Saori Furuta, Ph.D.

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Emeryville, CA 94608
(510)594-9049

Permanent US residency

PROFILE

Enthusiastic and tenacious cell and molecular biologist/biochemist with 15 years of research experience as a project and group leader. Developed an original and pioneering perspective on cell and cancer biology. Established interdisciplinary research skills integrating cell and molecular biology, biochemistry, genomics, proteomics, bioinformatics, bioengineering, pathology, histology, animal and translational studies. Possessed a record of 12 peer-reviewed publications in high-impact journals (the first author of 7 papers and corresponding author of one paper); 2 manuscripts currently in revision and 2 in preparation. Served as a referee of numerous top-tier journals and research grants. Taught molecular biology, biochemistry and bioinformatics lectures and laboratory courses for undergraduate students and served as a research mentor of undergraduate and graduate students. Formerly a loan officer at a Japanese bank.

EDUCATION

Ph.D. **University of California, Irvine, CA** 2007
Dept. of Biological Chemistry
Thesis: Roles of BRCA1 in Mammary Homeostasis and Pilot Study of Differentiation Therapy for Breast Cancer

M.S. **California State University, Los Angeles, CA** 2001
Dept. of Chemistry and Biochemistry
Thesis: Mechanism of p53 Tumor Suppressor Protein Oxidation

B.S. **University of California, Riverside, CA** 1999
Dept. of Biochemistry

B.A. **Tsuda College, Tokyo, Japan** 1990
Dept. of English Literature
Thesis: History of Alphabet

RESEARCH INTEREST

To investigate how mechanical and biochemical signals from the extracellular matrix (ECM) are transmitted for the establishment of mammary epithelial architecture. Then, to determine how these mechanisms go awry during breast carcinogenesis and whether their restoration in malignant cells could elicit anti-tumor effects. Future goals include development of robust models for pancreatic and ovarian cancer.

RESEARCH EXPERIENCE

Lawrence Berkeley National Laboratory (LBNL), Life Sciences Division (LSD) 2007-present

Postdoctoral Researcher — Project Scientist; Advisor: Mina J. Bissell, Ph.D.

Topics:

(1) Discovered nitric oxide production by mammary epithelial cells (MECs) in response to mechanical or biochemical stress from the ECM and its relevance to the formation of mammary acini (functional unit of mammary gland).
(2) Discovered the bases for reciprocal cell-ECM communications by MECs, involving nitric oxide, p53 and microRNAs, upon contacting the ECM proteins laminins during mammary acinar formation
(3) Discovered the mechanistic coupling of nitric oxide production and coherent rotation of MECs in response to the ECM cues for mammary acinar morphogenesis.
(4) Identified and characterized genes responsible for the resistance to a therapy targeting epidermal growth factor receptor (EGFR) in breast cancer, especially focused on the family with sequence similarity 83 member A (FAM83A) gene

Accomplishments:

- 6 peer-reviewed articles (4 published in *J. Clin. Invest.**, *Science Trans. Med*.*, *Oncotarget* and *PLOS One*; 2 in revision for *Nat. Cell Biol.**) and 1 review published in *Cell Cycle** [*4 first author papers]
- Outstanding Performance Award (LBNL, 2011)
- Best Performance Award in LBNL Early Career Scientist Seminar (1st prize, 2014)
- Minisymposium talk [selected] at American Society of Cell Biology meeting (Philadelphia, PA 2014)
- LSD Retreat talk [selected] (LBNL, 2015)

University of California, Irvine (UCI), Dept. of Biological Chemistry 2002-2007
Graduate Researcher; Advisor: Wen-Hwa Lee, Ph.D.; Co-advisor: Eva Y-H.P. Lee, Ph.D.

Topics:

(1) Identified and characterized factors secreted by differentiating normal mammary epithelial cells that specifically confer anti-tumor activity, especially focused on interleukin-25 (IL-25)[in collaboration with Mina Bissell laboratory]
(2) Delineated the role for breast cancer-associated gene 1 (BRCA1) in differentiation of acini in the mammary gland
(3) Delineated the role of BRCA1 in suppression of angiogenesis through transcriptional repression of angiopoietin-1 (ANG1) in the breast

Accomplishments:

- 4 peer-reviewed articles (published in *Cancer Cell**, *Proc. Nat. Acad. Sci. USA**, *J. Biol. Chem*.* and *Oncogene*) [*3 first author papers]
- DOD Breast Cancer Research Program Pre-doctoral Traineeship Award
- Best Performance Awards in UCI Graduate Student Seminars (1st prize twice; 2nd prize once)

California State University, Los Angeles (CSULA), Dept. of Chemistry/Biochemistry 1999-2002
City of Hope National Medical Center, Dept. of Cancer Biology
Graduate Researcher; Advisor: Jamil Momand, Ph.D.

