January 2, 2023

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# Curriculum Vitae

Peixin Yang, Ph.D.

Professor & Vice Chair for Research, Director, Center for Birth Defect Research, Departments of Obstetrics, Gynecology and Reproductive Sciences, Biochemistry & Molecular Biology

Deputy Director of Graduate and Postdoctoral Studies, University of Maryland School of Medicine

## Contact Information

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## Education

1986-1990 B.S., Animal Science, Zhejiang Agricultural University, Zhejiang, P. R. China

1990-1993 M.S., Animal Reproductive Sciences, Nanjing Agricultural University, Nanjing, P. R. China

1994-1999 Ph.D., Biophysics, Tokyo University of Agriculture & Technology and Zhejiang University, Tokyo, Japan and Zhejiang, P. R. China

## Post Graduate Education and Training

1999-2002 University of Nebraska Medical Center, Postdoctoral Research Associate, Mentor: Shyamal K. Roy

**Academic Appointments**

2002-2004 Research Associate, Department of Obstetrics and Gynecology, University of Nebraska Medical Center

2004-2005 Research Assistant Professor, Division of Endocrinology & Metabolism, University of Arkansas for Medical Sciences

2006-2006 Research Assistant Professor, Department of Obstetrics & Gynecology, University of Arkansas for Medical Sciences

2006-2013 Assistant Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of Maryland School of Medicine

2010-2013 Assistant Professor (secondary appointment), Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

2013-present Associate Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of Maryland School of Medicine

2013-present Associate Professor (secondary appointment), Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

2014 Awarded Tenure, Department of Obstetrics, Gynecology and Reproductive Sciences, University of Maryland School of Medicine

2016-present Professor with tenure, Department of Obstetrics, Gynecology and Reproductive Sciences, University of Maryland School of Medicine

2016-present Professor (secondary appointment), Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

2017-2019 Associate Chair for research, Director, Center for Birth Defects Research, Departments of Obstetrics, Gynecology and Reproductive Sciences, Biochemistry & Molecular Biology;

2017-present Deputy Director of Graduate and Postdoctoral Studies, University of Maryland School of Medicine

2019-present Vice Chair for Research, Director, Center for Birth Defects Research, Departments of Obstetrics, Gynecology and Reproductive Sciences, Biochemistry & Molecular Biology

## Professional Society Memberships

1999-present Member, Society for the Study of Reproduction (SSR)

2002-present Member of the American Physiology Society

2007-present Member, American Diabetes Association

2007-present Member, the Teratology Society

2010-present Member, the Society of Gynecologic Investigation

## Honors and Awards

1997-1998 Peace and Friendship Scholarship, Association of International Education Japan (AIEJ)

1998 Young Scientist Grant for participating in the 3rd International Conference on Farm Animal Endocrinology, Brussels, Belgium

2000-2002 Grant award of Natural Scientific Foundation of China (NSFC39900106)

2002-2003 The Lalor Foundation Postdoctoral Fellowship ($30,000)

2003 Best Postdoctoral Poster of Nebraska Physiological Society ($250)

2011 Best Poster Award, the Society of Gynecologic Investigation Annual Scientific Meeting (Mentor)

2013 The F. Clarke Fraser New Investigator Award, the Teratology Society

2014 Travel awards of Dr. Hui Gu and Ms. Yanqing Wu at the Teratology Society 2014 Annual Meeting, June 28-July 2, 2014, Bellevue, Washington.

2016 The Young Investigator Travel Grant for Dr. Daoyin Dong (Postdoctoral fellow), American Diabetes Association’s 76th Scientific Sessions, June 10-14, 2016 in New Orleans, LA.

2017 Society for Reproductive Investigation President's Presenter's Award (Mentor), Orlando, Florida.

2019 25th Annual M. Carlyle Crenshaw Lectureship in Maternal and Fetal Medicine, Department of Obstetrics, Gynecology & Reproductive Sciences, University Maryland School of Medicine.

## Administrative Service

2010-present Member of BIRCWH (NIH K12) internal advisory committee, University of Maryland School of Medicine. This service is to monitor the progress of current NIH K12 scholars, give advice and participate in the future plan of the BIRCWH program

2011-2015 Member of the Institutional Biosafety Committee (IBC): review campus-wide IBC protocols and attend monthly review meetings

2011-2013 Department delegate to the SOM Council

2010-presentMember of the NIH P30 Baltimore Diabetes Research Training Center. The goal of the Center is to foster collaborative, multidisciplinary diabetes and endocrinology research, and translate that research into programs to train health care professionals in the diagnosis and management of diabetes. Principal investigator, Dr. Fredric E. Wondisford, Professor and Director, Metabolism Division, Medicine, Pediatrics & Physiology Departments; Director, JHU-UMD Diabetes Research & Training Center, Johns Hopkins University School of Medicine, 600 N. Wolfe Street/CMSC10-113, Baltimore, MD 21287

2011-2014 Associate member of the program in Biochemistry & Molecular Biology, the Graduate Program in Life Sciences (GPILS), University of Maryland Baltimore

2012 Co-chair of a platform session, TS/OTIS (the Teratology Society (TS) and the Organization of Teratology Information Specialists (OTIS) Joint Platform Session: Pregnancy Outcomes: Basic Science to Clinical Practice, the 52nd Annual Meeting of the Teratology Society, Baltimore, Maryland

2012-present Member of the Institutional Animal Care and Use Committee (IACUC): review campus-wide animal use protocols (15-30 protocols plus 30-40 amendments per month and attend 3-4 hours monthly meetings, working hours >250 hours/year)

2013-2016 Graduate Committee for PhD student, Emily Simons, Molecular and Mechanistic Toxicology Graduate Program, University of Maryland School of Medicine

2013 Symposium chair, “Advances in the genomic sciences towards understanding and predicting developmental defects”, the Teratology Society Annual Meeting

2013-present Mentor for the Summer Program in Obesity, Diabetes and Nutrition Research Training (SPORT, NIH T35DK095737, PI Nanette Steinle)

2013-2016 Faculty Senator, University of Maryland Baltimore: attend monthly meetings for faculty affairs and participate in shared governance

2014-present Graduate Committee for PhD student, Alex Meltzer, Biochemistry & Molecular Biology Graduate Program, University of Maryland School of Medicine

2014-2015 Committee member of the institutional Transgenic Mouse Core Facility, University of Maryland Baltimore

2014-present Full member of the program in Biochemistry & Molecular Biology, the Graduate Program in Life Sciences (GPILS), University of Maryland Baltimore

2014 Chair of the Platform Session: Mechanisms, the Teratology Society Annual Meeting, Bellevue, Washington

2015 Member of BIRCWH (NIH K12) scholar recruit committee, University of Maryland School of Medicine, review 17 applications and interview 6 candidates, working about 24 hours

