Peristera Paschou

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#### **GENERAL INFORMATION**

#### A. Education

- 2002-2005 Diplomate of the American Board of Medical Genetics (August 2005) Clinical Molecular Genetics Specialty. Yale University School of Medicine, Department of Genetics Medical Genetics Training Program
- **2002-2005** Postdoctoral Training, <u>Yale University School of Medicine</u>, Department of Genetics (Supervisor: Kenneth K. Kidd)
- 1999-2002 <u>National University of Athens</u>, PhD Research Thesis on **Human Genetics**: "Molecular Determinants of the Etiology and Pathogenesis of Insulin Dependent Diabetes"
- 2001 <u>Institut Pasteur, Paris, Training Fellowship</u> Study of the Genetics of Type 1 Diabetes Mellitus in Greek families
- 1999-2000 University of Oxford, "Wellcome Trust Centre for Human Genetics" Training Fellowship Whole Genome Screening for the Identification of Disease Loci
- 1997-1999 <u>National University of Athens</u>, Faculty of Nursing MSc Dissertation: "Genetic Counseling in Type 1 Diabetes Mellitus"
- 1992-1997 National University of Athens, Faculty of Nursing BSc

#### **B.** Present Position

- 2021-today Professor, Department of Biological Sciences, Purdue University
- 2019-today Associate Dean, College of Science, Purdue University

Associate Dean for Graduate Education and Strategic Initiatives (2021-today)

Associate Dean for Graduate and Online Education (2019-2021)

#### C. Previous Positions

- 2016-2021 Associate Professor, Purdue University, Department of Biological Sciences
- 2018-2019 Inaugural Frederick Hovde Dean's Fellow, College of Science, Purdue University
- 2014-2016 <u>Associate Professor of Population Genetics</u>, Democritus University of Thrace, Department of Molecular Biology and Genetics (with Tenure)
- 2010-2014 <u>Assistant Professor of Population Genetics</u>, Democritus University of Thrace, Department of Molecular Biology and Genetics
- 2011 <u>Adjunct Investigator</u>, National Institute of Child Health and Human Development, Bethesda, USA
- **2005-2010** <u>Lecturer in Population Genetics</u>, Democritus University of Thrace, Department of Molecular Biology and Genetics
- 2007 <u>Visiting Scientist</u>, Center for Neurobehavioral Genetics, Medical School, University of California Los Angeles, USA (October 2007)
- <u>Visiting Specialist</u>, Institute for Human Genetics, University of California San Francisco, USA (June-August, 2006)
- 2003-2005 Postdoctoral Fellow, Department of Genetics, Yale University School of Medicine, USA

- 2002-2003 <u>Postdoctoral Associate</u>, Department of Genetics, Yale University School of Medicine, USA
- 1999-2002 Research Associate, National University of Athens European Cooperation Project: "Diabetes Prediction and Prevention DIPP DEMO Project"
- 1997-1999 <u>Research Associate</u>, National University of Athens European Cooperation Project: "Genomic map of Insulin Dependent Diabetes Mellitus (IDDM)"

#### D. Awards and Honors

- 2019 Showalter Faculty Scholar (*Press release*)
- University Faculty Scholar, Purdue University (The University Faculty Scholars Program is intended to recognize outstanding mid-career faculty who are on an accelerated path for academic distinction)
- 2015 Latsis Foundation Award 2015 Scientific Studies by Young Researchers
- 2014 Excellence Career Award ARISTEIA II co-funded by Greece and the European Union
- Platform presentation award, 2010 Hellenic Society for Biochemistry and Molecular Biology meeting, Alexandroupoli, Greece
- 2005 Hellenic Endocrine Society, 1st Research Grant Award
- 2004 Paschou et al. Am J Hum Genet 2004 selected as one of the "Top Ten papers" in 2004 by the Centre of Excellence for Early Childhood Development in Canada
- 1999 "EURODIAB TIGER: EURope and DIAbetes Type 1 Genetic Epidemiology Resource" – Training Scholarship – Wellcome Trust Centre for Human Genetics, University of Oxford

#### E. Leadership roles

#### **Purdue University**

- 2019-today Associate Dean, College of Science
  - (2021-today) Associate Dean for Graduate Education & Strategic Initiatives (2019-2021) Associate Dean for Online and Graduate Education
- **Co-Chair Integrative Data Science Initiative Curriculum Committee**, Purdue University (campus-wide committee working on the development of a <u>Data Science Education Ecosystem</u> at Purdue Governance of <u>Applications in Data Science undergraduate certificate</u>).
- 2019-today Leadership Team Member, Purdue Institute for Integrative Neuroscience
- 2021 <u>Emerging Leaders Science Scholars</u>, Faculty Director (Director of Mentoring program for undergraduate students from under-represented backgrounds)
- **2018-2019 Inaugural Frederick L. Hovde Dean's Fellow**. The program is designed to provide leadership opportunities to selected faculty. As part of the College leadership team, Fellows' projects advance critical goals across the college. Dr Paschou focused on facilitating the participation of the College in cross-campus Data Science education and research initiatives.

### **Boards of scientific societies**

2022-today	Chair-Greater Indiana Society for Neuroscience
2014-2017	<b>Board Member -</b> European Society for the Study of Tourette Syndrome (ESSTS)
2011-2014	Chair - European Society for the Study of Tourette Syndrome (ESSTS)
2011-2012	Treasurer of the Board of Directors - Hellenic Association for Medical Genetics

## **Coordinator of international cooperation research programs**

2017-today Chair of ENIGMA-TS International Consortium: Enhancing Neuroimaging Genetics through meta-analysis for Tourette Syndrome (Dr. Paschou coordinates partners across 23 sites and 10 countries from around the world). (<a href="http://enigma.ini.usc.edu/ongoing/enigma-ts/">http://enigma.ini.usc.edu/ongoing/enigma-ts/</a>)

**2012-2016** <u>Coordinator</u> of "<u>TS-EUROTRAIN</u>: Interdisciplinary training network for Tourette Syndrome; structuring European Training capacities for neurodevelopmental disorders." – Marie Curie Initial Training Network (**10 sites in six countries**).

2011-2015 <u>Work package leader</u> - «<u>EMTICS</u>: <u>European Multicenter Tics in Children Study</u>» FP7-HEALTH (coordinating 19 sites across Europe).

2010-2014 <u>Chair of the "European Network for the Study of Gilles de la Tourette Syndrome"</u> (Multidisciplinary consortium of 200 investigators from 23 European countries – Funded by *COST – European Cooperation in Science and Technology*).

**2009-2014** <u>Steering Committee Member</u> of the international research project «GGRI - Gilles de la Tourette Syndrome Genome Wide Association Study Replication Initiative» (PI: Dr Jeremiah Scharf, MGH, Funded by the *National Institute of Neurological Disorders and Stroke, USA*)

**2008-today** Coordinator of the international research project «Tourette Syndrome Genetics. The Southern and Eastern Europe Initiative» (Scientific network of investigators from **seven European countries** – Funded by the *Tourette Syndrome Association, USA*) (<a href="http://tsgenesee.mbg.duth.gr/">http://tsgenesee.mbg.duth.gr/</a>)

### **Leadership Professional Development**

2022-2023	ELATES National Leadership Development Program Fellow, press release					
2018-2019	FLAIR Fellow. Faculty Leadership Academy for Interdisciplinary Research, Purdue					
	EVPRP Office					

### Administrative Experience - Associate Dean, Purdue College of Science

### **Partnerships**

- International Partnerships.

2022-2023 Dr Paschou led discussions between Purdue and four top Universities in Greece as well as the American-Hellenic Chamber of Commerce with a goal to establish joint research and dual academic programs. University-wide agreements were signed by all four Universities and Purdue (National Technical University of Athens, National Kapodistrian University of Athens, University of Patras, Democritus University of

Thrace) as well as the American-Hellenic Chamber of Commerce (first MoU for collaboration signed by AmCham with an Higher Education Institution). It is expected that these partnerships will open up pipelines of top talent from Greece to our graduate programs and create opportunities for joint research programs and EU funding for Purdue researchers. Link to Purdue press release.

Dr Paschou led Purdue CoS discussions that led to the signing of an MoU with Egypt's Ministry of Communications and Information Technology (MCIT). A dual BS/MS program was established, enabling Egyptian students to earn a Professional Master's degree in Information Security from Purdue Computer Science. Link to

Purdue press release.

**2022-today** College of Science Faculty Global Ambassadors Program. Dr. Paschou designed and launched the College of Science Faculty Global Ambassadors Program (first call published in March 2022). Science Faculty Global Ambassadors are meant to increase the international presence and visibility of Purdue CoS research and graduate programs, building connections with partner institutions around the world.

**2019-today** Global Academic Committee (College of Science representative) - The GAC consists of representatives from each college across campus who are responsible for global programs and initiatives. Together, the committee members provide the campus with an interdisciplinary and well-rounded approach to global issues, including evaluating the academic merit, potential impact, and risks and benefits of new and ongoing global partnerships and programs, global trends as they affect Purdue's worldwide activities and profile, and collaborative development of strategic campus-wide global initiatives.

### - Partnerships with Minority Serving Institutions

**2019-today** Chicago State University Partnership (Predominantly Black Institution). Dr Paschou led discussions to establish a partnership between three CoS departments (Biological Sciences, Chemistry, Physics) and CSU. This work led to a Sloan Foundation Award.

Alfred P. Sloan Foundation Award: Equitable Pathways to Graduate Education. Role: Co-PI. Title of Project: Sloan-PReMMiSS (Partnering in Research Mentoring for Minoritized Students in STEM). Level of funding: \$250,000. The goal of the project is to build a partnership between Purdue and Chicago State University, an urban, Predominantly Black Institution, and establish a joint mentoring framework that will equip mentors and students with increased intercultural competencies, leading to systemic transformation in climate at both institutions and widening pathways towards graduate education for minoritized students. As part of this project, Dr. Paschou works closely with Purdue's Center for Intercultural Learning Mentorship Assessment and Research (CILMAR).

**2022-today Purdue CoS Partnership with Morgan State University (HBCU).** Dr Paschou led discussions that led to the establishment of dual degree programs between Morgan State University and CoS departments of Physics and Astronomy, and Computer Science. These programs (MS-PhD) are meant to create a bridge that connects MS studies at Morgan State to doctoral programs at Purdue and thus help diversify student pipelines for Purdue CoS (see also below).