Topics:

(1) Established a method to detect oxidative modifications of p53 by biochemically tagging cysteine sulfhydryl groups oxidized by redox-active copper
(2) Delineated impaired DNA binding and transactivation of p53 by oxidative modifications

Accomplishments:

- 2 peer-reviewed articles (published in *Biochem J**.and *Antioxid. Redox Signal*) and 1 book chapter [*1 first author paper]
- Alumni Certificate of Honor (CSULA, 2001)

HONORS/AWARDS

Best Performance Award, 1st Prize 2014
Oral presentation in Early Career Scientist Seminar
Lawrence Berkeley National Laboratory, Life Sciences Division

Outstanding Performance Award 2011
Lawrence Berkeley National Laboratory, Life Sciences Division

Best Performance Award, 1st Prize 2007
Oral presentation in Annual Graduate Research Seminar
University of California, Irvine, Dept. of Biological Chemistry

Best Performance Award, 2nd Prize 2005
Oral presentation in Annual Retreat (talk)
University of California, Irvine, Dept. of Biological Chemistry

Best Performance Award, 1st Prize 2005
Oral presentation in Annual Graduate Research Seminar
University of California, Irvine, Dept. of Biological Chemistry

DOD Breast Cancer Research Program Pre-doctoral Traineeship Award (2004-2008) 2004

Alumni Certificate of Honor 2001
California State University, Los Angeles
Dept. of Chemistry & Biochemistry

Best Performance Award, 1st Prize 2001
Poster presentation in Annual Research Symposium
California State University, Los Angeles

GRANTS/FELLOWSHIPS

CURRENT SUPPORT:

R01 CA064786 (NIH) 2008-2015

Definition of Microenvironment in Breast Cancer

This proposal evaluates the hypothesis that the integrity of breast unit structure (acini in culture; and TDLU or terminal ductal lobular unit in vivo) is crucial for maintenance of breast specific gene expression and integration of adhesion and growth factor signals. Further, it is the myoepithelial cells that provide structural cues for the luminal cells, and thus are the ultimate "tumor suppressors" in the breast.

$188,279/yr Bissell, MJ. (PI)

Role: Postdoctoral Associate

PENDING SUPPOPRT:

The NCI Transition Career Development Award (K22) (*IMPACT SCORE of 33,*

The role of nitric oxide in mammary morphogenesis (A0) pending resubmission)

This proposal evaluates the hypothesis that nitric oxide production by mammary epithelial cells in response to cues from the ECM is critical for breast epithelial morphogenesis and mammary gland development, whereas its defect accounts for breast carcinogenesis.

$450,000/3 yrs Furuta (PI)

NCI Small Grants Program for Cancer Research Award (R03) (Pending resubmission)

Coupled induction of nitric oxide and cell rotation for mammary acinar formation (A0)

This proposal evaluates the hypothesis that coherent cellular rotation and nitric oxide production by mammary epithelial cells are mechanistically coupled for breast epithelial morphogenesis and the defect leads to carcinogenesis.

$100,000/2 yrs Furuta (PI)

COMPLETED SUPPORT:

W81XWH-05-1-0322 (DOD) 2005-2008

DOD Breast Cancer Research Program Pre-doctoral Traineeship Award

Roles of breast cancer susceptibility genes BRCA's in mammary epithelial cell differentiation

This proposal evaluates the hypothesis that BRCA1/2 is involved in mammary epithelial morphogenesis and examines the underlying mechanism through regulation of gene expression and microenvironment.