2015-present Faculty mentor in the NIDDK T32 (1T32DK098107-01A1) Training Program, "Diabetes and Its Metabolic Complications" (Simeon Taylor,PI)

2015-present Member of the Science Committee, the Teratology Society, working with past/current presidents of the society to steer the science direction of the Society

2016-2017 Reviewer of the NIDDK Diabetes Complications Consortium (DiaComp)

2017-2019 Chair, the Science Committee, the Teratology Society, working with past/current presidents of the society to steer the science direction of the Society

**Editorial board**

**2013-present Member of the Editorial Board, *Reproductive Toxicology***

**2023- Associate Editor, Journal of Alzheimer’s Disease**

2013-2018 Member of the Editorial Board, *American Journal of Physiology, Endocrinology and Metabolism*

2013-2018 Board of Reviewing Editors, *Biology of Reproduction*

1999-presentReviewer, *Biology of Reproduction*

2007-presentReviewer, *Diabetes*

2007-presentReviewer, *Diabetologia*

2008-presentReviewer, *Reproductive Toxicology*

2009-presentReviewer, *American Journal of Physiology, Endocrinology and Metabolism*

2010-presentReviewer, *Animal Reproduction Science*

2010-presentReviewer, *Endocrine*

2010-presentReviewer, *Reproduction*

2020-presentReviewer, *Circulation*

2011 NIH Study Section *ad hoc* reviewer for Pregnancy and Neonatology, Bethesda, MD

2011-presentReviewer, *Molecular Biology Reports*

2011 Interviewer for faculty candidates, Department of Pediatrics

## 2011-2012 Member of the Teratology Society Program Committee, organize the 52nd Annual Meeting of the Teratology Society, Marriott Baltimore Waterfront, Baltimore, MD

2012 Abstract Reviewer, review abstracts for the Teratology Society's 52nd Annual Meeting

2012 NIH Study Section *ad hoc* reviewer for Pregnancy and Neonatology, Bethesda, MD

2012, 2016 Grant reviewer of the United-States-Israel Binational Science Foundation, Bynet Building, 8 Hamarpeh Street, Har Hotzvim, P.O. Box 45086, Jerusalem 91450, Israel.

2012-2015 Member of the Membership Committee, the Teratology Society

2012-presentReviewer, *Journal of Neuroscience Research*

2012-presentReviewer, *Journal of Investigative Dermatology*

2012-presentReviewer, *Food and Chemical Toxicology*

2012-presentReviewer, *Molecular and Cellular Biochemistry*

2013-presentReviewer, *Cardiovascular Diabetology*

2013-presentReviewer, *Reproduction in Domestic Animals*

2013-presentReviewer, *Chemico-Biological Interactions*

2013-presentReviewer, *Environment Pollution*

2013-presentReviewer, *International Journal of Developmental Neuroscience*

2013-presentReviewer, *PLOS One*

2013-presentReviewer, *Oxidative Medicine and Cellular Longevity*

2013-2017 Member of the F. Clarke Fraser and Service Awards Committee, the Teratology Society

2014 NIH Study Section *ad hoc* reviewer for Pregnancy and Neonatology, Bethesda, MD

2014-presentReviewer, *Journal of Clinical Investigation*

2014-presentReviewer, *British Journal of Nutrition*

2014-presentReviewer, *Neurological Research*

2014-presentReviewer, *Toxicological Science*

2014-presentReviewer, *Free Radical Biology & Medicine*

2014-presentReviewer, *Experimental Biology and Medicine*

2021-presentReviewer, *Nature Communications*

2020-presentReviewer, *EMBO molecular medicine*

2015-2019 NIH Study Section Regular membership for Pregnancy and Neonatology Study Section, Bethesda, MD

2020 Member of the Review Panel NIH/NICHD Women's Reproductive Health Research (WRHR) Career Development Program (K12).

2021 National Institute of General Medical Sciences (NIGMS) R35 study section member

2021-present NIH study section for Fellowships: Endocrinology, Metabolism, Nutrition and Reproductive Sciences.

**Local Service**

2012 Judge, Resident Research Day, Women’s and Infants Services, Department of Obstetrics and Gynecology, Washington Hospital Center, Washington, DC

2021 Mentor for Gift-talented research course at the Marriotts Ridge High School, Howard County, MD

## Teaching Service

1993-1998 Lecturer and course director

Animal Reproductive Physiology, undergraduate course

Department of Animal Sciences, Zhejiang University, P. R. China

60 students, 120 contact hours/year

2001-2003 Lecturer

Endocrine & Reproductive Physiology (course No. 253)

Department of Physiology and Biophysics, University of Nebraska Medical Center

20 medical radiology assistant students, 10 contact hours/semester

2010Cell & Molecular Biology Conference

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

20 medical students, 2 contact hours/semester, plus office hours (about 1 hour) to review medical student’s presentations

2011 GPLS 701 Advanced Molecular Biology

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

11 graduate students, teach two major sections (Transcription and Epigenomics), 6 contact hours/semester plus office hours and mentoring Jessica Harker’s term paper

2011 Structure and Development Course

Department of Anatomy & Neurobiology, University of Maryland School of Medicine

All first year medical students, 1 contact hours/semester

2011 Cell Molecular Biology Course

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

All first year medical students, 1 contact hour and 5 office hours/semester

2011-2012 Cell & Molecular Biology Conference

Department of Biochemistry and Molecular Biology, University of Maryland School of Medicine

40 medical students, 8 contact hours/semester, plus 6 office hours to review medical student’s presentations

2012 MMED-MS Professor’s Rounds, Graduate Program in Molecular Medicine, University of Maryland School of Medicine

15 graduate students, 2 contact hours/semester

2012 GPILS 601 Mechanisms in Biomedical Sciences: From Genes to Disease, Student Conference, University of Maryland School of Medicine

9 graduate students, 2 contact hours/semester

2012 Cell Molecular Biology Course

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

All first year medical students, 3 contact hours and 15 office hours/semester, 3 hours exam (Student’s evaluation is 4. 5 is the best)

2012-2013 Cell & Molecular Biology Conference

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

40 medical students, 8 contact hours/semester, plus 6 office hours to review medical student’s presentations, (Student’s evaluation is 4.7. 5 is the best)

2013 Functional Systems

Department of Physiology, University of Maryland School of Medicine

40 medical students, 8 contact hours/semester, plus 6 office hours to review medical student’s presentations

2013 SPORT summer research program, University of Maryland School of Medicine. This program is supported by a NIH T35 training grant.