### **Graduate Studies**

- **2019-today** Coordinator of Graduate Curriculum and Academic Policy (GCAP) Committee (comprised of Graduate Chairs of seven different departments within the College of Science). The committee works on sharing best practices across different departments with a focus on graduate student recruitment and professional development.
- **2019-today** Graduate Fellowships allocation and management of budget for all graduate student fellowships across seven departments in the Purdue College of Science.
- Establishment of Purdue-Morgan State University 2+3 Dual MS-PhD program in Physics. Dr Paschou led discussions for the establishment of a partnership between Purdue Department of Physics and Astronomy and the Department of Physics at the Historically Black Research University Morgan State. She oversaw the development of the Activity Agreement between the two Institutions as well as the approval and launch for a dual degree program that connects the Morgan State MSc in Physics to the Purdue Physics and Astronomy PhD program.
- 2022-2023 Establishment of Purdue-Morgan State University 2+3 Dual MS-PhD program in Computer Science. Dr Paschou led discussions for the establishment of a partnership between Purdue Department of Computer Science and the Department of Computer Science at Morgan State. She oversees the development of the Activity Agreement between the two Institutions as well as the approval and launch for a dual degree program that connects the Morgan State MSc in Advanced Computing to the Purdue CS PhD program.
- **Oversight of Summer Research Opportunity Program (SROP)** across seven departments at the Purdue College of Science. SROP is a pathway to graduate education at Purdue University. It is designed to provide equal access and opportunities to underrepresented and diverse students by preparing students for Graduate School by offering eight-weeks intensive research experiences, and graduate school resources that contributes to student's professional and academic growth.
- 2019-ongoing Oversight of Graduate Diversity Visitation Program (GDVP) across seven departments at the Purdue College of Science. This is a four-day program held each fall semester hosting students from under-represented backgrounds. During the

visit, selected students become familiar with Purdue graduate programs, faculty and students. The goal is to encourage students from under-represented backgrounds to pursue a graduate education at Purdue.

- **2019-ongoing GEA member** The Graduate Education for Advancement (GEA) Committee acts as an advisory board to the Dean of the Graduate School on what direction to take on various issues facing Graduate Education for Purdue University as a whole.
- Graduate School Student Stipend Task Force Dr Paschou served on the University-wide Task Force with a goal to review all data on Purdue graduate minimum stipends and cost of living and recommend potential action plans. This work helped draw attention to the need to increase graduate stipends at Purdue and led to a major investment by Purdue University and historic increase of graduate student stipends across Purdue.

### **Mentoring**

2021-ongoing Emerging Leaders Science Scholars (ELSS) Program, Faculty Director. The ELSS Program is a signature initiative at Purdue College of Science, aiming to increase recruitment of high achieving students from backgrounds traditionally underserved by higher education institutions and equip students with skills they will need to become the next generation of STEM leaders. The program has led to record high enrollment of students from under-represented backgrounds at College of Science departments in the three years it has been running. Dr Paschou established and coordinates the Faculty Mentoring component of the program, overseeing 70 ELSS Faculty Mentors, matching of ELSS students to Mentors as well as Mentor training. She has also established a community of practice for ELSS Faculty Mentors, offering a venue for Mentors to get together and discuss inclusive mentoring practices through the "Discussions on Mentoring" series.

## **Online Education**

**2020-2021 First Year Online Project.** Dr Paschou led the development of high quality online learning materials for the entire sequence of first year courses in the College of Science (45 courses). She also brought together a community of practice of faculty from across all participating departments who worked together to develop best practices for online learning at Purdue College of Science as well as supporting materials (Brightspace Harmonization template) and guidelines that could be used across Purdue. She then expanded this program in the CoS launching the Brightspace Harmonization Program across all CoS departments in 2022 and 2023.

**2020-ongoing** Data Science in Finance Online Masters Program – Dr Paschou oversaw and facilitated the process of launching the program which is also a partnership with

Krannert. This included bringing together multiple stakeholders and overseeing aspects from course design and development and marketing.

- **2021-ongoing** Cybersecurity Online Masters Program Dr Paschou oversaw the launch process, again bringing together multiple components and stakeholders in order to launch the program.
- **2022-ongoing** <u>Launching Applied Statistics Online Masters Program</u> Dr Paschou oversaw and the process of launching the program.
- Non-Credit online offerings Before joining as Associate Dean, Dr. Paschou helped create a series of online courses that are meant to prepare students and professionals to integrate <a href="Data Science approaches">Data Science approaches</a> in their work. These courses have drawn interest from corporate partners including Lilly and Cummins.

## **Data Science Liaison**

Co-Chair of Integrative Data Science Initiative Curriculum Committee – The committee was established in 2019 by the Provost's Office and includes one representative per college. It is the governance structure for the Applications in Data Science undergraduate certificate program (housed at the CoS but open to all students across Purdue). Dr Paschou chairs monthly meetings for the committee and oversees the development of this new program with a goal to open up paths to as many students as possible. In 2020, she worked on putting together a website for the program as well as, connecting to Academic Advisors, defining program outcomes and initial structure. In 2021, together with the Registrar's office, she worked on putting in place a Curriculog process which is expected to greatly facilitate operations for the program. She also worked on engaging with Academic Advisors and building the program website. The program was launched in 2019 with three students. Currently there are 300 students registered in the program and this number is expected to grow further.

https://www.science.purdue.edu/data-science/academics/undergrad-certificate.html

2019-2020 Dr Paschou facilitated discussions across departments of CS, Statistics, and Mathematics, to expand the CoS Data Science major across all three units, providing a tailored experience for incoming students.

#### F. Professional and Scholarly Associations

- Greater Indiana Chapter Society for Neuroscience
- American Society for Human Genetics
- International Society for Psychiatric Genetics
- European Society for the Study of Tourette Syndrome

#### II. LEARNING

A. Teaching Assignments at Purdue (last 5-7 years only)

Semester	Year	Course #	Title, Credit, Type	Enroll.	Student Classification.
Fall	2021	BIOL	Neurological and	13	Graduate
		69500	Neuropsychiatric		
			Disorders		
			Lecture/Seminar (2cr)		
Fall	2019	BIOL	Neurological and	13	Graduate
		69500	Neuropsychiatric		
			Disorders		
			Lecture/Seminar (2cr)		
Fall	2018	BIOL	Neurological and	18	Graduate
		69500	Neuropsychiatric		
			Disorders		
			Lecture/Seminar (2cr)		
Fall	2018	BIOL	Human Genetics (2cr),	50	Junior/Senior
		44400	Lecture		
Fall	2017	BIOL	Human Genetics (2cr),	47	Junior/Senior
		44400	Lecture		

# B. Selected Discussion of Courses Human Genetics - BIOL 44400

This is a fascinating time to be studying genetics. The first human genome took billions of dollars, a huge international team of scientists and technicians, and about eight years to complete in 2003. Today, a whole human genome can be sequenced for less than \$1,000 and in about one day. Given the computational and technical ability to handle all these data, our knowledge of human evolution, development and disease now grows by leaps and bounds every year. This course builds on students' foundations in genetics and extends into the study of human genetics. A detailed discussion of the modes of inheritance as well as pathophysiology and clinical phenotype for a broad range of human disorders is covered. Upon completion, students will be able to explain the molecular mechanisms by which genetic information is passed from person to person, how genetic information influences and is influenced by its environment, and how mutations occur and their implications. Students will also be able to discuss the genetics of a broad spectrum of human disorders and how genetic technologies and methods are employed in the diagnosis and treatment of disease as well as in genetics research. The course includes lectures by Prof Paschou as well as student presentations on assigned topics.

### Neurological and Neuropsychiatric Disorders Lecture/Seminar - BIOL 69500

The aim of this multidisciplinary course is to provide graduate students with an understanding of the neurobiological basis, treatment strategies and potential goals for future research for a broad range of disorders affecting the nervous system. Students have the opportunity to benefit from a broad range of expertise from faculty across the Purdue campus. Student presentations cover papers focusing on translational research. Students are exposed to state-of-the-art methodological approaches across different disciplines and fields ranging from biology and genetics to neuroimaging and biotechnology. The course was developed with the support of the Purdue Institute for Integrative Neuroscience.

# C. Other Teaching Experience: Department of Molecular Biology and Genetics, Democritus University of Thrace, Greece

			Course	
Semester/Year	Course	Credit	Organization	Enroll.
Fall 2011	Population	5	13 three-hour	90
Fall 2012	Genetics		lectures plus 13	
Fall 2013	(undergraduate)		two-hour lab	
Fall 2014			modules	
Fall 2015				
Spring 2011	Genetics	6	13 three-hour	120
Spring 2012	(undergraduate)		lectures plus 13	
Spring 2013			three-hour lab	
Spring 2014			modules	
Spring 2015				
Spring 2014	Bioethics/Clinical	2	10 50 min lectures	15
Spring 2015	Trials (Graduate			
Spring 2016	course)			
Fall 2014-2015	Genomics	2	10 50 min lectures	15
	(Graduate course)			

### D. Other Contributions to Undergraduate Education

- As **Associate Dean at the College of Science**, Dr Paschou coordinated the development of <u>43</u> undergraduate courses in online format with a goal to create an online version of the entire first year of curriculum for Science and Engineering students at Purdue University (<u>First Year Online Project</u>).
- As Co-Chair of the Integrative Data Science Initiative Curriculum Committee, Dr Paschou coordinated the <u>launch of the Applications in Data Science Undergraduate Certificate Program and currently oversees the Program which runs across Purdue (250 students currently enrolled)</u>. This is a University-wide program aiming to provide foundational knowledge in Data and the opportunity to apply this knowledge in specific application domains.
- As **Associate Dean at the College of Science**, Dr Paschou helped coordinate discussions on revising the <u>Data Science Major Curriculum at Purdue</u>. This includes integration of offerings across three different College of Science Departments (Computer Science, Mathematics and Statistics) and launching three different tracks for the program.
- As **Associate Dean at the College of Science**, Dr Paschou coordinated an agreement of partnership between <u>Purdue Dept of Computer Science and Egypt's Ministry of Communication</u>, <u>Information and Technology</u> to launch a Dual BS/MS degree program in Computer Science and Information Security (August 2020).
- Undergraduate thesis supervisor 30 students at Democritus University of Thrace, Dept of Molecular Biology and Genetics (see also Undergraduate Students section)

#### III. DISCOVERY

## A. Discussion of Research

# Summary of most significant accomplishments

Dr Paschou works on the analysis of population genomics datasets aiming to disentangle population genetic relationships around the world and uncover the genetic background of complex disease. Throughout her academic career, she has established and led multiple large international research consortia and she has been an advocate for interdisciplinary research. Her work has led to discoveries that leverage the strength of genomics towards clinical translation and personalized medicine. Examples of Dr Paschou's most innovative and highest impact scientific contributions include: (1) The identification of the first definitive genes for Tourette Syndrome, a neuropsychiatric disorder of childhood that affects up to 1% of the population; (2) The development of a novel algorithmic framework that can dissect genetic structure and identify the ancestry and genetic relationships of human populations; (3) The discovery of the migration routes undertaken by our ancestors in the Neolithic period as they moved from the Middle East towards Europe bringing with them the knowledge of farming and a new way of life.

Dr Paschou's multidisciplinary research has led to more than 80 peer-reviewed scientific publications in Psychiatric Genetics, Population Genetics, and Genetic Epidemiology. Her work has been featured in multiple venues of the popular media, such as BBC and National Geographic. Her papers appear in widely recognized interdisciplinary journals such as Proceedings of National Academy of Sciences (PNAS), Nature Communications, Neuron, and Cell Reports and top ranked scientific journals in genetics such as Molecular Psychiatry, the American Journal of Human Genetics, PLOS Genetics, and Genome Research.