$120,000/3 yrs Furuta (PI)

PUBLICATIONS (Total citations = 404 [244 since 2010]; h-index = 9; i10-index = 8)

Peer-reviewed Articles:

1. **Furuta S.**, Bissell, M.J. Laminin 5 and p53 form a reciprocal loop integrating microRNA circuitry by nitric oxide induction in mammary morphogenesis. ***Nat. Cell Biol.*** 2014 [in revision]
2. Ricca, B.L., Venugopalan, G., Tanner, K., **Furuta, S**., Orellana, W.A., Reber, C.D., Brownfield, D.G., Bissell, M.J., Fletcher, D.A. Transient external force induces phenotypic reversion of malignant epithelial structures via nitric oxide signaling. ***Nat. Cell Biol***. 2014 [in revision]
3. Becker-Weimann, S., Xiong, G., **Furuta, S.**, Han, J., Kuhn, I., Akavia, U.D., Pe'er, D., Bissell, M.J., Xu, R. NF-kappaB disrupts tissue polarity in 3D by preventing integration of microenvironmental signals. ***Oncotarget*** 2013; 4(11):2010-2020.
   *< Cited by **3** related article; Journal impact factor: **6.64**>*
4. Lee, S-Y.*, Meier, R.*, **Furuta, S.*** (*first three contributed equally; **SF** serves as a co-corresponding author with MJB), Lenburg, M.E., Kenny, P.A., Xu, R., Bissell, M.J. FAM83A confers EGFR-TKI resistance in breast cancer cells and in mice. ***J. Clin. Invest*.** 2012; 122(9):3211-3220.
   *<Cited by **14** related articles; Journal impact factor: **15.39**>*

   MEDIA COVERAGE (selected):
   - "New class of proteins allows breast cancer cells to evade tyrosine kinase inhibitors" *Science Daily*, Aug. 13, 2012
   - "Breast cancer drug resistance linked to gene family" *Genetic Engineering & Biotechnology News,* Aug. 14, 2012
   - "FAM83A proteins promote tumorigenesis and drug resistance" *Cancer Discovery Research Watch,* Aug. 23, 2012
   - "Protein linked therapy resistance in breast cancer; Berkeley lab researchers identify possible new oncogene and future therapy target" *EurekAlert*, Sep. 11, 2012
   - "Protein linked to therapy resistance in breast cancer; possible new oncogene and future therapy target" *Science Daily,* Sep. 11, 2012

- "New research brings doctors closer to a cure for breast cancer" *Florida Weekly*, Sep. 27, 2012

5. Ordinario, E., Han, H.J., **Furuta, S.**, Heiser, L., Jakkula, L., Rodier, F., Spellman, P., Campisi, J., Gray, J., Bissell, M.J., Kohwi, Y., Kohwi-Shigematsu, T. ATM suppresses SATB1-induced malignant progression in breast epithelial cells. ***PLOS One*** 2012;7(12):e51786.
   <*Cited by **9** related articles; Journal impact factor: **4.24***>
6. **Furuta, S.**, Jeng, Y.M., Zhou, L., Huang, L., Kuhn, I., Bissell, M.J., Lee, W.H. IL-25 causes apoptosis of IL-25R-expressing breast cancer cells without toxicity to nonmalignant cells. ***Sci Transl Med.*** 2011; 3(78):78ra31.
   <*Cited by **19** related articles; Journal impact factor: **14.42***>

   MEDIA COVERAGE (selected):
   - "Berkeley Lab Scientists find that normal breast cells help kill cancer cells" *Breakthrough Digest Medical News*, April 12, 2011
   - "Body's immune protein fights breast cancer" *ScienceNews*, April 13, 2011
   - "Normal breast cells help kill cancer cells, Researchers find" *Science Daily,* April 14, 2011
   - "Mammary cell protein able to fight cancer cells" *The Daily Californian*, April 15, 2011
   - "Signaling molecule selectively kills breast cancer cells" *NCI Cancer Bulletin*, April 19, 2011
   - "Treating cancer with IL-25" *Science-Business eXchange*, May 5, 2011
   - "Healthy cells defend against breast cancer" *Laboratory News*, Aug. 23, 2011
7. Jeng, Y.M., Cai, S., Li, A., **Furuta, S.**, Chen, P.L., Lee, E.Y.H.P., Lee, W.H. Brca1 heterozygous mice have shortened life span and are prone to ovarian tumorigenesis with haploinsufficiency upon ionizing irradiation. ***Oncogene*** 2007; 24(42):6160-6.
   <*Cited by **23** related articles; Journal impact factor: **8.559***>
8. **Furuta, S.**, Wang, J., Shuanzeng, W., Jeng, Y.M., Jiang, X., Gu, B., Chen, P.L., Lee, E.Y.H.P., Lee, W.H. Removal of BRCA1/CtIP/ZBRK1 repressor complex on *ANG1* promoter leads to accelerated breast tumor growth contributed by prominent vasculature. ***Cancer Cell*** 2006; 10(11):13-24.
   <*Cited by **63** related articles; Journal impact factor: **26.57***>