2013 Graduate Committee for PhD student, Emily Simons, Molecular and Mechanistic Toxicology Graduate Program, University of Maryland School of Medicine

2013 GPLS 701 Advanced Molecular Biology

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

6 graduate students, 4 contact hours/semester plus office hours

2013 MMED-MS Professor’s Rounds, Graduate Program in Molecular Medicine, University of Maryland School of Medicine

15 graduate students, 2 contact hours/semester

2013 Cell Molecular Biology Course

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

All first year medical students, 3 contact hours and 15 office hours/semester, 3 hours exam

2013 Cell Molecular Biology Course, Small Groups\Molecular Biology Technology

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

50 first year medical students, 4 contact hours and 4 office hours/semester

2013-2014 Cell & Molecular Biology Conference

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

40 medical students, 8 contact hours/semester, plus 6 office hours to review medical student’s presentations

2014 GPLS 713 Molecular Basis of Cellular Function (Graduate course in the Biochemistry and Molecular Biology Program)

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

12 PhD graduate students, 4 contact hours/semester, plus 6 office hours to prepare the teaching material.

2014, 2015 GPLS 701 Advanced Molecular Biology

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

Lecture on “Chromatin Structure and Epigenomics”, 12 graduate students, 4 contact hours/semester plus office hours

2014, 2015 Cell Molecular Biology Course

Department of Biochemistry and Molecular Biology, University of Maryland School of Medicine

All first year medical students, 3 contact hours and 15 office hours/semester

2014, 2015 Cell Molecular Biology Course, Small Groups\Molecular Biology technology

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

50 first year medical students, 4 contact hours and 4 office hours/semester

2014, 2015 Cell & Molecular Biology Conference

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

40 medical students, 6 contact hours/semester, plus 6 office hours to review medical student’s presentations

2016-present GPLS 701 Advanced Molecular Biology

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

Lecture on “Chromatin Structure and Epigenomics”, 12 graduate students, 4 contact hours/semester plus office hours

2016, 2017 Cell Molecular Biology Course, Small Groups\Molecular Biology technology

Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine

50 first year medical students, 4 contact hours and 4 office hours/semester

2016-present Cell Molecular Biology Course

Department of Biochemistry and Molecular Biology, University of Maryland School of Medicine

All first year medical students, 3 contact hours and 15 office hours/semester

2014-present UMD SPORT program, an NIH supported T35 medical student summer training grant, University of Maryland School of Medicine.

**List of Mentees**

**Research Associates**

2005 Qingqing Zhen, B.S., Division of Endocrinology & Metabolism, University of Arkansas for Medical Sciences, 20 hours/week, 5 months

2006 Hong Wu, MD, Department of Obstetrics & Gynecology, University of Arkansas for Medical Sciences, 20 hours/week, 5 months

2015-present Wei-Bin Shen, MD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

2018-present Cheng Xu, PhD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

2017-present Shengbing Wang, PhD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

2018-2021 Xauguang Nie, PhD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

2018-2020 Fei Ye, PhD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

2019-present Penghua Yang, PhD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

2021-present Montasir Elahi, PhD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

**Postdoctoral Fellows**

2009-2011 Hongbo Weng, PhD, School of Pharmacy, Associate Professor, Fudan University, China

Project: Nitrosative stress and the effect of *in vivo* overexpression of FADD (FAS-Associated via Death Domain) dominant negative mutants in diabetic embryopathy. 40 hours/week, 19 months

2010-2013 Xuezheng Li, PhD

Associate Professor, YianBian University, China.

Project: Endoplasmic reticulum stress in diabetic embryopathy.

40 hours/week

2010-2018 Dr. Cheng Xu, PhD

Project: Impaired autophagy in the induction of diabetic embryopathy.

40 hours/week

2011-2014 Dr. Fang Wang, PhD

Project: The role of vasculopathy in the induction of malformations in diabetic embryopathy. 40 hours/week

2013-2014 Dr. Hui Gu, PhD

Project: The role of microRNA in maternal diabetes-induced neural tube defects. 40 hours/week

2014-2019 Dr. Daoying Dong, PhD

Project: Epigentic mechanism underlying embryonic defects in diabetic pregnancies. 40 hours/week

2014-2019 Dr. Penghua Yang, PhD

Project: Effect of hyperglycemia on embryonic stem cells. 40 hours/week

2014-2016 Dr. Jianxiang Zhong, PhD

Project: Epigenetic mechanism on maternal diabetes-induced embryonic malformations. 40 hours/week

2014-2015 Dr. Yon Ju Ji, PhD

Project: p70S6K1 and HIPPO signaling in neural tube defects under diabetic conditions. 40 hours/week, 6 months

2016-2016 Dr. Xue Xia, PhD

Project: Epigenetic modifications in maternal diabetes-induced congenital heart defects. 40 hours/week, 6 months

2016-2020 Dr. Songying Cao, PhD

Project: The mechanisms underlying vasculopathy causes neural tube defects in diabetic embryopathy. 40 hours/week, 6 months

2017-present Dr. Shengbing Wang, PhD

Project: The HIPPO-Yap signaling in diabetic embryopathy. 40 hours/week, 6 months

2017-2021 Dr. Wenhui Lu, PhD

Project: The role of cardiac progenitors in maternal diabetes-induced heart defects. 40 hours/week, 6 months

2018-2019 Dr. Jun Li, PhD

Project: The role of Wnt signaling in maternal diabetes-induced heart defects. 40 hours/week, 6 months

2018-2018 Dr. Jianfei Qi, PhD,

2018-2019 Dr. Wenbo Li, PhD

2018-2019 Dr. Wenting Luo, PhD

Project: miRNA dysregulation in maternal diabetes-induced heart defects. 40hours/week, 6 months

2020-present Dr. Guanlei Wang

Project: The role of exosomes in maternal diabetes-induced neural tube defects. 40 hours/week, 6 months

2020-2022 Dr. Shicong Song

Project: The molecular pathways leading to kidney defects in diabetic embryopathy

2021 Dr. Na-Young Rho

Project: Cellular organelle stress and altered dynamics in maternal diabetes-induced heat defects.

2022-present Dr. Zaied Bhuyan

Project: Reduced RNA methylation in maternal diabetes-induced heat defects

2022-present Dr. Mohammad Sazzadul Islam

Project: Diesel chemical-induced neural tube defects

2022-present Dr. Ahsanul Khan

Project: Ferroptosis in diabetes

2022-present Dr. Murugananth Kumar Raju

Project: The relationship between ferroptosis and senescence in diabetic embryopathy.

2022-present Dr. Mahadi Hassan

Project: The relationship between stress granules and autophagy in diabetic embryopathy.

**Assistant Professors**

2020-present Dr. Wei-Bin Shen

Project: Insulin resistance in the pathogenesis of Alzheimer’s diseases

2021-present Dr. Bingbing Wang

Project: The effect of COVID-19 on placental development

2022-present Robin Roychaudhuri

Project: The effect of maternal diabetes on early neurodevelopment

**Associate Professors**

2019-2022 Dr. Zhiyong Zhao

Project: exosome in congenital heart defects.