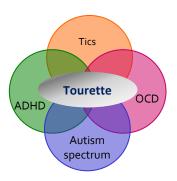
Dr Paschou has been very successful in pursuing international collaborations. She has brought together scientists across different disciplines with an aim to understand the cause of neuropsychiatric disorders of childhood and has led several large-scale international consortia in this direction. For instance, funded by the European Union, she coordinated a COST Action (European Cooperation in Science and Technology) which led to the development of an interdisciplinary network of more than 200 researchers from 23 different countries aiming to elucidate the cause of Tourette Syndrome and identify novel therapies. This program fostered the growth of the European Society for the Study of Tourette Syndome (ESSTS) and, in recognition of her contributions and strong leadership, Dr Paschou was elected ESSTS Chair and served on the Board of ESSTS Officers from 2010-2017.

# Elucidating the cause of childhood neurodevelopmental disorders

Over the past 20 years, Dr Paschou has been leading efforts to elucidate the genetic basis of multifactorial disorders with a particular focus on neurodevelopmental phenotypes. She has pioneered investigations in the study of the genetic basis of Tourette Syndrome (TS) in multiple populations, implicating multiple novel candidate genes in the etiology of the disorder. TS is an inherited neuropsychiatric disorder of childhood onset, which is characterized by the occurrence of

multiple motor and vocal tics and high comorbidity rates with attention deficit hyperactivity disorder and obsessive compulsive disorder. It has long been considered a model disorder to study the parts of the brain that function at the intersection of our traditional concepts of neurology and psychiatry. TS still remains severely underdiagnosed and recent studies report a prevalence of 0.4-1%. It has become clear that it involves a complex genetic background interacting with multiple environmental factors in order to lead to the onset of symptoms. In the Big Data era, novel technologies allow the

interrogation of millions of genetic variants in thousands of individuals in order to unravel the genetic background of such complex disorders. Dr Paschou has established and continues to lead multiple large-scale collaborative efforts of multidisciplinary teams of experts aiming to understand the genetic basis of TS, including the most recently funded NINDS consortium aiming to perform a mega-GWAS on more than 12,000 patients. She has previously established the Tourette Syndrome Genetics Southern and Eastern Europe Initiative, the genomics Working Group of the EU-funded European Multicenter Tics in Children Study and the TS Working Group within the worldwide consortium ENIGMA (Enhancing Neuroimaging Genetics through meta-analysis).

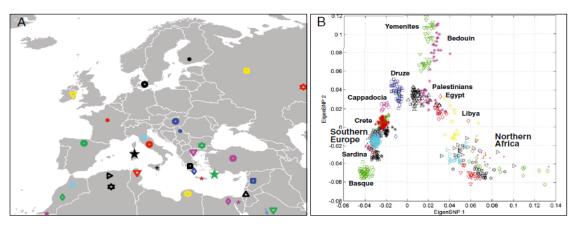


Dr Paschou pioneered studies of Tourette Syndrome, a model neurovelopmental disorder.

Dr Paschou has played a leading role in establishing some of the largest biobanks for TS, including samples and clinical information from thousands of individuals from around the world. She then led genomic analysis of these samples, using genomewide genotyping and genomewide sequencing methods and this work led to the identification of the first definitive genes for TS. For instance, Dr Paschou was a lead author in work that appeared in 2019 in the American Journal of Psychiatry, presenting the largest GWAS for TS to date and the first genomewide significant hit (Yu et al. 2019). In 2017 she was also a leading author in work that appeared in Neuron, one of the most influential and relied upon journals in the field of neuroscience; the study reports the largest ever genome scan for TS interrogating copy number variants (CNVs - a type of structural genomic variation) and shows that approximately 1% of TS cases carry a CNV on one of the genes NRXN1 or CNTN6 (Huang et al. 2017). These genes are so-called cell adhesion molecules and play important roles in neural network formation. Another example of the high impact of her work on TS is a study that appeared in 2018 in Cell Reports, in which Dr Paschou led the whole-genome sequencing analysis of a sample of 800 nuclear families with TS identifying additional novel genes that underlie TS risk (Wang et al. 2018). This was the largest family sample for TS analyzed to date and its study uncovered noninherited variants (new mutations) in a significant number of patients, implicating the biological pathway that underlies cell polarity. The identified genes point to spatial differences in shape, structure, and function within a cell, and are fundamental for special functions such as the transmission of signals in one direction in neurons. In collaboration with colleagues from around the world, Dr Paschou continues to work towards the ultimate goal of identification of novel targets for drug treatment and psychotherapy in TS seeking to improve management of the disorder and increase the quality of life for patients and their families. She is currently leading an effort (NINDS

R01 – MPI Paschou) to study an unprecedented sample of 12,000 patients with TS from around the world and she recently established the ENIGMA-TS working group with 23 collaborating sites aiming to bring together neuroimaging and genetic datasets in order to understand brain structure and function in TS. This effort is now supported by an additional R01 award to Dr Paschou.

# Uncovering ancient migration routes of human populations



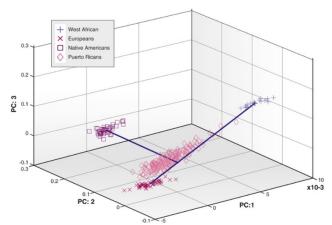
In Paschou et al 2014 (PNAS), Dr Paschou studied samples from 32 populations from around the Mediterranean basin (A) showing that the islands of the Aegean are a bridge that connects gene flow from Anatolia to Southern Europe (B. Projection on top principal components of 75,000 genetic markers from 32 populations). This was contrary to the common belief that our ancestors mainly migrated through land from the Near East towards Europe.

The study of population genetic structure can be applied to the discovery of disease genes as shown in the examples of Dr Paschou's research earlier here, but it can also elucidate the history of our species. Dr Paschou has worked together with renowned geneticist George Stamatoyannopoulos (who performed the first large-scale molecular geographical survey of a genetic trait, revealing the relationship between malaria and both thalassemia and sickle cell traits) to build an important biobank documenting population genetic diversity at a fine scale around the Mediterranean basin. Working at the intersection of genomics and data science, Dr Paschou analyzed genomewide data from this sample leading to high impact papers that attracted great publicity and were featured in multiple media outlets (e.g., NBC, BBC, National Geographic, Le Figaro). In work that appeared in Nature Communications (Hughey et al. 2013), using state of the art statistical methodologies, Dr Paschou contributed significantly in addressing the question of the origin of the ancient Minoan population by analyzing mitochondrial DNA from Minoan osseous remains found in a cave in Crete. Refuting the hypothesis of Sir Arthur Evans, who proposed a North African origin of the Minoans, the study showed that, in fact, the Minoans bear the greatest genetic relationship to Neolithic and modern populations from Europe. In work that appeared in the leading interdisciplinary journal PNAS (again attracting considerable attention from the scientific community and the popular media), Dr Paschou addressed the long-debated question of the Neolithic colonization of Europe by farmers from the Near East (Paschou et al. 2014). Using sophisticated techniques, she observed a striking structure correlating genes with geography around the Mediterranean Sea and showed that the first farmers migrating from Anatolia (what is today Syria and Palestine) to Europe via a

maritime route, with the Aegean islands acting as a bridge that connected Near East to Southern Europe.

# Uncovering population genetic structure and individual ancestry

In highly cited work, Dr Paschou led a series of papers on the selection of genetic markers that can be used to identify the origin of individuals and dissect population genetic structure. Her work has important impact in forensics clinical studies. and population genetics and has also been transferred fields to the biotechnology, with possible use for instance in the study of economically important traits, breeding programs, efforts to conserve biodiversity, and traceability of breed-specific



Top three principal components of genomewide data showing ancestry contributions in an admixed Puerto Rican population (Paschou et al PLoS Genetics, 2007). This figure is also used in Thompson & Thompson's Genetics in Medicine 8th edition, a classic reference textbook in the field.

branded products. For example, Dr Paschou's paper on PCA-correlated SNPs, which appeared in PLOS Genetics, is an example of interdisciplinary research, at the interface of Genetics and Computer Science (Paschou et al. 2007). Based on Principal Components Analysis Dr Paschou developed a novel algorithm that could be applied on genomewide datasets for the selection of a small subset of ancestry informative markers that can be used to discriminate different populations. Most recently, Dr Paschou, in collaboration with colleagues from Purdue Dept of Computer Science and in work that was led by a PhD student she co-advised (Co-Chair of committee) she published a novel software tool, TeraPCA, a C++ implementation of the Randomized Subspace Iteration method to perform Principal Component Analysis of large-scale datasets of millions of individuals over millions of genetic markers (Bose et al. 2019). Such tools are of great significance in the Big Data era allowing the biobank-scale analysis of genomic data.

## Popular Press (selected press-releases discussing Dr Paschou's work)

### **ENIGMA-Tourette Syndrome**

 May 2022 – <u>Purdue press release</u> - Largest worldwide Tourette syndrome genetics and neuroimaging study also promises insight into related disorders

#### Population genetic structure in India

- January 2021 <u>Purdue press release</u> New study links India's genetic diversity to language not geography.
- January 2021 Language not Geography major force behind India's gene flow <u>Big</u>
   <u>THINK press release</u>

## <u>Investigating population genetic structure in a tera scale</u>

• <u>TeraPCA</u> (a scalable, multi-threaded software package to compute the top principal components of terascale matrices). <u>Purdue press-release</u>

# **Understanding the genetic basis of Tourette Syndrome**

- February 2021 *Spectrum NEWS website* Common variants link Tourette, autism, ADHD, and OCD.
- June 2017 <u>Purdue press-release:</u> Tourette Syndrome risk increases in people with genetic copy variants
- June 2017 <u>NIH press release</u>: Researchers uncover genetic gains and losses in Tourette Syndrome
- June 2017 **Boston Herald**: Gene find may aid in Tourette treatment
- July 2012 *European Cooperation in Science and Technology Newsroom*: COST Action BM0905 underpins proposal for a Marie Curie Initial Training Network on Tourette Syndrome (TS)
- October 2005 <u>Bulletin of the Centre of Excellence for Early Childhood Development</u>, Canada: How will Tourette Syndrome strike within a family next?

## Population genetic structure in the Peloponnese

• March 2017 – *Vima Science*: DNA contradicts Fallmerayer theory (one of the top newspapers in Greece – article in Greek).

