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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-present	Member 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

2013-2018 Member of the Editorial Board, *Reproductive Toxicology*
2013-2018 Member of the Editorial Board, *American Journal of Physiology, Endocrinology and Metabolism*
2013-present Board of Reviewing Editors, *Biology of Reproduction*

1999-present Reviewer, *Biology of Reproduction*
2007-present Reviewer, *Diabetes*
2007-present Reviewer, *Diabetologia*
2008-present Reviewer, *Reproductive Toxicology*
2009-present Reviewer, *American Journal of Physiology, Endocrinology and Metabolism*
2010-present Reviewer, *Animal Reproduction Science*
2010-present Reviewer, *Endocrine*
2010-present Reviewer, *Reproduction*
2011 NIH Study Section *ad hoc* reviewer for Pregnancy and Neonatology, Bethesda, MD
2011-present Reviewer, *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-present Reviewer, *Journal of Neuroscience Research*
2012-present Reviewer, *Journal of Investigative Dermatology*
2012-present Reviewer, *Food and Chemical Toxicology*
2012-present Reviewer, *Molecular and Cellular Biochemistry*
2013-present Reviewer, *Cardiovascular Diabetology*
2013-present Reviewer, *Reproduction in Domestic Animals*
2013-present Reviewer, *Chemico-Biological Interactions*
2013-present Reviewer, *Environment Pollution*
2013-present Reviewer, *International Journal of Developmental Neuroscience*
2013-present Reviewer, *PLOS One*
2013-present Reviewer, *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-present	Reviewer, *Journal of Clinical Investigation*
2014-present	Reviewer, *British Journal of Nutrition*
2014-present	Reviewer, *Neurological Research*
2014-present	Reviewer, *Toxicological Science*
2014-present	Reviewer, *Free Radical Biology & Medicine*
2014-present	Reviewer, *Experimental Biology and 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).

Local Service

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

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
2010	Cell & 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, Wang, MD, Department of Obstetrics & Gynecology, University of Maryland Baltimore, 40 hours/week

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

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

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

2019-present Penghua Yang, MD, 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-present 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-present 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-present Dr. Wenhui Lu, PhD
Project: The role of cardiac progenitors in maternal diabetes-induced heart defects. 40 hours/week, 6 months

2018-2019 Dr. June Li, PhD
Project: The role of Wnt signaling in maternal diabetes-induced heart defects. 40 hours/week, 6 months

2018-2019 Dr. Wenting Luo, PhD
Project: miRNA dysregulation in maternal diabetes-induced heart defects. 40hours/week, 6 months

2020- Dr. Guanlei Wang

2020- Dr. Shicong Song

Summer Students

2009 Grace Chin, 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,

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- Yanxiang Mo, MD
2019- 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 (**6 active R01s, 2 R01s at no-cost extension and 1 pending R01 scored as one percentile (1%)**). 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.

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

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

9/01/20 – 8/31/25 YANG, PEIXIN (PD/PI), Albert Reece (MPI) and Wei-Bin Shen (MPI)
NIH/R01HD099843 (**Scored at 1%tile**)
Epitranscriptomic Alteration and Planar Cell Polarity Signaling In Diabetic Embroyopathy
Total Costs: $3,412,189

12/01/20 - 11/30/25 YANG, PEIXIN (PD/PI)
Molecular and Epigenetic Mechanism in Maternal Diabetes Induced Congenital Heart Defects
R35HL150786
Total Costs: $6,489,000

12/01/20 - 11/30/27 YANG, PEIXIN (PD/PI)
Molecular and Epigenetic Mechanism in Maternal Diabetes Induced Congenital Heart Defects
P01 HD104456
Total Costs: $7,725,000

4/01/20 - 03/31/25 YANG, PEIXIN (PD/PI)
"An Environmental Pollutant Induces Neural Tube Defects by Altering RNA Methylation"
NIH/R01ES031530
Total Costs: $2,515,967

4/01/2020-3/31/25 Peixin Yang (PI)
Kinase- and MicroRNA-Induced Insulin Resistance in Alzheimer's Pathogenesis
NIH/ R01AG066789
Total Costs: $3,141,790

4/01/2020-3/31/25 Peixin Yang (PI)
FoxO3a and DNA Damage Response Induced Neuron Senescence In The Pathogenesis Of Alzheimer's Disease
NIH/R01AG072454
Total Cost: $3,411,957

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.

Publications

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

1. **Yang P**, Shi G, He Y. Changes of testosterone in peripheral plasma of SIJI goose at various physiological stages. *Advance in Animal Sciences.* Chinese Agriculture and Technology Press. 1994, pp. 141-145.
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.