**Summer Students**

2009 Grace Ching, Freshman, Rice University, 20 hours/week, 2 months

2011 Allan Peng, Freshman, Richmond University, 20 hours/week, 1 month

2011 Andrew Ayowumi, Freshman, Morgan State University, 20 hours/week, 1 month

2011 Dyamon Brown, a high school student, the Freedom Interns, the University Summer student program, 20 hours/week

2011 Dennis Wilson, a high school student, the Freedom Interns, the University Summer student program, 20 hours/week

2014 David Yeh, Freshman, University of Texas Southwestern Dallas, 20 hours/week, 3 months

2014 Noah Fu, Marriott Ridge High School senior, summer internship, 20 hours/week

2018 William R. Johnson IV, Sophomore, Washington Adventist University, 20/hours week, 5 months

2019 Kelvin Chen, Freshman, Johns Hopkins University, summer internships, 20/hours week.

2019 Eric Zhu, Marriott Ridge High School senior, summer internship, 20 hours/week

2021 Hana Shen, Mt. Hebron High School senior, summer internship, 40 hours/week

2021 June Hua, Marriott Ridge High School senior, summer internship, 40 hours/week

2022 Eric Zhu, Junior, University of Maryland College Park, summer internship, 40 hours/week

2022 June Hua, Sophomore, University of Maryland College Park, summer internship, 40 hours/week

2022 Ivy Han, senior, Vanderbilt University, summer internship, 40 hours/week

2022 Jackson Guo, senior, New York University, summer internship, 40 hours/week

2022 Iain Andrews, Marriott Ridge High School senior, summer internship, 40 hours/week

2022 Anna Chen, Freshman, University of California San Diego, summer internship, 40 hours/week

**High School Student**

2021-present Vinita Badugu, Gifted-talent research course, Marriott Ridge High School, 4 hours/week

**Research Scholar**

2014 Haipeng Zhang, MD, Medical College of Jilin University, China, 40 hours/week, 6 months

2014-2016 Jinweng Yu, MS, 40 hours/week

2014-2016 Xue Lin, MD, working on maternal diabetes-induced non-compaction ventricles in embryonic hearts, 40 hours/week

2015-2016 Yang Zhao, MD, Mechanism of type 2 diabetic embryopathy, 40 hours/week

2015-2017 Xi Chen, MD, Epigenetic mechanism in diabetic embryopathy, 40 hours/week

2018-2019 Jingxiang Ni, MD, The effect of maternal obesity on placental function, 40 hours/week

2019-2020 Yanxiang Mo, MD

2019-2020 Yuri Oichi, MD

**Exchange Graduate Student**

2013-present Yanqing Wu, Fujian Normal University, 40 hours/week

2019- Shicong Song

## Medical Students

## 2008 Charelle M. Carter, MS II, 20 hours/week, 4 months

2013 Crystal Bae, MS I, SPORT summer research program, University of Maryland School of Medicine. This program is supported by a NIH T35 training grant. 20 hours/week

2015 Natalia AriasVillela, MS1, New York Medical College, SPORT summer research program, University of Maryland School of Medicine. This program is supported by a NIH T35 training grant, 20 hours/week

2016 Garrett K. Ni, MS1, Albany Medical College, SPORT summer research program, University of Maryland School of Medicine. This program is supported by a NIH T35 training grant, 20 hours/week

2018 Ben Cornwell, MS1, University of Maryland School of Medicine, SPORT summer research program, University of Maryland School of Medicine. This program is supported by a NIH T35 training grant, 20 hours/week

2019 Jenifer Akinduro, MS1, Ohio State School of Medicine, SPORT summer research program, University of Maryland School of Medicine. This program is supported by a NIH T35 training grant, 20 hours/week

2020 Ashley Yoo, MS1, University of Maryland School of Medicine, SPORT summer research program, University of Maryland School of Medicine. This program is supported by a NIH T35 training grant, 20 hours/week

**Clinical Fellows**

2013-2015 Rinat Gabbay Benziv, MD, 20 hours/week

2017-2019 Ruofan Yao, MD, 20 hours/week

**Research Assistants**

2007 Jie Deng, B.S., Project: Signaling pathways mediate the teratogenicity of maternal diabetes, 40 hours/week, 6 months

2009 Feng Zhang, B.S., Project: Apoptotic gene expression in diabeticembryopathy, 40 hours/week, 10 months

2008-present Hua Li, B.S., Project: apoptotic mechanism in maternal diabetes-induced neural tube defects, 40 hours/week

## Grant Support

**Active Grants** (**7 active R01s, more than 13 million active NIH funding; for the past twelve years, I obtained 46 million NIH funding; annual funding about 4 million for the last five and the next five years; for the next ten years, I will obtain at least 40 million funding**). Total funding has been ranked as top 10 for many years and in 2019 my blue ridge ranking is 6 in national OB/GYN departments.

12/21/22-11/30/2027 YANG, PEIXIN (PD/PI)

Intersection of the mTOR/p70S6K1 signaling and the HIPPO-Yap

tissue organizer in neurulation and diabetic embryopathy

R01 HD108705-01A1

Total Costs: $3,250,000

9/7/22-7/30/2026 YANG, PEIXIN (PD/PI)

Heightened hypoxia and DNA methylation in heart defects of diabetic embryopathy

R01HL160727

Total Costs: $3,200,000

8/28/20-6/30/24 Peixin Yang (contact PI: 25%) and Sunjay Kaushal (MPI)

*“HYPERGLYCEMIA OF MATERNAL DIABETES INDUCES CARDIAC ISL1 POSITIVE PROGENITOR DYSFUNCTION LEADING TO HEART DEFECTS”*

NIH/R01 HL153141

Annual Direct Costs: $398,106

Total Costs: $2,460,296

9/01/20 – 8/31/25 YANG, PEIXIN (PI), Albert Reece (MPI) and Wei-Bin Shen (MPI)

NIH/R01HD099843

Epitranscriptomic Alteration and Planar Cell Polarity Signaling In Diabetic Embryopathy

Total Costs: $3,412,189

5/7/14-2/28/2025 Peixin Yang (PI: 25%)

*“Autophagy and its Regulation in Diabetic Embryopathy”*

NIH/R01 HD102206

Annual Direct Costs: $331,424

Total Costs: $2,560,250

7/1/20-6/30/2024 Peixin Yang (PI: 25%)

R01 HL151108

“CELLULAR STRESS-INDUCED GENE DYSREGULATION IN HEART DEFECTS FORMATION OF DIABETIC PREGNANCY”