## Maritime route of colonization of Europe

- June 2014 New Scientist: Island-hopping odyssey brought civilisation to Europe
- June 2014 *Science*: First farmers were also sailors
- June 2014 *National Geographic*: Ancient Europe colonized by island hoppers?
- June 2014 Le Figaro (in French): Lire dans l'ADN l'histoire du peuplement
- June 2014 Scinexx.de (in German): Die ersten Bauern kamen über den Seeweg
- June 2014 Le Scienze (in Italian): La via insulare delle migrazioni neolitiche
- June 2014 TO VIMA (in Greek): Farming arrived to Europe by ship
- June 2014 *TA NEA (in Greek)*: The Greek islands as a bridge of evolution

### **MIT Enterprise Forum Greece press-release**

• September 2013 - FORTUNE Greece.com (article in Greek), *Entrepreneurship and Innovation in Genomics and Biotechnology* 

#### Minoan genetic ancestry press-releases

- May 2013 *Nature News*: Minoan civilization was made in Europe
- May 2013 **BBC News**: DNA reveals origin of Greece's ancient Minoan culture
- May 2013 NBC News: Mysterious Minoans really were European, DNA finds
- May 2013 *Live Science*: Mysterious Minoans were European
- May 2013 *USA Today: Europe's first civilization was home grown*
- May 2013 *RPI News*: DNA analysis unearths origins of Minoans

- May 2013 **TO VIMA (in greek):** Modern Cretans descended from the Minoans
- May 2013 **Proto Thema (in greek):** Cretans are descendants of the Minoans
- May 2013 *Kriti TV (in greek)*: Minoans were the first Europeans

## PCA-correlated SNPs and population structure press-releases

- April 2008 Yahoo! News: Computer program reveals anyone's ancestry
- April 2008 *LiveScience* and NSF: Computer program reveals anyone's ancestry
- August 2008 *Science Daily:* Pinpointing genetic variations in European Americans
- September 2007 *ScienceDaily:* Tracing your ancestry:
- September 2007 <u>Scitizen article:</u> DNA markers and computer science methodology can be used to trace individual ancestry

#### **B.** Publications

\* indicates primary author, Paschou lab author codes: P Post-Doctoral; G Graduate student; U Undergraduate student; PC Pre-collegiate student.

Dr. Paschou has published in the following journals listed in order of the most recent impact factor: <u>Science</u> (IF 37.2), <u>Cell\_(IF:36.21)</u>, <u>Neuron</u> (IF: 13.97), <u>Am J Psychiatry</u> (IF: 13.4), <u>Mol Psychiatry</u> (IF: 13.20), <u>Nature Communications</u> (IF: 12.12), <u>Biological Psychiatry</u> (IF: 12.09), <u>Genome Research</u> (IF: 11.35), <u>Molecular Biology and Evolution</u> (IF: 11.06), <u>Annals of Neurology</u> (IF: 9.89), <u>Proceedings of the National Academy of Sciences USA</u> (IF: 9.66), <u>Am J Hum Genet</u> (IF: 9.02), <u>Neurology</u> (IF:8.32), <u>Cell\_Reports</u> (IF: 8.28), <u>Neurosci Biobehav Rev</u> (IF: 8.23), <u>Nat Rev Dis Primers</u> (IF: 6.39), <u>PLos Genetics</u> (IF: 6.10), <u>J Med Genet</u> (IF: 5.45), <u>Neurobiol Aging</u> (IF: 5.15), <u>Human Genetics</u> (IF: 4.64), <u>Am J Med Genet</u> (IF: 4.44), <u>Eur J Hum Genet</u> (IF: 4.35), <u>Pharmacogenomics</u> (IF: 3.85), <u>Genes Brain Behav</u> (IF: 3.74), <u>Front Neurosci</u> (IF: 3.56), <u>Front Psychiatry</u> (IF: 3.53), <u>Cytokine</u> (IF: 3.49), <u>Eur Child Adolesc Psychiatry</u> (IF: 3.34), <u>Diabetes Metab Res Rev.</u> (IF: 3.26), <u>Spine J</u> (IF: 3.02), <u>PLos ONE</u> (IF: 2.38), <u>Biological Journal of the Linnean Society</u>, (IF: 2.29), <u>Annals of Human Genetics</u> (IF: 1.31), <u>Journal of Pediatric Endocrinology and Metabolism</u> (IF: 1.23)

**Based on Google Scholar Report August 8, 2023:** 

Total number of citations: 6,226

h-index: 36 i10-index: 59

Complete list of published work available on PubMed in MyBibliography (use link below)

https://pubmed.ncbi.nlm.nih.gov/?term=paschou+p&sort=date

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NA

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### 4. Book Chapters

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#### 5. Abstracts

- 1. Guo Y., Zhao B, Paschou P., *Phenotypic and genetic relationships between physical activity, sleep, and brain health.* Poster Presentation, Presented at the American Society of Human Genetics 2022 Annual Meeting, Oct. 2022, Los Angeles, CA
- 2. Jain, P., Miller-Fleming, T., Topaloudi, A.,..., Davis, L., Paschou, P., *Polygenic Risk score based phenome wide association study for Tourette's Syndrome*. Poster Presentation, Presented at: Annual Meeting of The American Society of Human Genetics 2022 Annual Meeting, Oct. 2022. Los Angeles, CA
- 3. Jin Y., Paschou P., Single-Cell RNA-Seq reveals the connections of amyloid-beta and cell death pathways. Poster Presentation, Presented at the American Society of Human Genetics 2022 Annual Meeting, Oct. 2022, Los Angeles, CA
- 4. Kaka, M., Jain, P., Topaloudi A., Paschou P., *Exploring genome-wide association results for neuroticism as a proxy for mental health disorders in individuals of African ancestry*. Poster Presentation, Presented at: Annual Meeting of The American Society of Human Genetics 2022 Annual Meeting, Oct. 2022. Los Angeles, CA
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- 6. Topaloudi, A., Jain, P., Martinez, M., Paschou P., *A comparative PRS-PheWAS of 14 autoimmune disorders, and their genetic relationship.* Poster Presentation, Presented at: American Society of Human Genetics 2022 Annual Meeting, Oct. 2022. Los Angeles, CA
- 7. Jain, P., Miller-Fleming, T., Topaloudi, A.,..., Davis, L., Paschou, P., *Polygenic Risk score-based phenome wide association study for Tourette's Syndrome*. Virtual Poster Presentation, Presented at: Greater Indiana Society for Neuroscience. Apr. 2022. Virtual meeting
- 8. Jin, Y., Drineas, P., Rochet, C., Paschou, P., Alzheimer's Disease Neuroimaging Initiative (ADNI), *Interaction of Genetics, Amyloid-beta and Inflammation as Mediators of Brain Structure Change in Cognitive Decline.* Virtual Poster Presentation, Presented at: Greater Indiana Society for Neuroscience. Apr. 2022. Virtual meeting
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- 12. J. Bryant, G. Reynolds, A. Topaloudi, P. Paschou. Genetic Similarities and Differences between Autoimmune Disorders. Virtual poster presentation. Presented at: Indiana Clinical and Translational Science (CTSI) Retreat, February 2022. Virtual meeting
- 13. B. Raber, Y. Jin, P. Paschou. Mendelian randomization of inflammatory biomarkers involving RAGE and COX-2 pathway for cognitive decline. Virtual poster presentation. Presented at: Indiana Clinical and Translational Science (CTSI) Retreat, February 2022. Virtual meeting
- 14. Y. Jin, P. Drineas, P. Paschou. Concordance of genetic variants that affects 12-months change in inflammatory and amyloid-beta biomarkers and that also influences neuroimaging biomarker

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- 15. P. Jain, M. Burch, M. Martinez, P. Drineas, P. Paschou. Determining the Genetic risk of Complex Disorders in Global populations. Virtual poster presentation. Presented at: American Society of Human Genetics 2021 Annual Meeting. October 2021. Virtual meeting
- 16. Y. Jin, P. Drineas, P. Paschou. Concordance of genetic variants that affects 12-months change in inflammatory and amyloid-beta biomarkers and that also influences neuroimaging biomarker changes. Virtual poster presentation. Poster presented at: American Society of Human Genetics 2021 Annual Meeting, October 2021. Virtual meeting
- 17. A. Topaloudi, Z. Zagoriti, A. Flint, M. Martinez, Z. Yang, F. Tsetsos, Y. Christou, G. Lagoumintzis, E. Yannaki, E. Papanicolaou-Zamba, J. Tzartos, X.i Tsekmekidou, K. Kotsa, E. Maltezos, N. Papanas, D. Papazoglou, P. Passadakis, A. Roumeliotis, S. Roumeliotis, M. Theodoridis, E. Thodis, S. Panagoutsos, J. Yovos, J. Stamatoyannopoulos, K. Poulas, K. Kleopa, S. Tzartos, M. Georgitsi, P. Paschou. A Myasthenia Gravis genomewide association study implicates AGRN as a risk locus. Virtual poster presentation. Presented at: American Society of Human Genetic 2021 Annual Meeting. October 2021. Virtual meeting
- 18. Z. Yang, P. Paschou, P. Drineas, Reconstructing SNP Allele and Genotype Frequencies from GWAS Summary Statistics. Virtual poster presentation. Presented at: American Society of Human Genetics 2021 Annual Meeting, October 2021, Virtual meeting
- 19. Y. Zou, Y. Jin, J. Rispoli. Investigating the reliability of Combat for harmonizing diffusion MR images acquired at a single site with multiple echo times. Virtual poster presentation. Poster presented at: International Society for Magnetic Resonance in Medicine Conference, May 2021. Virtual meeting
- 20. M. Martinez, A. Topaloudi, P. Jain, P. Paschou. Application of Polygenic Risk Scores to understand Phenotypic Associations of Neurological Autoimmune Diseases. Virtual poster presentation. Presented at: Purdue Undergraduate Research Conference. April 2021. Virtual meeting
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- 22. M. Martinez, A. Topaloudi, P. Jain, P. Paschou. Application of Polygenic Risk Scores to understand Phenotypic Associations of Neurological Autoimmune Diseases. Virtual poster presentation. Presented at: Greater Indiana Society for Neuroscience 2021 Annual Meeting. April 2021. Virtual meeting
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- 24. Z. Yang, PGC Cross-disorder Working group, P. Paschou, Investigating shared genetic basis across Tourette Syndrome and comorbid neurodevelopmental disorders along the impulsivity-compulsivity spectrum. Virtual poster presentation. Presented at Greater Indiana Society for Neuroscience 2021 Annual Meeting, April 2021, Virtual meeting