3. He Y, **Yang P**, Shi G. A study on the spontaneous discharges of the hypothalamic neurons of awake SIJI goose and the effects of the third ventricle injection of norepinaphrine analogue on them. *Advance in Animal Sciences.* Chinese Agriculture and Technology Press. 1994, pp. 165-172.
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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Abstracts

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2. **Yang P**, Shi FX, Kawate S, Watanabe G, Taya K. Inhibin secretion in the duck ovary. Abstract, the 125th Annual Congress of Japanese Society of Veterinary Science, April 1998, Uzinomiya, Japan.
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4. **Yang P**, Jin WZ, Shi FX , Kawate S, Watanabe G, Taya K. Inhibin secretion in adult female ducks. Abstract, the 3rd International Conference on Farm Animal Endocrinology, The Somatotropic Axis, 1998, Brussels, Belgium.
5. **Yang P**, Roy SK. Stage-specific differential induction of transforming growth factor-β receptor (TβR) mRNA by epidermal growth factor (EGF) in hamster ovarian follicles. Abstract, the 33rd annual meeting of Society for the Study of Reproduction, 2000, Madison, Wisconsin.
6. **Yang P**, Roy SK. Expression of estrogen receptor-alpha (ERα) and estrogen receptor – beta (ERβ) in the hamster ovary throughout the estrous cycle: hormonal regulation. Abstract, the 34th annual meeting of Society for the Study of Reproduction, 2001, Ottawa, Canada.
7. **Yang P**, Roy SK. Activation of cyclin D2/CDK4 is the primary mechanism whereby FSH stimulates DNA synthesis in granulosa cells of intact preantral hamster follicles. Abstract, the 84th Annual Meeting of The Endocrine Society, June 2002, San Francisco.
8. **Yang P,** Wang J, Roy SK. Developmental expression of estrogen receptor-α and ER-β in the hamster ovary: Induction by eCG, Abstract, XIV Ovarian Workshop, July 2002, Baltimore.
9. **Yang P**, Roy SK. Mechanisms of TGFβ-induced DNA synthesis in hamster preantral granulose cells. Abstract 271, oral presentation, the 36th annual meeting of Society for the Study of Reproduction, 2003, Cincinnati, Ohio.
10. Wang J, **Yang P,** Roy SK. Expression of bone morphogenetic proteins (BMP) receptors in the hamster ovary during perinatal development. Abstract 630, the 36th annual meeting of Society for the Study of Reproduction, 2003, Cincinnati, Ohio.
11. Wang J, **Yang P,** Roy SK. Expression and function of GDF-9 and SCF in the hamster ovary during early folliculogenesis. Abstract 211, the 37th annual meeting of Society for the Study of Reproduction, 2004, Vancouver, Canada.