Annual Direct Costs: $ 390,493

Total Costs: $2,413,248

06/01/14-06/30/24 Peixin Yang (25%) (contact PI) and Albert Reece (MPI)

*“Molecular Signaling Pathways and Cellular Stress in Diabetic Embryopathy”*

NIH/1R01R01 HD100195

Annual Direct Costs: $384,396

Total Costs: about $2,969,458

04/01/17-03/30/21 Peixin Yang (PI: 25%)

NIH/R01 HL134368

“MICRORNA-SUPPRESSED MITOCHONDRIAL FUSION IN MEDIATING THE TERATOGENICITY OF MATERNAL DIABETES LEADING TO HEART DEFECTS”

Annual Direct Costs: $604,001

Total Costs: $2,416,004

07/01/17-06/30/21 Peixin Yang (PI: 25%, Contact) and Sunjay Kaushal (MPI)

“THE ROLE OF C-KIT POSITIVE CARDIAC PROGENITORS IN MATERNAL DIABETES-INDUCED HEART DEFECTS AND THE THERAPEUTIC VALUES OF THESE CELLS”

NIH/ R01 HL139060

Annual total Cost: $602,408

Total Costs: $2,409,632

01/01/19-12/31/22 Peixin Yang (MPI: 20%, from the second-year self-requesting to be co-investigator) and Sunjay Kaushal (contact PI)

“CHARACTERIZATION OF THE CARDIAC PROGENITOR CELL EXOSOMES FOR OPTIMAL THERAPEUTICS”

NIH/ R01 HL141922

Annual total Cost: $ 649,944

Total Costs: $2,600,000

8/1/16-3/31/20 Peixin Yang (PI: 25%) No Cost Extension

*“Maternal Diabetes-Suppressed Vascular Signaling Induces Vasculopathy and Neural Tube Defects”*

NIH/1R01HL131737-01

Annual Direct Costs: $337,364

Total Costs: $2,083,362

03/01/10-02/28/20 Peixin Yang (PI: 25%) No Cost Extension

*“Apoptotic Mechanism of Maternal Diabetes-Induced Neural Tube Defects”*

NIH/R01 DK083243

Annual Direct Costs: $275,000

Total Costs: $1,700,000

10/01/15-09/30/23 Peixin Yang (Co-I: 5%)

*“Surgical Studies on Mucosal Homeostasis”*

VA MERIT Review Award (PI: Jaladanki, RN)

10/01/15-07/31/24 Peixin Yang (Co-I: 5%)

*“Surgical Studies of Gut Permeability”*

NIH, RO1 DK-68491

PI: Jian-Ying Wang

**Pending Grants**

07/01/23 - 06/30/30 YANG, PEIXIN (contact PI)

Maryland Maternal Health Research Center of Excellence

U54HD113132

Total Costs: $18,939,875.02

07/01/23 - 06/30/28 YANG, PEIXIN (PD/PI)

The Induction of Senescence-like Neurons in the Pathogenesis of Alzheimer's Disease

R01AG08400

Total Costs: $3,750,920.45

4/01/23 - 03/31/28 YANG, PEIXIN (PD/PI)

Mechanism of Insulin Resistance prior to Alzheimer’s disease onset and exosomal functional cargos in treating Alzheimer’s disease

R01AG079348

Total Costs: $3,797,174.50

**Completed Grants**

09/21/12-08/31/15 Peixin Yang (PI)

*“Metabolic Cellular stress and its Regulatory Mechanism in Diabetic Embryopathy”*

NIH/NIDDK R56DK095380

Total Direct Costs: $97,719

Total Cost: $149,999

03/01/14-2/28/18 Peixin Yang (PI: 25%)

*“Autophagy and its Regulation in Diabetic Embryopathy”*

NIH/R01DK101972-01

Annual Direct Costs: $260,000

Total Costs: $1,680,000

01/01/13-12/31/15 Peixin Yang (PI: 15%)

*“Aberrant DNA Methylation in Maternal Diabetes-Induced Neural Tube Defects”*

Basic Science Award (1-13-BS-220), American Diabetes Association

Annual Direct Cost: $100,000

Total Costs: $345,000

07/01/14-06/30/15 Peixin Yang (PI: 5%)

*“Role of NADPH oxidase 4 and mitochondrial dysfunction in maternal diabetes-induced heart defects”*

Pilot and Feasibility Award, Baltimore Diabetes Research Center (NIH funded center)

Total Direct Costs: $76,750 per year for two years (another $76,750)

09/18/08-07/31/13 Peixin Yang (Co-I: 40%; PI-E. A. Reece)

*“Mechanisms of Diabetic Embryopathy and Molecular Pathways”*

NIH/NIDDK R01 DK083770

Annual Direct Costs: $212,500

Total Direct Costs: $850,000

01/01/08-12/31/09 Peixin Yang (BIRCWH scholar: 75%, PI-P. Langenberg)

*“Maryland's Organized Research Effort in Women's Health (MORE-WH)”*

NIH K12HD043489 (BIRCWH)

Annual Direct Costs: $92,593

**Patents, Inventions and Copyrights**

1. US Patent Number: 12/779,935, U.S. Patent 2010-0291069-A1, November 18, 2010.

UMB Docket Number: ER-2009-036, Methods of Treating a Diabetic Embryopathy.

*2.* US Provisional Patent Application Number: 61/651,189, Title: “Use of Trehalose for Prevention of Neural Tube Defects”. UMB Docket Number: PY-2012-118.

3. Provisional Patent Application Number: 63/218,062, filed July 2, 2021

Title: “TARGETED PROTEIN DELIVERY TO MAMMALIAN EMBRYOS AND THERAPEUTIC APPLICATIONS USING EXOSOMES”

UMB Docket Number: PY-2021-004 (PR)

4. Provisional Patent Application Number: 63/399,348, filed August 19, 2022

Title: “TREATMENT OF ALZHEIMER’S DISEASE WITH VASCULAR PROGENITOR-DERIVED EXOSOMES ENRICHED WITH MICRORNAS OR THIOREDOXIN”

UMB Docket Number: PY-2021-002 (PR)

## Publications

**Peer-Reviewed Journal Articles** (<https://www.ncbi.nlm.nih.gov/myncbi/1BA0Vix5gqKAE/bibliography/public/?page=1>)

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2. **Yang P**, Shi G, He Y. Effects of third ventricle injection of norepinaphrine analogue on LH secretion of the non-laying SIJI goose. *Advance in Animal Sciences*. Chinese Agriculture and Technology Press. 1994, pp. 160-165.

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4. Shi G, **Yang P**, He Y. Changes of concentrations of plasma thyroid hormone in SIJI goose of different physiological stages. *Advance in Animal Sciences.* Chinese Agriculture and Technology Press. 1994, pp. 145-151.