- 25. A. Flint, A. Topaloudi, P. Paschou. Key Genetic Contributors to Myasthenia Gravis and Other Autoimmune Disorders. Virtual oral presentation. Presented at: Purdue Undergraduate Research Conference. April 2021. Virtual meeting
- 26. **Topaloudi A<sup>g</sup>**, **Tsetsos F<sup>g</sup>**, Zagoriti Z, Kleopa K, Lagoumintzis G, Zamba-Papanicolaou E, Christou Y, Poulas K, Tzartos S, **Georgitsi M<sup>p</sup>**, **Paschou P**. Identifying the genetic basis of myasthenia gravis through analysis of genome-wide data. Poster presented at: Annual Meeting of the American Society of Human Genetics; 2019 Oct 15-19; Houston, TX
- 27. Yang Z<sup>g</sup>, Bose A<sup>g</sup>, Drineas P, Paschou P. Methods for genotype-based risk prediction for complex neuropsychiatric disorders. 68<sup>TH</sup> Annual Meeting of The American Society of Human Genetics, October 2018, San Diego, California
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- 30. **Bose A<sup>g</sup>**, Platt DE, Parida L, **Paschou P**, Drineas P. Genetic Variation reveals migrations into the Indian subcontinent and its influence on the Indian society. 66th Annual Meeting of the American Society of Human Genetics, Vancouver, Canada.
- 31. Tsetsos F<sup>g</sup>, Koukousi D<sup>u</sup>, Mpampali M<sup>u</sup>, Padmanabhuni SS<sup>g</sup>, Alexander J<sup>g</sup>, Karagiannidis I<sup>g</sup>, Mantzaris D<sup>p</sup>, Georgitsi M<sup>p</sup>, Drineas P, and Paschou P. "A common genetic basis between neurodevelopmental disorders of childhood". Annual Meeting of the American Society of Human Genetics. Vancouver, Canada, Oct. 18–22, 2016.
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- 40. **Tsetsos F<sup>g</sup>, Alexander J<sup>g</sup>, Yu** D, Sul, JH, Coppola G, Zelaya I, Drineas P, GGRI, TSAICG, Mathews C, Scharf JM, and **Paschou**, P. "Pathway Analysis on Genome-wide data for Tourette Syndrome Shows Enrichment in Genes expressed in Nervous System Tissues". 1st World Congress on Tourette Syndrome and Tic Disorders. London, UK, June 24–26, 2015.
- 41. Kovacs GG, Alexander Jg, Kalev O, Mehrabian S, Drineas P, Ströbel T, Paschou P. Early onset familial alzheimer-type dementia associated with tauopathy and TDP-43 proteinopathy. 12th International Congress on Alzheimer's and Parkinson's Diseases, Nice, March 18-22, 2015.
- 42. **Tsetsos** Fg, Yu D, Sul J H, TSAICG, GGRI Consortium, Coppola G, **Paschou P**, Mathews C, Scharf J. A Second Genome Wide Association Study for Tourette Syndrome. Annual Meeting of the European Society for the Study of Tourette Syndrome, Paris, April 25-26, 2014.
- 43. **Karagiannidis I**<sup>g</sup>, Yu D, GGRI Consortium, **Paschou P**, Mathews C, Scharf J. The Gilles de la Tourette Syndrome GWAS Replication Initiative reveals significant signal of genetic association near the Netrin 4 gene. Annual Meeting of the European Society for the Study of Tourette Syndrome, Paris, April 25-26, 2014.
- 44. **Alexander J<sup>g</sup>, Karagiannidis I<sup>g</sup>, Potamianou H<sup>u</sup>, Georgitsi M<sup>p</sup>**, Xing J<sup>3</sup>, Sun N, Nasello C, Sandor P, Barr C, Tischfield J, **Paschou P**, Heiman G. Targeted re-sequencing approach of TS candidate genes implicates potentially functional variants in TS etiology. Annual Meeting of the European Society for the Study of Tourette Syndrome, Paris, April 25-26, 2014.
- 45. **Padmanabhuni SS<sup>g</sup>**, Ander BP, Sharp F, Drineas P, **Paschou P**. Gene expression studies in TS. Annual Meeting of the European Society for the Study of Tourette Syndrome, Paris, April 25-26, 2014.
- 46. Arranz I, Bertelsen B, Jensen L J, **Paschou P**, Tümer Z. CNV analysis in a large cohort of Tourette syndrome patients from Denmark. Annual Meeting of the European Society for the Study of Tourette Syndrome, Paris, April 25-26, 2014.
- 47. Bertelsen B, Melchior L, Jensen L R, Groth C, Glenthøj B Y, Rizzo R, Mol Debes N, Skov L, Brøndum-Nielsen K, **Paschou P**, Silahtaroglu A, Tümer Z. Intragenic deletions affecting two alternative IMMP2L transcripts in patients with Tourette syndrome. Annual Meeting of the European Society for the Study of Tourette Syndrome, Paris, April 25-26, 2014.
- 48. **Karagiannidis I<sup>g</sup>, Potamianou H<sup>u</sup>,** Heiman G, Deng L, Xing J, Sun N, Nasello C, Sandor P, Barr C, **Paschou P**. Investigating the role of the Histidine Decarboxylase Gene in Tourette Syndrome etiology. Annual Meeting of the American Society of Human Genetics, Washington, October 22-26, 2013.

- 49. **Karagiannidis I<sup>g</sup>**, **Tsetsos F<sup>g</sup>**, **Athousaki A<sup>u</sup>**, **Papagiannakopoulou E<sup>u</sup>**, **Paschou P**. The genetic structure of Tourette syndrome associated genomic regions in worldwide populations. Annual Meeting of the European Society for the Study of Tourette Syndrome, Athens, April 26-27, 2013.
- 50. **Tsetsos** F<sup>g</sup>, **Trivyzakis** G<sup>u</sup>, **Karaiskos** S<sup>u</sup>, **Ioannou** M, Gkantouna V, Papachatzopoulou A, Patrinos G, Tzimas I, Tsakalidis A, Drineas P, **Paschou** P. Investigating the Genetic Architecture of Diabetes Mellitus Type 2 on a worldwide level: Implications for future research. 64<sup>th</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Athens, 6-8 December 2013.
- 51. Karaiskos S<sup>u</sup>, Tsetsos F<sup>g</sup>, Karagiannidis I<sup>g</sup>, Alexander J<sup>g</sup>, Georgitsi M<sup>p</sup>, Paschou P. Examining genetic ancestry and demographic history among HapMap phase III populations. 64th Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Athens, 6-8 December 2013.
- 52. Potamianou H<sup>u</sup>, Karagiannidis I<sup>g</sup>, Georgitsi M<sup>p</sup>, Alexander J<sup>u</sup>, Karaiskos S<sup>u</sup>, Heiman G, Deng L, Xing J, Sun N, Nasello C, Sandor P, Barr C, Tischfield J, Paschou P. Investigating the role of the Histidine Decarboxylase Gene in Tourette Syndrome etiology. 64<sup>th</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Athens, 6-8 December 2013.
- 53. **Tsetsos F<sup>g</sup>, Tsekmekidou X<sup>g</sup>,** Kotsa K, Papanas N, Theodoridis M, Papazoglou D, Maltezos E, Vargemezis V, Yovos J, **Paschou P**. The CDKAL1 gene in relation to type 2 diabetes in Greece and the rest of the world. 1<sup>st</sup> Panhellenic Conference of Hellenic Association of Medical Geneticists, 30-31 May, 1 June 2013 (*Best Poster Award*).
- 54. Karagiannidis I<sup>g</sup>, Anastasiou Z<sup>u</sup>, Stathias V<sup>u</sup>, Ligda P<sup>u</sup>, Sandor P, Dehning S, Zill P, Hebebrand J, Noethen M, Lehmkuhl G, Tarnok Z, Barta C, Madruga-Garrido M, Mir P, Szymanska U, Wolanczyk T, Rizzo R, Mueller N, Barr C, Paschou P. The Histidine Decarboxylase Gene is associated with Gilles de la Tourette Syndrome in a large sample of trios. XXth World Congress on Psychiatric Genetics, Hamburg, October 14-18, 2012 (selected as one of the top three poster presentations).
- 55. **Trivizakis G<sup>u</sup>, Karagiannidis I<sup>g</sup>,** Papanas N, Theodoridis M, Papazoglou D, Maltezos E, Vargemezis V, **Paschou P**. Worldwide variation across TCF7L2; Implications for Type 2 Diabetes susceptibility around the world. 63<sup>rd</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Heraklion, November 9-11, 2012.
- 56. Athousaki A<sup>u</sup>, Liva E<sup>g</sup>, Palikyras S<sup>u</sup>, Potamianou H<sup>u</sup>, Ligda P<sup>u</sup>, Karagiannidis I<sup>g</sup>, Panagiotou I<sup>u</sup>, Mystakidou K, Paschou P. Investigation of the Growth/Differentiation Factor 5 gene in association with osteoarthritis of the spine in the Greek population. 63<sup>rd</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Heraklion, November 9-11, 2012.
- 57. Anastasiou Z<sup>u</sup>, Stathias V<sup>u</sup>, Karagiannidis I<sup>p</sup>, Ligda P<sup>u</sup>, Mir P, TSGeneSEE Consortium, Paschou P. Investigation of the HDC gene in association with Gilles de la Tourette Syndrome in populations from Southern and Eastern Europe. 34th Conference of the Hellenic Society for Biological Sciences, Trikala, May 17-19, 2012.
- 58. Sotiris G<sup>u</sup>, Aslanidou P<sup>u</sup>, Grigoriou E<sup>u</sup>, Papasotiriou S<sup>u</sup>, Stathias V<sup>u</sup>, Karagiannidis I<sup>g</sup>, Paschou P. The genetic structure of schizophrenia associated genes in 11 HapMap populations. 34th Conference of the Hellenic Society for Biological Sciences, Trikala, May 17-19, 2012.

- 59. Paschou P, Karagiannidis I<sup>g</sup>, Aslanidou P<sup>u</sup>, Grigoriou E<sup>u</sup>, Papasotiriou V<sup>u</sup>, Stathias V<sup>u</sup> and the Tourette Syndrome Genetics Southern and Eastern Europe Initiative. Investigating the genetic basis of Tourette Syndrome in European populations. A multinational initiative. XIXth World Congress on Psychiatric Genetics, Washington, September 10-14, 2011.
- 60. Horvath A, Alexandre RB, Saloustros E, Wassif C Manning A, **Paschou P**, Briasoulis P, Sigh S, Epstein J, Levi I, Neimela J, Oliveira JB, Carney JA, Porter FD, Stratakis CA. Tumor exome sequencing in patients with isolated bilateral Micronodular Adrenocortical Disease identifies pathogenic somatic and germline mutations. 12th International Congress of Human Genetics, Montreal, October 11-15, 2011.
- 61. Bowen BMP, Kosmaczewski S, Powers N, **Paschou P**, Speed WC, Gruen JR, Kidd KK. Haplotype Diversity and Linkage Disequilibrium of the Dyslexia Candidate Gene *DCDC2* in 90 Populations: Patterns for Alphabetic and Logographic Languages. 12th International Congress of Human Genetics, Montreal, October 11-15, 2011.
- 62. **Sotiris G<sup>u</sup>, Karagiannidis I<sup>g</sup>, Stylianopoulou E<sup>g</sup>,** Skavdis G, Grigoriou M, **Paschou P**. The genetic structure of LIM-homeobox genes LHX6 and LHX8 in 11 HapMap populations. 62<sup>nd</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Athens, December 9-11, 2011.
- 63. Aslanidou P<sup>u</sup>, Grigoriou E<sup>u</sup>, Stathias V<sup>u</sup>, Papasotiriou S<sup>u</sup>, Karagiannidis I<sup>g</sup>, Paschou P. Investigation of linkage disequilibrium patterns in schizophrenia susceptibility genes in eleven human populations from around the world. 62<sup>nd</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Athens, December 9-11, 2011.
- 64. **Karagiannidis I**<sup>g</sup>, **Tsirigoti A**<sup>u</sup>, **Stamboliou A**<sup>u</sup>, **Papadopoulou V**<sup>u</sup>, Manolopoulos VG, Martinis G, Kidd JR, Kidd KK, **Paschou P**. The genetic structure of the Greek population in comparison with the European reference populations from the HapMap project. 61<sup>st</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Alexandroupolis, October 15-17, 2010 (*Platform Presentation Award*).
- 65. Paschou P, Karagiannidis I<sup>u</sup>, Tsirigoti A<sup>u</sup>, Stampoliou A<sup>u</sup>, Papadopoulou V<sup>u</sup>, Manolopoulos VG, Kidd JR, Kidd KK, Drineas P. Evaluation of the HapMap dataset as reference for the Greek population. 60th Annual Meeting of the American Society of Human Genetics, Washington, November 2-6, 2010.
- 66. **Paschou P** and the Tourette Syndrome Genetics Southern and Eastern Europe Initiative. Pan-European Initiatives for the study of the genetics of Tourette Syndrome. XVIIIth World Congress on Psychiatric Genetics, Athens, October 3-7, 2010.
- 67. Tsirigoti A, Karagiannidis I, Papadopoulou V, Stampoliou A, Papanas N, Yavropoulou M, Yovos I, Vargemezis V, **Paschou P**. Studying the genetic basis of type 2 diabetes mellitus in the Greek population. 60<sup>th</sup> Pan-Hellenic Conference of the Hellenic Society for Biochemistry and Molecular Biology, Athens, November 20-22, 2009.
- 68. **Paschou P**, **Lewis J**<sup>g</sup>, Drineas P. Accurate inference of individual ancestry geographic coordinates within Europe using small panels of genetic markers, 59<sup>th</sup> Annual Meeting of the American Society of Human Genetics, Honolulu, October 20-24, 2009.
- 69. **Paschou P**, **Lewis J**<sup>g</sup>, **Javed A**<sup>g</sup>, Drineas P. Using principal components analysis to identify candidate genes for natural selection, 58<sup>th</sup> Annual Meeting of the American Society of Human Genetics, Philadelphia, November 11-15, 2008.