12. Jiao H, **Yang P**, Chen Z. Mining estrogen microarray data: an approach using contrast data analysis. Proceedings of the 2004 IEEE Computational Systems Bioinformatics Conference (CSB 2004).
13. **Yang P**, Zhao Z, Reece EA. Apoptosis Signal-Regulating Kinase 1 (ASK1) Involves In Maternal Diabetes-Induced Neural Tube Defects (NTDs). Platform presentation in the 48th annual Teratology meeting, Monterey, California June 28 - July 2 2008.
14. **Yang P**, Zhao Z, Reece EA. c-Jun N-Terminal Kinase 1 (JNK1) Deficiency Ameliorates Maternal Diabetes-Induced Embryonic Malformations. Poster presentation at the American Diabetes Association's 68th Scientific Sessions, June 6-10, 2008, in San Francisco.
15. **YANG P**, ZHAO Z, Reece EA, Eckert R. Epigallocatechin-3-Gallate (EGCG) ameliorates hyperglycemia-induced malformations by inhibition of Foxo3a activation. Journal of Women's Health 2008;17:1237. Poster, 2008 NIH BIRCWH annual meeting.
16. **YANG P**. Thioredoxin ameliorates hyperglycemia-induced embryonic vasculopathy via blockade of the pathways leading to apoptosis. Journal of Women's Health 2009;18:1489. Poster, 2009 NIH BIRCWH annual meeting.
17. **Yang P** and Reece EA. Target Deletion of foxo3a Gene Ameliorates Maternal Diabetes-Induced Neural Tube Defects. The 2010 the Society of Gynecologic Investigation Annual Scientific Meeting, March, 2010.
18. **Yang P*** and Reece EA. Role of HIF-1α in maternal hyperglycemia-induced embryonic vasculopathy. The Society for Maternal-Fetal Medicine. February, 2011. (Oral presentation, one of 86 selected from over 1300 abstracts).
19. Li X, Weng H, Eckert Reece EA, **Yang P**. SOD1 overexpression in vivo blocks hyperglycemia-induced specific PKC isoforms-substrate activation and consequent lipidperoxidation in diabetic embryopathy. The 2011 the Society of Gynecologic Investigation Annual Scientific Meeting, March, 2011. (**Oral presentation, one of 100 selected from over 1500 abstracts**).
20. Li X, Reece EA, **Yang P**. Ask1 gene deletion ameliorates maternal diabetes-induced ventricular septal defects: possible suppression of hyperglycemia's anti-proliferative effects. The 2011 the Society of Gynecologic Investigation Annual Scientific Meeting, March, 2011. Best poster Award, one of twenty out of over 1000 posters.
21. Li X, Reece EA, **Yang P**. Reciprocal causation in relation between JNK and endoplasmic reticulum stress in diabetic embryopathy. The Society for Maternal-Fetal Medicine. February, 2012. (Oral presentation, one of 86 selected from over 1423 abstracts).
22. Li X, Xu C, Reece EA, **Yang P**. Prkca gene deletion prevents maternal diabetes-induced neural tube defects through suppression of the pro-apoptotic JNK1/2 signaling. Poster presentation. The 59th annual meeting of the Society of Gynecologic Investigation Annual Scientific Meeting, March 21-24, 2012, San Diego, CA.
23. Weng H, Li X, Reece EA, **Yang P**. SOD1 suppresses maternal hyperglycemia-increased iNOS expression and consequent nitrosative stress in diabetic embryopathy. Poster presentation. The 59th annual meeting of the Society of Gynecologic Investigation Annual Scientific Meeting, March 21-24, 2012, San Diego, CA.
24. **Yang** P, Li X, Reece EA. MARCKS Phosphorylation Mediates the Teratogenicity of Maternal Diabetes Leading to Neural Tube Defects. American Diabetes Association's 72nd Scientific Sessions. Poster presentation. June 8-12, 2012 in Philadelphia, PA.
25. Xu C, Li X, Wang F, Reece EA, **Yang P**. PGC1α overexpression in transgenic mice reduces maternal diabetes-induced neural tube defects. American Diabetes Association's 72nd Scientific Sessions. Oral presentation. June 8-12, 2012 in Philadelphia, PA.
26. Xu C, Li X, Reece EA, **Yang P**. DNA Hypermethylation Is Implicated in the Induction of Diabetic Embryopathy. Student/Postdoctoral Fellow Platform Session I, the 52nd Annual Meeting of the Teratology Society, June, 2012, Baltimore, Maryland.

27. Wang F, Li X, Reece EA, **Yang P**. Oxidative Stress Is Responsible for Maternal Diabetes-Impaired TGF-β Signaling in the Embryonic Heart. TS/OTIS Joint Platform Session IV, the 52nd Annual Meeting of the Teratology Society, June, 2012, Baltimore, Maryland.
28. Wang F, Li X, **Yang P**. SOD1 Overexpression Prevents Maternal Diabetes-impaired Wnt Signaling in the Embryonic Heart. Oral presentation at the Society for Gynecologic Investigation 60th Annual Scientific Meeting in a Concurrent Oral Session. March, 2013, Orlando, Florida.
29. Wang F, Li X, **Yang P**. SOD1 Overexpression Blocks Maternal Diabetes-Induced Endoplasmic Reticulum Stress in Diabetic Embryopathy. Poster presentation at the Society for Gynecologic Investigation 60th Annual Scientific Meeting. March, 2013, Orlando, Florida.
30. **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 2013 Annual Meeting, June 23-26, 2013.
31. **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 2013 Annual Meeting, June 23-26, 2013.
32. Li X, Wang F, **Yang P**. Targeted deletion of p70s6k1 gene ameliorates maternal diabetes-induced endoplasmic reticulum stress and neural tube defects. American Diabetes Association's 73rd Scientific Sessions. June 2013 in Chicago, IL.
33. Chung HK, Jaladanki RN, Xiao L, Zhuang R, Turner DJ, **Yang P**, Wang JY. JNK2 Gene Deletion Causes Gut Mucosal Hyperplasia and Inhibits Its Maturation. Gastroenterology 5 (144), S-717. Oral presentation at the Digestive Disease Week (DDW) Meeting, May 18 - 21, 2013; Orlando, Florida.
34. Wu Y, and **Yang P**. FGF2 Overexpression in Transgenic Mice Reduces Neural Tube Defects in Diabetic Pregnancies. Oral Presentation at the American Diabetes Association's 74th Scientific Sessions, June 13-17, 2014 in San Francisco, California.
35. Gu H, and **Yang P**. Increased microRNA-200b and decreased Cited 2, a target gene of miR-200b, in diabetic embryopathy. Poster Presentation at the American Diabetes Association's 74th Scientific Sessions, June 13-17, 2014 in San Francisco, California.
36. Wu Y, Wang F, **Yang P**. Cellular Stress, Excess Apoptosis, and the Effect of Metformin on a Mouse Model of Type 2 Diabetic Embryopathy. Oral presentation at the Teratology Society 2014 Annual Meeting, June 28-July 2, 2014, Bellevue, Washington.
37. Wu Y, Wang F, **Yang P**. Cellular Stress, Excess Apoptosis, and the Effect of Metformin on a Mouse Model of Type 2 Diabetic Embryopathy. Oral presentation at the Teratology Society 2014 Annual Meeting, June 28-July 2, 2014, Bellevue, Washington.
38. Chung HK, Jaladanki RN, Xiao L, Turner DJ, **Yang P**, Wang JY. JNK2 Gene Intestinal Epithelial Tissue-Specific miR-222 Overexpression Inhibits Mucosal Growth. Gastroenterology 5 (146), S-37. Oral presentation at the Digestive Disease Week (DDW) meeting, May 3 - 6, 2014; Chicago, Illinois.
39. Chung HK, Jaladanki RN, Zou T, Liu L, Xiao L, **Yang P**, Wang JY. Tissue-Specific miR-222 Overexpression Delays Intestinal Mucosal Repair by Repressing Expression of Wnt-Receptor Frizzled-7. Gastroenterology 4 (148), S-29. Oral presentation at the Digestive Disease Week (DDW) meeting, May, 2015, San Diego, CA.
40. Gabbay-Benziv R, Wang F, Bar-Shir A, Turan O, Harman C, Reece EA, **Yang P**, Turan S. Standardized mouse embryo cardiac evaluation using 17.6T MRI. American Journal of Obstetrics & Gynecology, January, 2015, Vol. 212, Issue 1, S26, 2015. Poster at The Society for Maternal-Fetal Medicine annual meeting, February 2- 7, 2015, San Diego, California.