   FEATURED ARTICLE in Cancer Cell, July 1 2006

   MEDIA COVERAGE (selected):
   - "Study Identifies new role for breast cancer susceptibility gene" in *EurekAlert*, Jul. 17, 2006
   - "Feeding a hungry tumor" *ScienceNow Daily News*, Jul. 18, 2006
9. **Furuta, S.,** Jiang, X., Gu, B, Cheng, E., Chen, P.L., Lee, W.H. Depletion of BRCA1 impairs differentiation but enhances proliferation of mammary epithelial cells. ***Proc Natl Acad Sci U S A.*** 2005; 102(26):9176-81.
   <*Cited by **115** related articles; Journal impact factor: **9.81***>

   Cited in *OMIM: 113705-BREAST CANCER 1 GENE; BRCA1*
10. Utomo, A.*, Jiang, X.*, **Furuta, S.*,** (*first three contributed equally) Yun, J., Levin, D.S., Wang,Y.C., Desai, K.V., Green, J.E., Chen, P.L., Lee, W.H. Identification of a novel putative non-selenocysteine containing phospholipid hydroperoxide glutathione peroxidase (NPGPx) essential for alleviating oxidative stress generated from polyunsaturated fatty acids in breast cancer cells. ***J Biol Chem.*** 2004; 279(42):43522-9.
    <*Cited by **73** related articles; Journal impact factor: **4.77***>
11. **Furuta, S.,** Ortiz, F., Zhu, Sun X., Wu, HH., Mason, A., Momand, J. Copper uptake is required for pyrrolidine dithiocarbamate-mediated oxidation and protein level increase of p53 in cells. ***Biochem. J.*** 2002; 365(Pt 3):639-48.
    <*Cited by **44** related articles; Journal impact factor: **4.90***>
12. Makmura, L., Hamann, M., Areopagita, A., **Furuta, S.,** Munoz, A., Momand, J. Development of sensitive assay to detect reversibly oxidized protein cysteine sulfhydryl groups. ***Antioxid. Redox Signal*** 2001; 3(6):1105-18.
    <*Cited by **31** related articles; Journal impact factor: **8.46***>

Review Articles:

1. **Furuta, S.**, Ghajar, C.M., Lee, W.H., Bissell, M.J. Natural defense mechanism of normal epithelial cells to thwart cancer cells ***Cancer Res*** [in preparation]
2. **Furuta, S.**, Ghajar, C.M., Bissell, M.J. Caveolin-1: Would-be Achilles' heel of tumor microenvironment? ***Cell Cycle*** 2011; 10:1794-1809.
   <*Cited by **4** related articles; Journal impact factor: **5.36***>

Book Chapters:

1. **Furuta, S**, Lee, WH, Wei, R, Kidhr, L. "Negative Mediators of Cell Proliferation in Neoplastic Transformation: Tumor Suppressor Genes." a chapter in The Molecular Basis of Cancer. Humana Press (Totowa, NJ) [in preparation].
2. Momand, J., Aspuria, P.J., **Furuta, S**. "MDM2 and MDMX-regulators of p53 activity", a chapter in *Protein Reviews Vol 2: The p53 Tumor Suppressor Pathway and Cancer* 2005; pp155-186. Kluwer Academic/Plenum Publishers (New York, NY).
   <*Cited by **3** related articles*>

SPECIAL SKILLS

- Breast cancer cell reversion model, mammary organoid culture, transgenic and xenograft mice
- All the basic techniques of molecular and cellular biology/biochemistry and histological/pathological analyses; handling radioactive materials (P^{32}, C^{13} and S^{35}), confocal/super-resolution/time-lapse/traction force microscopy
- ChIP PCR, microarray data analysis, PAM and BLOSUM scoring matrices, ClustalW protein/gene alignment, protein modeling
- Biochemical tagging of oxidized cysteines, Inductively coupled plasma mass spectrometry (ICP-MS), liquid chromatography (LC)-MS/MS, high performance (HP)LC, shotgun proteomics, 2D gel electrophoresis
- Ability to work independently, within a team and as a group leader; mentoring students and technicians; designing, implementing and interpreting experiments; writing manuscripts and grants
- Excellent communication skills in oral and written English and Japanese