- 70. **Paschou P**, Ziv E, Burchard EG, Choudry S, Rodriguez-Cintron W, Mahoney MW, Drineas P. PCA-correlated SNPs for structure identification in worldwide human populations. 57<sup>th</sup> Annual Meeting of the American Society of Human Genetics, San Diego, October 23-27, 2007.
- 71. **Paschou P**, Mahoney M, Pakstis A, Kidd JR, Kidd KK, Drineas P. Inter- and intrapopulation genotype reconstruction from tagging SNPs. 56<sup>th</sup> Annual Meeting of the American Society of Human Genetics, New Orleans, October 9-13, 2006.
- 72. Rivière JB, Díaz-Anzaldúa a, Joober R, Dion Y, Lespérance P, Richer F, Chouinard S, **Paschou P**, Rouleau GA. Replication of association between Tourette Syndrome and 17q25 in the French Canadian population. XIIIth World Congress of Psychiatric Genetics, Boston October 14-18, 2005.
- 73. **Paschou P**, Feng Y, Pakstis AJ, Speed WC, DeMille MM, Kidd JR, Jaghori B, Kurlan R, Pauls DL, Sandor P, Barr CL, Kidd KK. 17q25 is a candidate susceptibility region for TS: a study of two independent family samples. 54<sup>th</sup> Annual Meeting of the American Society of Human Genetics, Toronto, October 26-30, 2004.
- 74. **Paschou P**, Feng Y, Pakstis AJ, Speed WC, DeMille MM, Kidd JR, Jaghori B, Kurlan R, Pauls DL, Sandor P, Barr CL, Kidd KK. 17q25 implicated in Tourette syndrome susceptibility: a study of two independent family samples. TSA Fourth International Scientific Symposium, Cleveland, June 25-27, 2004.
- 75. Mukherjee N, **Paschou P**, de Mille M et al. Out of Africa hypothesis supported by variation at CD4 and DM1. Am J Hum Genet 73 (Supplement), 2003: 188.
- 76. **Paschou P**, Pakstis AJ, De Mille M et al. Fine mapping of 17q25 as a candidate susceptibility region for Tourette Syndrome. Am J Hum Genet 73 (Supplement), 2003: 535.
- 77. **Paschou P**, Pakstis AJ, De Mille M et al. 17q25 is supported as a candidate susceptibility locus for Gilles de la Tourette Syndrome. Am J Med Genet (Neuropsychiatric Genetics) 122B, 2003: 156.
- 78. Ilonen J, Sjöroos M, Nejejtsev S, Knip M, Simell O, **Paschou P** et al. Genetic screening for type 1 diabetes risk in Finnish and Greek populations stepwise typing for three class II HLA loci. Diabetes Metabolism Research and Reviews 17 (Suppl 1), 2001: S25.
- 79. Bartsocas CS, Malamitsi-Puchner A, Sjöroos M, **Paschou P** et al. Greek and Albanian cord blood comparison of IDDM related DQB1 alleles. Ped Res 49, 2001: 309.
- 80. **Paschou P**, Malamitsi-Puchner A, Vazeou A et al. Genetic markers of Type 1 Diabetes and frequency differences in three European populations. 7<sup>th</sup> Panhellenic Diabetology Conference, Heraklion, 29 March- 1 April, 2001.
- 81. Bozas E, Sjöroos M, **Paschou P** et al. The genetic basis of IDDM incidence differences in Greece and FInland. 22<sup>nd</sup> Conference of the Hellenic Society for Biological Sciences, Skiathos, 25-28 May, 2000.

#### C. Invited Lectures

## 1. National and International Meetings:

- 1. Neuroimaging and Genetics in Tourette Syndrome, 2023 Annual ESSTS Meeting, Brussels, June 2023.
- 2. *Population Genetic Structure in the Mediterranean*. 4th National Congress of Gene Therapy & Regenerative Medicine, Athens, Greece, May 2019.

- 3. *The genetic etiology of Tourette Syndrome*. 2018 Annual Meeting of the European Society for the Study of Tourette Syndrome, Copenhagen, Denmark, June 2018
- 4. Dissecting the etiology of Tourete Syndrome through large-scale genome, epigenome and transcriptome studies and cross-disorder analysis. Talk in invited symposium. XXVth World Congress of Psychiatric Genetics, Orlando, USA, October 2017
- 5. The genetic basis of Tourette Syndrome: Updates from large scale collaborative efforts. Invited talk 9<sup>th</sup> European Conference on Tourette Syndrome and Tic Disorders. Warsaw, Poland, June 2016.
- 6. Studying the genetic history of Greek populations: Focus on Crete. Invited talk International Meeting «Ancient DNA analysis: A new view in the past», Heraklio, Greece, May, 2016.
- 7. Studying the genetic basis of multifactorial disorders. Invited talk 66<sup>th</sup> Congress of the Hellenic Society for Biochemistry and Molecular Biology, Athens, 2015.
- 8. *The genetic etiology of Tourette Syndrome; Updates from large scale collaborative projects.* Plenary talk 1<sup>st</sup> World Congress on Tourette Syndrome, London, 2015.
- 9. Analyzing the genetic structure of Greeks. 9th Panhellenic Conference of Bioscience, Athens, Greece, 2014.
- 10. Opportunities and challenges for genomics research in Greece. MIT Enterprise Forum Greece: Entrepreneurship and Innovation in Genomics and Biotechnology, Athens, Greece, 2013
- 11. *The genetic basis of Gilles de la Tourette Syndrome*. 2012 Annual Meeting of the European Society for the Study of TS, Catania, Italy, 2012.
- 12. *Investigating the genetic basis of Tourette Syndrome in European Populations. A multinational initiative.* World Congress for Psychiatric Genetics, Washington DC, 2011.
- 13. The genetic structure of the Greek population in comparison with the European reference populations from the HapMap project. Hellenic Society for Biochemistry and Molecular Biology, Alexandroupoli, Greece, 2010.
- 14. The genetic basis of Gilles de la Tourette Syndrome. XLIII Congress of Polish Psychiatrists, Poznan, Poland, 2010.
- 15. Pan-European (and global) initiatives for the study of Tourette Syndrome. 3rd meeting of the European Society for the Study of Tourette Syndrome, Dresden, Germany, 2009.
- 16. An update on the genetics of Tourette Syndrome. 2nd meeting of the European Society for the Study of Tourette Syndrome, Budapest, Hungary, 2009.
- 17. Genetics of Gilles de la Tourette Syndrome. 6th Panhellenic Conference of Child Psychiatry, Athens, Greece, 2009.
- 18. Paschou P, Mahoney M, Pakstis A, Kidd JR, Kidd KK, Drineas P. *Inter- and intrapopulation genotype reconstruction from tagging SNPs*. 56th Annual meeting of the American Society of Human Genetics, New Orleans, USA, 2006.
- 19. Selection of genetic markers for complex trait association studies in worldwide populations. 1st International Congress of Clinical and Molecular Genetics, Alexandroupoli, Greece, 2006.

### 2. Regional Meetings and Workshops

- 1. *The genetics of Mediterranean populations*. Invited talk at G. Stamatoyannopoulos Symposium, Seattle, September 17, 2019
- 2. *Data Science in Population Genetics*. Workshop on Algorithmic, Mathematical, and Statistical Foundations of Data Science and Applications, Purdue University, April 12-13, 2019

- 3. *The genetics of Tourette Syndrome*. Invited speaker at Greater Indiana Society for Neuroscience meeting, March 22, 2019
- 4. *Genetics of Type 2 Diabetes. Current updates*, 26<sup>th</sup> Annual Conference of the Diabetology Society of Northern Greece, Thessaloniki, Greece, 2012
- 5. Genetic mapping of multifactorial disease. Genetics Symposium, National University of Athens, Athens, Greece, 2000.

#### 3. Universities and Other Institutions

- 1. Tourette Genetics 2019. Invited talk at Washington University St Louis, April 29, 2019
- 2. Large scale collaborative studies for Tourette Syndrome. Invited talk at Tourette Association of America Annual Meeting, April 8, 2019
- 3. Studying human genomic variation: from population history to health and disease. Invited speaker Purdue Ecolunch Seminar Series, West Lafayette, USA, February 2017.
- 4. The genetic basis of Gilles de la Tourette Syndrome: Current updates. Invited talk University of Catania, School of Medicine, Catania, April, 2016.
- 5. Genomic approach to human brain ageing. Medical University of Vienna, Austria, 2014.
- 6. Genetics of Gilles de la Tourette. Sismanoglio Hospital of Attica, Athens, Greece, 2009.
- 7. Population structure via Principal Components Analysis. University of California Los Angeles, Los Angeles, USA, 2007.
- 8. *PCA-correlated SNPs for structure identification in human worldwide populations*. Biomedical Research Foundation, Academy of Athens, Greece, 2007.
- 9. *Studying Human Genetic Variation*. Dept. of Molecular Biology and Genetics, Democritus University of Thrace, Alexandroupoli, Greece, 2005.
- 10. *Urea Cycle Disorders*. Clinical Genetics Rounds, Department of Genetics, Yale University, New Haven, USA, 2004.

## **D.** Other Presented Papers

**Bose A<sup>g</sup>**, Burch MC, Chowdhury A, **Paschou P**, Drineas P, CluStrat: a structure informed clustering strategy for population stratification, International Conference on Research in Computational Molecular Biology (**RECOMB**), Lecture Notes in Computer Science (volume 12074), 2020.