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12. **Yang P**, Cheng Z, Watanabe G, Taya K. Effects of third ventricle injection of norepinephrine analogue on LH secretion of the non-laying SIJI goose. *Endocrine Journal*. 2000;47(1):7-12.

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**Book Chapters**

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**Abstracts**

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41. **Yang P**, Gabbay-Benziv R, Zhong J.Superoxide dismutase 2 overexpression alleviates maternal diabetes-induced neural tube defects by suppressing oxidative stress and restoring mitochondrial function. Poster at the 48th Annual Meeting of the Society for the Study of Reproduction, 18–22 June 2015, San Juan, Puerto Rico, USA.
42. Daoyin Dong, E. Albert Reece, Yuji Zhang, Lei Wang, and Peixin Yang. microRNA expression profiling and functional annotation analysis of their targets during embryonic heart development in diabetic mice. International Experimental Biology and Medicine: Translational Medicine, Chengdu, China, October 10-12, 2015 (poster)
43. Daoyin Dong, Hui Gu, and Peixin Yang. miR-322 inhibition by inositol-requiring enzyme 1 alpha triggers the teratogenicity of maternal diabetes. The American Diabetes Association’s 76th Scientific Sessions, New Orleans, Louisiana, USA, June 10‐14, 2016 (oral). (**Dr. Daoyin Dong was awarded the Young Investigator Travel Grant**)
44. Penghua Yang, Cheng Xu, **Peixin Yang**. Targeted deletion of Dnmt3b gene reduces maternal diabetes-induced DNA methylation and neural tube defects. Accepted for Oral Presentation. American Diabetes Association’s 76th Scientific Sessions, June 10-14, 2016 in New Orleans, LA.
45. Daoyin Dong and **Peixin Yang**. Reduced expression of the long non-coding RNA GALNR mediates high glucose-induced apoptosis by up-regulating Gadd45 in diabetic embryopathy. The Teratology Society’s 56th Annual meeting, San Antonio, Texas, USA, June 25-29, 2016 (oral). (Dr. Daoyin Dong received the Student and Postdoctoral Fellow Travel Award).
46. Daoyin Dong, Wei-Bin Shen, and **Peixin Yang**. MiR-200b mediates the teratogenic effect of maternal diabetes leading to neural tube defects by suppressing autophagy and inducing endoplasmic reticulum stress. The Society for Reproductive Investigation’s 64th Annual Scientific Meeting, Orlando, Florida, USA, March 15-18. 2017 (**The SRI President’s Presenter’s Award**).
47. Penghua Yang, Chen Xu, Albert A Reece, **Peixin Yang**. MARCKS Acetylation Regulated by TIP60 and SIRT2 Prerequisite for Phosphorylation Dismantles Its Cellular Organelle Protection and Neural Tube Closure in Diabetes. Accepted for both Oral Presentation and Poster Presentation. The Teratology Society’s 56th Annual Meeting, Jun 25-29, 2016, in San Antonio, TX. (Dr. Penghua Yang received the Student and Postdoctoral Fellow Travel Award).
48. Daoyin Dong, Yang Zhao, E. Albert Reece, and **Peixin Yang**. Oxidative stress-induced miR-27a targets the redox gene Nrf2 in diabetic embryopathy. The 15th Biennial Meeting of the Diabetes in Pregnancy Study Group of North America, Washington, DC, USA, October 26-28, 2017 (poster).
49. Daoyin Dong, Yang Zhao, E. Albert Reece, and **Peixin Yang**. Oxidative stress-induced miR-27a targets the redox gene Nrf2 in diabetic embryopathy. The Society for Redox Biology and Medicine 24th Annual Scientific Meeting, Baltimore, Maryland, USA, November 29-December 2, 2017 (poster)
50. Ruofan Yao, Wei-bin Shen, Penghua Yang, **Peixin Yang**, Kristin Atkins. Obesity and placental monocarboxylate transport protein expression. The 38th Annual Meeting for Society for Maternal-Fetal Medicine, Jan 29- Feb 3, 2018. Dallas, TX.
51. Penghua Yang, Cheng Xu, **Peixin Yang**. Dnmt3a conditional deletion in neuroepithelium restores maternal diabetes-suppressed neural tube closure essential genes expression and blocks maternal diabetes-activated ER stress. The 24th Annual Meeting for the SOCIETY FOR REDOX BIOLOGY AND MEDICINE, Nov 29- Dec 2, 2017, Baltimore, MD
52. Penghua Yang, Cheng Xu, Jianxiang Zhong, E. Albert Reece, **Peixin Yang**. Tip60 and Sirtuin 2-regulated MARCKS acetylation and phosphorylation cause diabetic embryopathy. The 10th International Conference on Neural Tube Defects. Oct 1-4, 2017, Austin, TX
53. Penghua Yang, Cheng Xu, **Peixin Yang**. Targeted Dnmt3a Deletion Ameliorates Maternal Diabetes-Induced DNA Hypermethylation and Neural Tube Defects. Teratology Society 57th Annual Meeting. July 24-28, 2017. Denver, CO, USA (Oral presentation)
54. Penghua Yang, E. Albert Reece, **Peixin Yang**. Pregestational type 2 diabetes mellitus induces cardiac hypertrophy in the murine embryo through cardiac remodeling and fibrosis. The 64th Society for Reproductive Investigation Annual Scientific Meeting. Mar 15-18, 2017. Orlando, FL, USA.
55. Wei-Bin Shen, Songying Cao, Wenting Luo, **Peixin Yang**. Activation of ASK1-P38MAPK/JNK signaling and insulin resistance in the pathogenesis of Alzheimer’s disease. Society for Neuroscience, 2019 Annual Meeting, Chicago IL, 10/19-10/23, 2019. Poster presentation, #375.1
56. Wei-Bin Shen, Jingxiang Ni, Penghua Yang, Ruofang Yao, Christopher Harman, E. Albert Reece, **Peixin Yang**. Obesity-induced epigenetic changes associated with adverse perinatal outcomes. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40th Annual Meeting. Feb 2020, Grapevine Texas. Oral Presentation
57. Wenhui Lu, Wei-Bin Shen, E. Albert Reece, **Peixin Yang**. A novel epigenetic mechanism underlying maternal diabetes-suppressed mitochondrial fusion in congenital heart disease. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40th Annual Meeting. Feb 2020, Grapevine Texas. Oral Presentation
58. Penghua Yang, Wei-Bin Shen, E. Albert Reece, **Peixin Yang**. The newly determined role of miR17 and its target, Txnip, in the induction of diabetes-induced Congenital Malformations. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40th Annual Meeting. Feb 2020, Grapevine Texas. Poster Presentation
59. Songying Cao, Wei-Bin Shen, E. Albert Reece, **Peixin Yang**. Restoring BMP4 expression in vascular endothelial progenitors ameliorates maternal diabetes-induced vasculopathy and neural tube defects. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40th Annual Meeting. Feb 2020, Grapevine Texas. Poster Presentation
60. Songying Cao, Wei-Bin Shen, **Peixin Yang**. Survivin from Flk1+ Endothelial Progenitor Cells in the Developing Embryo Ameliorates Maternal Diabetes–Induced Neural Tube Defects through Exosome. American Diabetes Association, 78th Scientific Session (ADA2018). June 22 - 26, 2018, Orlando, Florida. Oral Presentation. Diabetes 2018; 67(Suppl 1) <https://doi.org/10.2337/db18-229-OR>
61. Bingbing Wang, Wei-Bin Shen, Liviu Cojocaru, Peixin Yang, Shifa Turan. Severity of Placental SAR-CoV-2 Infection is Associated with Adverse Pregnancy Outcomes. 68th Annual Meeting of the Society of Reproductive Investigation.
62. Peixin Yang. Pregestational maternal diabetes inhibits mitochondrial fusion through microRNA upregulation leading to congenital heart disease. American Society of Reproductive Immunology, Nashville, May, 2022.
63. Guangei Wang, Wei-Bin Shen, Peixin Yang. Nox4 mediates maternal diabetes-induced oxidative stress and abnormal heart formation. Society for Reproductive Investigation. The 70th Annual Scientific Meeting. March 21-25, 2023. Queensland, Australia
64. Shicong Song, Wei-Bin Shen, Peixin Yang. RNA hypermethylation of planar cell polarity signlaing induces neural tube defects in diabetic pregnancy. Society for Reproductive Investigation. The 70th Annual Scientific Meeting. March 21-25, 2023. Queensland, Australia
65. Guangei Wang, Wei-Bin Shen, E. Albert Reece, Peixin Yang. miR-322 inhibition by IRE1α leads to birth defects by twisting glucose metabolism in diabetic pregnancy. The International Conference on Neural Tube Defects, October 30 – November 2, 2022. Austin Texas
66. Guangei Wang, Wei-Bin Shen, E. Albert Reece, Peixin Yang. miR-322 inhibition by IRE1α leads to birth defects by twisting glucose metabolism in diabetic pregnancy. The International Conference on Neural Tube Defects, October 30 – November 2, 2022. Austin Texas
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**Other Brief Communications**