PATENTS

DETECTING AND TREATING BREAST CANCER RESISTANCE TO EGFR INHIBITORS (WO/2010/120554) 2011

Lee, S-Y., Kenny, P.A., Lenburg, M.E., Xu, Ren., Bissell, M.J., **Furuta, S.**, Meier, R.
The application describes therapeutic compositions and methods for treating cancer. For example, therapeutic compositions and methods related to inhibition of FAM83A (family with sequence similarity 83) are provided. The application also describes methods for diagnosing cancer resistance to EGFR inhibitors. For example, a method of diagnosing cancer resistance to EGFR inhibitors by detecting increased FAM83A levels is described.

USE OF IL-17E FOR CANCER TREATMENT (US20130052157) 2013

Furuta, S., Bissell, M.J., Lee, W-H., Lee, E-Y-H-P.
The present invention provides methods, kits, and compositions for treating cancer with cytotoxic agents. Preferably, the cytotoxic agents are selected from: IL-25, BMP10, FGF11, VDBP, ATIII and IL1-F7, and any combination thereof. In other preferred embodiments, the cancer is breast cancer. These agents can be supplied, for example, as proteins or as part of nucleic acid expression vector. <*Cited by **1** related patent*>

PRESENTATIONS

Annual LSD Retreat (talk [selected] & poster) 2015
LSD, LBNL

American Society of Cell Biology Annual Meeting (Minisymposium talk [selected] & poster) 2014
Philadelphia, PA

American Society of Cell Biology Annual Meeting (poster) 2012
San Francisco, CA

Department of Defense Era of Hope Meeting (poster) 2008
Baltimore, MD

Annual Graduate Research Seminar (talk) 2007
Dept. of Biological Chemistry, University of California, Irvine

Annual Biological Chemistry Retreat (talk) 2006
Dept. of Biological Chemistry, University of California, Irvine

Annual Graduate Research Seminar (talk) 2006
Dept. of Biological Chemistry, University of California, Irvine

Annual Biological Chemistry Retreat (talk) 2005
Dept. of Biological Chemistry, University of California, Irvine

Annual Graduate Research Seminar (talk) 2005
Dept. of Biological Chemistry, University of California, Irvine

Annual Biological Chemistry Retreat (talk) 2004
Dept. of Biological Chemistry, University of California, Irvine

Annual California State University, Los Angeles Research Symposium (poster) 2001
California State University, Los Angeles

Oxygen Society Annual Meeting (poster) 2001
Raleigh, NC

OTHER PROFESSIONAL ACTIVITIES

Referee for the Following Journals: 2007-present

Cell, Cancer Cell, Proc. Nat. Acad. Sci. USA., Nature, Nature Med., Nature Genet., Nat. Cell Biol., Science, Sci. Transl. Med., Cancer Res., J. Cell Science, PLOS Biol. PLOS One, J. Cell Biol, J. Clin. Invest., Oncogene, Medical Research Reviews, Genes Dev.

Membership of American Chemical Society (Nominated and Elected) 2011-present

Member of American Society of Cell Biology 2012-present

RESEARCH MENTORSHIP

Undergraduate Student

Vishal Sampoju 2011-present

University of California, Berkeley, Dept. of Molecular and Cell Biology
Lawrence Berkeley National Laboratory, Life Sciences Division, Mina J. Bissell Laboratory

Topics:

(1) Investigated matrix petalloproteinase-9 expression in breast cancer cells undergoing phenotypic reversion to normal-like type in 3D culture
(2) Analyzed published microarray data to examine the correlation of dystrophin expression to breast cancer grade/subtype and patients' prognosis

Accomplishments:

- V. Sampoju admitted to Honors Research Program
- Developed algorisms for high-throughput gene expression profiling
- Discovered the correlation of reduced dystrophin expression to luminal-type breast cancer

Graduate Student

Douglas Brownfield

University of California, Berkeley, Dept. of Bioengineering 2008-2012
Lawrence Berkeley National Laboratory, Life Sciences Division, Mina J. Bissell Laboratory