### E. Funding

# 1. Discussion of Support

Dr Paschou has been very successful in pursuing international collaborations and attracting funding to support large-scale multi-disciplinary research. For instance, she has brought together scientists across different disciplines with an aim to understand the cause of neuropsychiatric disorders of childhood and has led several large-scale international consortia in this direction. She has been supported by the NSF, the NIH, the European Union, and private research foundations. Since she joined Purdue in August 2016, Dr Paschou was very rapidly successful in getting funding from NSF as PI and Co-PI as well as a large-scale multi-site R01 from NINDS as MPI and a multi-site R01 from NIMH (again as PI). Regarding the MPI grant, the NIH recently adopted this multi-PD/PI option which presents an important opportunity for investigators seeking support for projects or activities that require a team science approach. The overarching goal is to maximize the potential of

team science efforts in order to be responsive to the challenges and opportunities of the 21st century. MPIs all play an equal role in the leadership of the project and collaborate as equals.

Dr Paschou's R01 grants from NINDS and NIMH are of tremendous significance for the Tourette Syndrome field. The studies manage to bring together all major consortia in Europe and the US, working on elucidating the genetic basis of this disorder. The NINDS-funded project focuses on a mega-analysis of more than 12,000 patients. Dr Paschou will lead the SNP and pathway analysis as well as the correlation of the mega-GWAS findings to neuroimaging x genetics GWAS results from the ENIGMA consortium. The unprecedented sample size of this project is expected to lead to important discoveries that will increase our understanding of the neurobiology of Tourette Syndrome and help identify novel targets for therapies. On the other hand, her NIMH R01 will allow, for the first time, large-scale analysis on brain structure and function for Tourette Syndrome, bringing together, once more, an international research team who, led by Dr Paschou, will share and jointly analyze genetics and neuroimaging data.

Prior to joining Purdue, Dr Paschou already had a long track-record of gaining external funding to support collaborative research. She is recognized as a leader in TS genetics based on her research findings and great contributions in bringing together researchers from multiple disciplines and multiple sites in order to understand this disorder. In 2008, supported by the Tourette Association of America, she established the TSGeneSEE Initiative (Tourette Syndrome Genetics Southern and Eastern Europe Initiative) with participation of researchers and clinicians from seven countries aiming to understand the genetic cause of TS. This sparked the establishment of the "European Network for GTS", an EU-funded COST Action (European Cooperation in Science and Technology) which Dr Paschou coordinated leading to the development of an interdisciplinary network of more than 200 researchers from 23 different countries aiming to elucidate the cause of Tourette Syndrome and identify novel therapies. The collaborative work and the success of this network of researchers further expanded to attract 10 million USD in additional support from the European Union, in order to support EMTICS (European Multicenter Tics in Children Study) where Dr Paschou runs the genomics Work Package and TS-EUROTRAIN, a Marie Curie Initial Training Network coordinated by Dr Paschou, and aiming to train 12 PhD students, the next generation of experts in genetics and neuroimaging for TS, with the participation of 10 sites from academia and industry (including the multinational pharmaceutical company BI Pharma).

# 2. Funding

#### **Current Awards:**

1. NIMH/ R01: <u>International collaborative study on Tourette Syndome genetics and neuroimaging</u>

Duration of Funding: 3/4/2022- 3/3/2027 Total amount of award: \$2,576,012

Role: Principal Investigator (PI)

2. Purdue Institute for Drug Discovery – Programmatic Areas Research Grants: Identifying

Drug Targets and Biomarkers for Alzheimer's Disease and Related Dementias

Duration of Funding: 12/1/2021-11/31/2023 Total amount of award: \$100,000 Role: Principal Investigator (PI)

3. NINDS/R01: Large-scale collaborative genetic and epigenetic studies of Tourette Syndrome

Duration of Funding: 4/1/2019- 3/31/2024
Total amount of award: \$3,928,325
Role: Principal Investigator (MPI)
Purdue subcontract: \$440,000

**Taken from NIH website:** The multi-PD/PI option presents an important opportunity for investigators seeking support for projects or activities that require a team science approach. The overarching goal is to maximize the potential of team science efforts in order to be responsive to the challenges and opportunities of the 21st century. The goal is to encourage collaboration among equals when that is the most appropriate way to address a scientific problem. Specific features of the Multiple PD/PI Option include the following:

- o All PD/PIs share the responsibility and authority for leading and directing the project
- o Being named contact PD/PI does not imply any particular role within the leadership team
- o All PD/PIs will be listed on the Notice of Award (NoA)
- o The role type, "co-PI" is not used by the NIH
- 4. NSF CISE/IIS/III Core III: Small. Randomized Matrix-Sketching Approaches for Estimating Missing Heritability in Massive Population Genetics Datasets

Duration of Funding: 9/1/2020-8/31/2024 Total amount of award: \$500,000

Role: Principal Investigator

5. NSF CISE/IIS/III Core - III: Small / <u>Novel Statistical Data Analysis Approaches for Mining</u> Human Genetics Datasets

Duration of Funding: 9/1/2017-8/31/2022 Total amount of award: \$500,000

**Role: Co-Principal Investigator** 

If Co-PI, for how much of the total funding are you directly responsible: \$300,000

#### **Pending proposals:**

NA

#### **Past Awards:**

1. European Committee FP7-HEALTH, Cooperation / EMTICS: European Multicentre Tics in Children Study

Duration of Funding: 2011-2018

Total amount of award: €6,000,000

Role: Work Package Leader

If Co-PI, for how much of the total funding are you directly responsible: €746,941

**2.** European Committee FP7-PEOPLE, Marie Curie Initial Training Network / TS-EUROTRAIN: Interdisciplinary training network for Tourette Syndrome; structuring European Training capacities for neurodevelopmental disorders

Duration of Funding: 2012-2016

Total amount of award: €3,000,000

Role: Principal Investigator

3. CAREER EXCELLENCE AWARD - ARISTEIA II – Co-funded by Greece and the European Union - *GENOMAP.GR*: A genomic reference map of Greece.

Duration of Funding: 2014-2015

Total amount of award: €165,000

Role: Principal Investigator

4. Greece-France Bilateral Cooperation Program – Co-funded by Greece and the European Union, NSRF / *TSGeneExpress*: Investigating the role of the histaminergic pathway in the etiology of Gilles de la Tourette Syndrome.

Duration of Funding: 2014-2015

Total amount of award: €30,000

**Role: Principal Investigator** 

5. THALIS program, Co-funded by Greece and the European Union, NSRF / The genetic architecture of Type 2 Diabetes Mellitus in the Greek Population.

Duration of Funding: 2012-2015

Total amount of award: €599,800

Role: Principal Investigator

6. COST office – European Cooperation in Science and Technology / Network for the Study of Gilles de la Tourette Syndrome

Duration of Funding: 2010-2014

Total amount of award: €400,000

**Role: Principal Investigator** 

7. Tourette Syndrome Association Research Grant Award / TSGeneSEE: Genetics of Tourette Syndrome. The Southern and Eastern Europe initiative

Duration of Funding: 2009-2010

Total amount of award: \$74,970

**Role: Principal Investigator** 

8. Tourette Syndrome Association Research Grant Award / TSGeneSEE: Genetics of Tourette Syndrome. The Southern and Eastern Europe initiative

Duration of Funding: 2008-2009

Total amount of award: \$74,655

**Role: Principal Investigator** 

9. European Commission, Seventh Framework Program / "Strengthening regional bioresearch potential in Greece. Department of Molecular Biology and Genetics in Thrace"

Duration of Funding: 2008-2012

Total amount of award: €1,000,000 Role: Work-Package Deputy Leader

10. Tourette Syndrome Association Research Grant Award / Fine mapping of 17q25 and other candidate susceptibility regions for Tourette Syndrome

Duration of Funding: 2004-2005

Total amount of award: \$73,308

**Role: Principal Investigator** 

11. Tourette Syndrome Association Fellowship Award / Fine mapping of 17q25 and other candidate susceptibility regions for Tourette Syndrome

Duration of Funding: 2003-2004

Total amount of award: \$40,000

Role: Principal Investigator

# F. Evidence of Involvement in Graduate Research Program

- 1. Number of M.S. (1) and Ph.D. (9) Students Graduated
- 2. Current Graduate Students (5), Post doctorates (1)
- 3. Current Undergraduate Students (3)

Current Graduate	Degree/	Past Graduate Students	Date Graduated/
Students Major Professor	<b>Date Entered</b>		<u>Degree</u>
Major Professor:	D1 D /2010	D', 1 I ' (D 1 )	2022/DLD
Yin Jin	PhD/2019	Pritesh Jain (Purdue)	2023/PhD
Yuxin Guo	PhD/2021	Apostolia Topaloudi (Purdue	
Sudhanshu Shekhar	PhD/2017	Zhiyu Yang (Purdue)	2021/PhD
Mary Kaka	PhD/2021	Hanrui Wu (Purdue)	2020/MS
Guangxin Chen	PhD 2022	Aritra Bose (Purdue)	2019/PhD
		Shanmukha Padmanabhuni (DUTH)	2017/PhD
		John Alexander (DUTH)	2016/PhD
		Fotis Tsetsos (DUTH)	2017/PhD
		Iordanis Karagiannidis (DUTH)	2017/PhD
		Emmanuella Vogiatzi (DUTH)	2012/PhD
Member, Committee:			
Shawna Cook (Purdue)	PhD	Xanthi Tsekmekidou (AUTH)	2020/PhD
Madeline Carpenter (Purdue)	PhD	Electra Stylianopoulou (DUTH)	2015/PhD
Mai Elkady (Purdue)	PhD	Jamey Lewis (RPI)	2010/PhD
Aashish Jain (Purdue)	PhD	Chrysi Tsikrikoni	2009/PhD
Myson Burch	PhD	Asif Javed (RPI)	2008/PhD
Eleni Liva (NKUA)	PhD	Loukas Damianos (DUTH)	2007/PhD
Matina Symeonidi (NKUA)	PhD		

<b>Current Postdocs</b>	Past Postdocs
Apostolia Topaloudi (Purdue)	Fotis Tsetsos (Purdue)
	Shanmukha Padmanabhuni (Purdue)
	Yogesh Kumar (Purdue)
	Dimitris Mantzaris (DUTH)
	Marianthi Georgitsi (DUTH)

Current	Degree/	Past	Date Graduated/
Undergraduates	Date Entered	Undergraduates	Degree
Josie Brown		Zaid Al Haddadin	2020
Bryce Raber		Cameron Locker	2018
Carlos Rubin de Celis		Marguerite Stonier	2018
		Bailey Kamp	2018
		Kate Phelps	2018
		Melanie Martinez	2021
		Sydney Pedigo	2021
		Lauren Holly Price	2021
		Alyssa Flint	2021

Current High School students: Sophia Vlachos, Thenia Vlachos (West Lafayette High School)

Past High School student: Grace Reynolds (West Lafayette High School)

## **Undergraduate Diploma Thesis Supervisor**

- 1. Athina Dritsoula, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2008)
- 2. Petros Fragoulis, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2008)
- 3. George Papachristodoulou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2008)
- 4. Aggeliki Tsirigoti, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2009)
- 5. Iordanis Karagiannidis, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2009)
- 6. Vasiliki Papadopoulou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2009)
- 7. Albiona Stamboliou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2009)
- 8. Georgia Pantidou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2010)
- 9. Grigorios Panteloglou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2010)
- 10. Athina Gianakkara, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2010)
- 11. Chronis Kemos, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2010)
- 12. Sotiris Kleidonas, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2011)
- 13. Zachos Anastasiou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2011)
- 14. George Sotiris, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2011)
- 15. Panagiota Ligda, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2011)