1. Narasimhan SD. Eat to Live or Live to Eat? A Little Sugar Goes A Long Way. *Cell.* 2013 Sep 26*;*155:5. (***Yang P*** *revised the commentary and provided a figure. This commentary introduces our Science Signaling paper 2013 August 27; 6(290):ra74,1-12*)*.*

**Published Multimedia**

1. **Yang P**, Reece EA, VanHook AM. *Science Signaling Podcast:* 2013 Aug 27. *Science Signaling*. 2013 Aug;6(290):pc22.

Full‐text link: <http://stke.sciencemag.org/cgi/content/full/sigtrans;6/290/pc22>.

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<https://www.umm.edu/news-and-events/news-releases/2013/new-approach-to-prevent-diabetes-induced-birth-defects>

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8. Study Data from University of Maryland Update Knowledge of Diabetes (Advances in Revealing the Molecular Targets Downstream of Oxidative Stress-Induced Proapoptotic Kinase Signaling in Diabetic Embryopathy). *Health & Medicine Week*, 2015 Aug 28.

<http://www.highbeam.com/doc/1G1-426370216.html>

9. Gene controls birth defect common in diabetes: Study could lead to new methods for reducing risk of neural tube defects. *ScienceDaily,*  May 5, 2017. <https://www.sciencedaily.com/releases/2017/05/170505113901.htm>

10. University of Maryland School of Medicine Researchers Identify Gene That Controls Birth Defect Common in Diabetes. Big news at the University of Maryland School of Medicine. <http://somvweb.som.umaryland.edu/absolutenm/templates/default.aspx?a=3569&z=41>

## Major Invited Speeches

Local

1. **Yang P**,The Molecular Pathways Mediate the Teratogenicity of Maternal Diabetes, Center for Studies in Reproduction, University of Maryland School of Medicine, 2009

2. **Yang P**, The Molecular Pathways Mediate the Teratogenicity of Maternal Diabetes, Cell Signaling Research Initiation Group, the Department of Biochemistry & Molecular Biology, University of Maryland School of Medicine, 2011

3. **Yang P**, The pro-apoptotic pathway in diabetic embryopathy, Grand Rounds, Department of Obstetrics, Gynecology and Reproductive Sciences, University of Maryland School of Medicine, 2012

4. **Yang P**, Two Distinct Epigenetic Pathways: DNA Hypermethylation and Histone Acetylation in Maternal Diabetes-Induced Neural Tube Defects. Symposium entitled “Advances in the genomic sciences towards understanding and predicting developmental defects”, at the Teratology Society Annual Meeting, 2013

5. **Yang P**, Diabetic Embryopathy: Unique Models for Revealing the Mechanism Underlying Structural Birth Defects**”,** the F. Clarke Fraser New Investigator Award lecture, at the Teratology Society Annual Meeting, 2013

6. **Yang P*,*** Protein kinase C-alpha suppresses PGC-1alpha in autophagy reduction and diabetic embryopathy, Endocrine Grand Rounds (CME credit), Department of Pediatrics, Johns Hopkins Medical School, Baltimore, MD, 2014

7. **Yang P**, Diabetic embryopathy: unique models for revealing the mechanism underlying structural birth defects. Featured faculty research presentation at the SOM council meeting, 2015

8. **Yang P*,*** The underlying mechanism of maternal diabetes-induced heart defects: microRNA-altered mitochondrial dynamics, Endocrine Grand Rounds (CME credit), Department of Pediatrics, Johns Hopkins Medical School, Baltimore, MD, June 1, 2016.

9. **Yang P*,*** “Diabetic embryopathy: a model for research in structural birth defects”, University of Maryland School of Medicine, BioMET Retreat, April 11, 2019.

10. **Yang P**, Molecular and Epigenetic Mechanisms underlying pre-gestational diabetes-induced fetal malformation, 25th Annual M. Carlyle Crenshaw Lectureship in Maternal and Fetal Medicine, June 14, 2019.

