITT pathway in rapid lysosomal repair. **FASEB SRC on Phospholipids: Dynamic Lipid Signaling in Health and Disease.** Jupiter, FL
- 08/2018 PI3,5P<sub>2</sub> is essential for cytosolic DNA-stimulated innate immune signaling. **FASEB SRC on Phospholipids: Dynamic Lipid Signaling in Health and Disease,** The Steamboat Grand, Steamboat Springs, Colorado
- 08/2016 Endosomal PI4,5P<sub>2</sub> in prosurvival signaling and autophagy. **FASEB SRC on Phospholipid Signaling in Cancer, Neurodegeneration and Cardiovascular Disease,** The Steamboat Grand, Steamboat Springs, Colorado
- 06/2015 PI4,5P<sub>2</sub> signaling regulates ATG14 and autophagy. **Keystone Symposium on Autophagy,** Beaver Run Resort, Breckenridge, Colorado
- 05/2014 A kinase independent role for EGF receptor in autophagy initiation. **Keystone Symposium on Autophagy: Fundamentals to Disease,** Austin, Texas
- 09/2012 A novel endosomal PI4,5P<sub>2</sub> pathway controls EGFR signaling, lysosomal sorting and degradation. **10th Annual Signal Transduction Symposium,** Madison, Wisconsin

## SERVICE

- List service activities related to your memberships in professional and scientific societies here
- committee service as chair, co-chair, or member
- consultantships

2019- Serving as a mentor in the Pittsburgh Undergraduate Research Diversity Program (PURDIP)

2019- Serving as a mentor in the Hillman Academy summer research program

2014- Reviewer for Autophagy; Aging; Laboratory Investigation; PLOS ONE; Anti-Cancer Drugs; Cell&Bioscience; Toxicology and Applied Pharmacology; etc.

2014- Co-reviewer for Science; Molecular Cell; PLOS Pathogens; Molecular Biology of the Cell; EMBO Journal; etc.