Topics:

(1) Delineated the mechanism of the directional cue for mammary branching morphogenesis triggered by the alignment of collagen in the ECM

Accomplishments:

- Paper published in *Curr. Biol* (Brownfield et al. 2013)
- Ph.D. degree awarded to D. Brownfield (2012)
- Postdoctoral job offer to D. Brownfield (2012)

TEACHING EXPERIENCE

Teaching Assistant

Biochemistry Laboratory (BIO SCI M114L) Fall 2003
University of California, Irvine, Dept. of Molecular Biology & Biochemistry

- Purified and characterized cytochrome p450 from chicken muscle
  Delivered a laboratory course twice a week (8 hours/week), prepared reagents before class, graded quizzes, reports, midterm and final exam, and held office hours (8 hours/week)

Molecular Biology Laboratory (BIO SCI M116L) Spring 2003
University of California, Irvine, Dept. of Molecular Biology & Biochemistry

- Cloned the *T. cruzi* flagellum gene from a genomic library and expressed the protein in *E. coli*
  Delivered a laboratory course twice a week (8 hours/week), prepared reagents before class, graded quizzes, reports, midterm and final exam, and held office hours (6 hours/week)

Molecular Biology Laboratory (BIO SCI M116L) Winter 2002
University of California, Irvine, Dept. of Molecular Biology & Biochemistry
- Cloned the *T. cruzi* flagellum gene from a genomic library and expressed the protein in *E. coli*

  Delivered a laboratory course twice a week (8 hours/week), prepared reagents before class, graded quizzes, reports, midterm and final exam, and held office hours (6 hours/week)

Biochemistry Lecture (BIO SCI 98) Fall 2002
University of California, Irvine, Dept. of Molecular Biology & Biochemistry
- Gave lectures from *Principles of Biochemistry* (*Moran, et al.;* 3rd Ed)

  Assisted lecture course twice a week (4 hours/week), graded reports, midterm and final exam, and held office hours (4 hours/week)

Bioinformatics Lecture/Laboratory (CHEM 434) 2001-2002
California State University, Los Angeles, Dept. of Chemistry & Biochemistry
- Prepared PAM and BLOSUM scoring matrices
- Generated algorithms for the class

  Assisted lecture/lab course twice a week (3 hours/week), graded reports, midterm and final exam, and held office hours (3 hours/week)

ADMINISTRATIVE SERVICE

Safety Officer 2004-2007
University of California, Irvine, Dept. of Biological Chemistry

Radiation/Safety Officer 1999-2002
California State University, Los Angeles, Dept. of Chemistry & Biochemistry

OTHER WORK EXPERIENCE

Loan Officer/Mortgage Controller 1990-1993
Tokai Bank, Ltd., Nagoya, Aichi, Japan

Accomplishments:
- Established work ethics of diligence, precision and accuracy. Developed a sense of individual responsibility and collegiality as well as analytical, numerical and communication skills

REFERENCES

1. Mina J. Bissell, Ph.D. (510)468-6301
Relationship: Mentor for postdoctoral research mjbissell@lbl.gov
Affiliation: Lawrence Berkeley National Laboratory
Title: Distinguished Scientist
Address: Life Sciences Division, Lawrence Berkeley National Laboratory
1 Cyclotron Rd. MS977R227 Berkeley, CA 94720

2. Jamil Momand, Ph.D. (323) 343-2361
Relationship: Mentor for Master's research jmomand@calstatela.edu
Affiliation: California State University, Los Angeles
Title: Professor in Biochemistry
Address: Department of Chemistry & Biochemistry, California State University, Los Angeles
5151 State University Drive, Los Angeles, CA 90032

3. Terumi Kohwi-Shigematsu, Ph.D. (510)486-4545
Relationship: Collaborator for postdoctoral research tkohwi-shigematsu@lbl.gov
Affiliation: Lawrence Berkeley National Laboratory
Title: Senior Scientist
Address: Life Sciences Division, Lawrence Berkeley National Laboratory
1 Cyclotron Rd. MS977R142E, Berkeley, CA 94720

4. Eva Y.-H.P. Lee, Ph.D. (949)824-9766
Relationship: Ph.D. co-advisor elee@uci.edu
Affiliation: University of California, Irvine
Title: Chancellor's Professor
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