National

11. **Yang P**, Mechanisms of TGF-beta-induced DNA synthesis in hamster preantral granulose cells, the 36th Annual Meeting of Society for the Study of Reproduction, Cincinnati, Ohio, 2003

12. **Yang P**,Regulation of Ovarian Granulosa Cell Proliferation by FSH and TGFbeta, Department of Animal Science, University of Wyoming, 2006

13. **Yang P**,Apoptosis Signal-Regulating Kinase 1 (ASK1) Involves In Maternal Diabetes-Induced Neural Tube Defects (NTDs), The 48th Annual Teratology Meeting, Monterey, California, 2008

14. **Yang P**,Role of HIF-1alpha in maternal hyperglycemia-induced embryonic vasculopathy, the 31st Annual Meeting of the Society for Maternal-Fetal Medicine, San Francisco, California, 2011

15. **Yang P**,The Molecular Pathways Mediate the Teratogenicity of Maternal Diabetes, Department of Obstetrics & Gynecology, Beth Israel Deaconess Medical Center, Harvard Medical School, 2011

16. **Yang P**,The apoptotic mechanism of maternal diabetes-induced neural tube defects. Invited speaker in our Women's Reproductive Sciences Research Seminar Series, Department of Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, Missouri, 2012

17. **Yang P**, Towards understanding the molecular mechanism of diabetic embryopathy, Invited speaker, Seminar for the Center of Reproductive Health, OB/GYN Research Division, MetroHealth Medical Center, Department of Reproductive Biology, Case Western Reserve University, 2012

18. **Yang P**, Animal models and signaling pathways in diabetes-induced birth defects, Seminar Speaker, Bradley Department of Electrical & Computer Engineering, Virginia Tech Research Center, Virginia Tech, 2012

19. **Yang P**, Maternal Hyperglycemia Activates an ASK1–FoxO3a–Caspase 8 Pathway That Leads to Embryonic Neural Tube Defects, 8th International Conference on Neural Tube Defects,the AT&T Executive Education and Conference Center, Austin, Texas, 2013

20. **Yang P**, Maternal Diabetes Activates an ASK1–FoxO3a–Caspase 8 Pathway That Leads to Embryonic Neural Tube Defects, Invited speaker, Division of Biological Sciences, School of Medicine, University of California Riverside, 2014

21. **Yang P**, Protein Kinase C-alpha Negatively Regulates Autophagy and Induces Neural Tube Defects by Repressing PGC-1alpha Expression In Diabetic Pregnancies, Invited speaker in the Diabetes Center, University of Iowa, 2014

22. **Yang P**, The underlying mechanism of maternal diabetes-induced heart defects: microRNA-altered mitochondrial dynamics, Endocrine Grand Rounds, June 1, 2016, Division of Endocrinology, Diabetes, & Metabolism, Johns Hopkins University School of Medicine, Baltimore, USA.

23. **Yang P**, microRNA-altered mitochondrial dynamics mediates the effect of maternal diabetes leading to heart defects, August 31, 2016, Department Chair candidate seminar, Department of Anatomy and Cell Biology, Louisiana state health science center, Shreveport, USA (offered the chair position, did not take it).

24. **Yang P**, Integrated Biomedical Sciences Seminar, miRNA-altered mitochondrial dynamic in maternal diabetes-induced congenital heart defects, Visiting Scientist in the Center for Perinatal Biology, Department of Basic Sciences of Loma Linda University, January 4, 2017.

25. **Yang P**, Perinatal Biology Seminar – Maternal Diabetes-induced PKC-alpha Activation Inhibits Autophagy by Suppressing PGC1-alpha Leading to Neural Tube Defects, Visiting Scientist in the Center for Perinatal Biology, Department of Basic Sciences of Loma Linda University, January 5, 2017.

26. **Yang P**, Apoptotic Mechanism of Maternal Diabetes-Induced Neural Tube Defects, WILEY-BLACKWELL SYMPOSIUM, June 25, 2017, the Teratology Society 57th annual meeting, Denver, Colorado, USA.

27. **Yang P**, Diabetic embryopathy: research advances and preventions, The 15th Biennial meeting of Diabetes in Pregnancy Study Group of North America, October 31-November 1, 2017, George Washington University, Washington, DC.

28. **Yang P**, Molecular and Epigenetic Mechanisms Underlying pre-gestational diabetes-induced embryonic malformations, September, 2019, Department of Cell Biology, University of Oklahoma Health Sciences Center.

29. **Yang P**, Molecular and Epigenetic mechanisms underlying maternal diabetes-induced congenital heart disease, Endocrine Grand Rounds, October 2, 2019, Division of Endocrinology, Diabetes, & Metabolism, Johns Hopkins University School of Medicine, Baltimore, USA.

30. **Yang P**, Pregestational maternal diabetes inhibits mitochondrial fusion through microRNA upregulation leading to congenital heart disease, The 16th Biennial meeting of Diabetes in Pregnancy Study Group of North America, October 31-November 1, 2019, InterContinental Hotel – The Wharf, Washington, DC.

31. **Yang P**, Molecular Mechanism Underlying Pre-Gestational Diabetes-Induced Structural Birth Defects, November, 2019, Center for Metabolic Disease Research, Temple University.

32. **Yang P**, Pre-gestational diabetes-induced structural birth defects: Mechanisms & Preventions, November, 2019, McGovern Medical School at UTHealth, Houston, Texas.

33. **Yang P**, Pregestational maternal diabetes inhibits mitochondrial fusion through microRNA upregulation leading to congenital heart disease. American Society of Reproductive Immunology, Nashville, May, 2022, invited speaker and session chair on “Obesity and inflammation on fetal cardiovascular development”.

International

34. **Yang P**,The molecular pathway underlying maternal diabetes-induced embryonic malformations, Nanjing University, NanJing, China, 2011

35. **Yang P**, The ASK1-FoxO3a-Caspase 8 pathway in maternal diabetes-induced embryonic malformations, College of Animal Science, Zhejiang University, Hangzhou, China, 2011

36. **Yang P**,The apoptotic mechanism underlying maternal diabetes-induced embryonic malformations, College of Animal Science, Nanjing Agriculture University, NanJing, China, 2011

37. **Yang P**, Protein Kinase C-alpha Negatively Regulates Autophagy and Induces Neural Tube Defects by Repressing PGC-1alpha Expression in Diabetic Pregnancies, Institute of Reproductive and Child Health, Ministry of Health Key Laboratory of Reproductive Health, Peking University, China, 2015.

38. **Yang P**, "Autophagy regulation in maternal diabetes-induced neural tube defects", Institute of Global Innovation Research Open Seminar, Tokyo University of Agriculture and Technology, Tokyo, Japan, February 2, 2017.

39. **Yang P**, Epigenetics and cellular stress in maternal diabetes-induced structural birth defects, Shenjing international innovation medical science meeting, China Medical University, Shengyang, China, March, 2017.

40. **Yang P**, How pregestational maternal diabetes induces cardiac septation defects, Department of Pediatrics, China Medical University, Shengyang, China, March, 2017.

41. **Yang P**, Diabetic embryopathy: a model for human structural birth defects, invited speaker, the 66th Annual Meeting of the Society of Reproductive Investigation, Paris, France, March 12-17, 2019