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 Gadd45α 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, Weibin 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.

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.
2. UMSOM Research Could Result In New Approach to Prevent Diabetes-Induced Birth Defects. *University of Maryland Medical Center News Releases*, 2013 Aug 28. https://www.umm.edu/news-and-events/news-releases/2013/new-approach-to-prevent-diabetes-induced-birth-defects
3. Research Could Result In New Approach To Prevent Diabetes-Induced Birth Defects. *University of Maryland School of Medicine News & Events*, 2013 Aug 28. http://somvweb.som.umaryland.edu/absolutenm/templates/?z=0&a=2476
4. New approach to prevent diabetes-induced birth defects. *ScienceDaily*, 2013 Aug 28. http://www.sciencedaily.com/releases/2013/08/130828131150.htm
5. Potential new approach to prevent diabetes-induced birth defects. *Latest Diabetes Medicine Research & News*, 2013 Aug 28. http://www.podiatry-arena.com/podiatry-forum/showthread.php?t=92713
6. New Therapy Could Decrease the Risk of Diabetes Related Birth Defects. *BabyMed*, 2013 Sep 5. http://www.babymed.com/blogs/jaclyn-stewart/new-therapy-could-decrease-risk-diabetes-related-birth-defects
7. Univ. of Maryland research could result in new approach to prevent diabetes-induced birth defects. *Live Network News (LNN)*, 2013 Aug 28. http://livenetworknews.com/bz/article/100100100100351709
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

10. **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
11. **Yang P**, Regulation of Ovarian Granulosa Cell Proliferation by FSH and TGFbeta, Department of Animal Science, University of Wyoming, 2006
12. **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
13. **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
14. **Yang P**, The Molecular Pathways Mediate the Teratogenicity of Maternal Diabetes, Department of Obstetrics & Gynecology, Beth Israel Deaconess Medical Center, Harvard Medical School, 2011

15. **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
16. **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
17. **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
18. **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
19. **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
20. **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
21. **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.
22. **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).
23. **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.
24. **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.
25. **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.

<u>International</u>

26. **Yang P**, The molecular pathway underlying maternal diabetes-induced embryonic malformations, Nanjing University, NanJing, China, 2011
27. **Yang P**, The ASK1-FoxO3a-Caspase 8 pathway in maternal diabetes-induced embryonic malformations, College of Animal Science, Zhejiang University, Hangzhou, China, 2011
28. **Yang P**, The apoptotic mechanism underlying maternal diabetes-induced embryonic malformations, College of Animal Science, Nanjing Agriculture University, NanJing, China, 2011
29. **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.

30. **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.
31. **Yang P**, the 66th Annual Meeting of the Society of Reproductive Investigation, Paris, France, March 12-17, 2019