- 16. Eleni Grigoriou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2012)
- 17. Paraskevi Aslanidou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2012)
- 18. Spyros Papasotiriou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2012)
- 19. Vasilis Stathias, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2012)
- 20. Papagiannakopoulou Eleana, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2013)
- 21. Asimenia Athousaki, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2013)
- 22. Leyla Basgül <u>Erasmus Program Istanbul Technical University, Dept. of Molecular Biology</u> <u>and Genetics</u> (2013)
- 23. Spyros Palikyras, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2013)
- 24. Hera Potamianou, Dept. of Molecular Biology and Genetics Democritus University of Thrace; co-supervision (2013)
- 25. Trivyzakis George, Dept. of Molecular Biology and Genetics Democritus University of Thrace; co-supervision (2013)
- 26. Stylianos Laparidis, Dept. of Molecular Biology and Genetics Democritus University of Thrac; co-supervision (2014)
- 27. Spyros Karaiskos, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2014)
- 28. Kalliopi Ioumpa, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2014)
- 29. Xanthippi Tsimourtakidou, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2014)
- 30. Melina Mitsiogianni, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2014)

#### Student Awards:

#### Graduate Student Awards

- 1. Shanmukha Padmanabhuni 2018 Purdue Postdoctoral Mentoring Award Honorable Mention
- 2. Zhiyu Yang, 2018 Purdue Institute for Integrative Neuroscience Travel Grant to present at the American Society for Human Genetics Annual Meeting
- 3. Apostolia Topaloudi, 2018 Gerondelis Foundation Scholarship
- 4. Fotis Tsetsos 2018 WHBA Fellowship, Fellowship to attend the 7th World Hellenic Biomedical Association Summer School
- 5. Fotis Tsetsos 2016 ASHG Travel Award, Travel Award for the 2016 HackSeq Genomics Hackathon in Vancouver, sponsored by ASHG.
- 6. Fotis Tsetsos 2016 Fulbright Fellowship, Fellowship for Greek students pursuing graduate studies in the US, The Fulbright Foundation in Greece and U.S.A.

- 7. Fotis Tsetsos 2016 WHBA Fellowship, Fellowship to attend the 5th World Hellenic Biomedical Association Summer School
- 8. Fotis Tsetsos 2016 Best poster award, Tsetsos et al "Meta-analysis of Tourette Syndrome and Attention Deficit Hyperactivity Disorder provides support for a shared genetic basis", 9th European Conference on Tourette Syndrome and Tic Disorders, Warsaw, Poland.
- 9. Iordanis Karagiannidis 2015 Early Career Investigator Award, Award and Travel Grant, International Society of Psychiatric Genetics, Toronto, Canada
- 10.John Alexander 2015 Best poster award, Alexander et al "Network analysis on Tourette Syndrome associated genes using genomewide data", 1st World Congress on Tourette Syndrome & Tic Disorders, London, United Kingdom.
- 11. Karagiannidis I, Anastasiou Z, Stathias V, Ligda P, Sandor P, Dehning S, Zill P, Hebebrand J, Noethen M, Lehmkuhl G, Tarnok Z, Barta C, Madruga-Garrido M, Mir P, Szymanska U, Wolanczyk T, Rizzo R, Mueller N, Barr C, Paschou P. The Histidine Decarboxylase Gene is associated with Gilles de la Tourette Syndrome in a large sample of trios. XXth World Congress on Psychiatric Genetics, Hamburg, October 14-18, 2012 (selected as one of the top three poster presentations).
- 12. Fotis Tsetsos 2014 Second best poster award, Tsetsos et al "Investigating the genetic architecture of Diabetes Mellitus type 2 on the Greek population: Implications for future research", 65th Conference of the Hellenic Society of Biochemisty and Molecular Biology, Thessaloniki, Greece.
- 13. Fotis Tsetsos 2013 Best poster award, Tsetsos et al "The CDKAL1 gene in association with Diabetes Mellitus Type 2 in Greece and Worldwide", 1st Conference of the Hellenic Association of Medical Geneticists, Athens, Greece.
- 14. Fotis Tsetsos 2013 Bodossaki Foundation Scholarship for Doctoral Studies, The Bodossaki Foundation scholarship aims to aid outstanding students, undergraduates and postgraduates, carry on their postgraduate studies in Greece or abroad in various academic fields.
- 15. John Alexander 2013 Fellowship by the European Society of Human Genetics, in collaboration with the European School of Genetic Medicine for the Course in Next Generation Sequencing, European Society of Human Genetics
- 16. Iordanis Karagiannidis 2012 Early Career Investigator Award, Award and Travel Grant, International Society of Psychiatric Genetics, Hamburg, Germany
- 17.Iordanis Karagiannidis 2011 Short Term Scientific Mission Award: COST Action BM0905: "European Network for the Study of Gilles de la Tourette Syndrome", Investigation of the implication of candidate CNVs in the etiology of Tourette Syndrome.
- 18.Iordanis Karagiannidis 2010 ESHG Travel Fellowship: Course of the European Society of Human Genetics: Introduction to the Genetic Epidemiology of Complex Diseases, CHU du Kremlin Bicêtre, Facultê de Mêdecine Paris-Sud, Paris, France

## **Undergraduate Student Awards**

1. Alyssa Flint – 2021 Purdue Singleton Award for Undergraduate Honors Research Thesis

- 2. Anagnostou Foteini 2014 Third best poster award, Anagnostou et al "Investigating ancient DNA and its implications in the modern human genomic landscape", 65th Conference of the Hellenic Society of Biochemisty and Molecular Biology, Thessaloniki, Greece.
- 3. Papagiannakopoulou Eleana, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2013) Short Term Scientific Mission Fellowship (COST Action) to visit the Dept. of Medical Chemistry, Molecular Biology and Pathobiochemistry, Semmelweis University, Hungary
- 4. Asimenia Athousaki, Dept. of Molecular Biology and Genetics Democritus University of Thrace (2013) – Short Term Scientific Mission Fellowship (COST Action) to visit Applied Human Molecular Genetics Center, Kennedy Center, Denmark

### Placements of former graduate students/postdocs

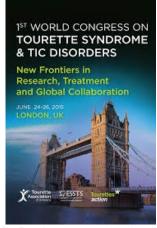
- 1. Pritesh Jain Postdoctoral Research Fellow · Nanyang Technological University, Singapore
- 2. Zhiyu Yang Postdoctoral Associate, Helsinki University, Finland
- 3. Aritra Bose Postdoctoral Associate, Computational Genomics Group at the IBM TJ Watson Research Center.
- 4. Shanmukha Padmanabhuni Postdoctoral Associate, University of Pennsylvania, USA
- 5. Yogesh Kumar Postdoctoral Associate, Monash University, Australia
- 6. John Alexander Postdoctoral Researcher, Sheffield University, UK
- 7. Fotis Tsetsos Postdoctoral Researcher, Democritus University of Thrace, Greece
- 8. Emmanuela Vogiatzi Hellenic Center for Marine Research, Greece
- 9. Marianthi Georgitsi Assistant Professor, Aristotle University of Thessaloniki, Greece

#### IV. ENGAGEMENT

### A. Discussion of Service

Raising public awareness about Tourette Syndrome: Dr Paschou has led multiple efforts aiming to raise awareness for Tourette Syndrome (TS), educate the general public and professionals and combat stigmatization of TS patients. Funded by the European Union, she coordinated a COST Action (European Cooperation in Science and Technology) which led to the development of an interdisciplinary network of more than 200 researchers from 23 different countries aiming to elucidate the cause of Tourette Syndrome and identify novel therapies. This program fostered the growth of the European Society for the Study of Tourette Syndrome (ESSTS) and, in recognition of her contributions and strong leadership, Dr Paschou was elected ESSTS Chair and served on the Board of ESSTS Officers from 2010-2017. From this position, she led from 2010-2017 the organization of the annual meeting of ESSTS, the largest annual scientific and networking event for Tourette Syndrome. She was also one of the initiators of the 1st World Congress for Tourette

Syndrome which was held in London in 2015, bringing together researchers from the European Society for the Study of Tourette Syndrome with counterparts from the USA, Canada, and Asia. As Chair of the European Society for the Study of Tourette Syndrome she organized multiple training schools, seminars and educational workshops targeting neuroscientists, but also clinicians. She was involved in the organization of several events aiming to promote the standardization and harmonization of practices for the study and clinical management of TS across Europe. Such events led to the publication of best practice guidelines for the diagnosis and management of Tourette Syndrome. From the position of ESSTS Chair, she also launched the annual international meeting of Tourette Syndrome Support and Advocacy Groups bringing together patient groups from across Europe. As coordinator of the Marie Curie Initial Training Network TS-EUROTRAIN she was the editor of a quarterly newsletter providing updates on TS research to the general



Dr Paschou was an inspirer and Co-Chair of the Steering Committee for the 1st World Congress on Tourette Syndrome and Tic Disorders

public. Importantly, she was among the inspirers of the European Tourette Day, celebrated to motivate TS awareness on June 7 of every year.

Engagement activities at Purdue: At Purdue University, Dr Paschou continues to participate in and indeed lead multiple service and engagement activities. In 2023, as Chair of the Greater Indiana Society for Neuroscience, she brought the annual meeting of the Society to Purdue, providing an opportunity for neuroscientists across Indiana to share research findings and network. She participates in multiple service committees at the College, Department, and University levels, and supports efforts to engage with the local community. For instance, she was a speaker at an event organized by the Department of Biological Sciences aiming to present to students from local high schools, opportunities for careers in the Biological Sciences. As part of the Data Science Initiative Dr Paschou coordinated the development of the online Data Science Connector Modules, a core of eight fundamental data science courses which will be delivered online with a scope to prepare graduate students across Purdue and beyond in order to be able to leverage Big Data and undertake Data Science related research as part of their graduate studies. She was appointed by the Provost's Office as Co-Chair of the Integrative Data Science Initiative Curriculum committee, bringing together representatives from all Purdue Colleges to discuss how to expand the Data Science Education Ecosystem within Purdue. As part of this program, she coordinated the launch of an updated "Applications in Data Science" undergraduate certificate program, aiming to provide students across Purdue with foundational skills in Data Science and provide opportunities to apply this knowledge in different domains. These efforts are part of Purdue's strategic plan to promote Data Science literacy and foster a training environment for Citizen Data Scientists within Purdue.

#### **B.** Department

2019-2020 Faculty Search Committee – College of Science cluster hire – Data Science/Applications in the Life Sciences

**2017-2018** Search Committee – Vector Ecologist position

2016-2021	Inclusion Diversity and Equity Committee
2017-today	Honors Committee
2016-today	Promotions Primary Committee
2016-today	Neurobiology & Physiology Research Area
<b>2016-today</b>	Structural and Computational Biology and Biophysics Research Area

# C. College of Science

2022-2023	Cluster hire search Committee – Sociogenomics
2019-2020	Faculty Search Committee – College-wide Data Science cluster hire
2017-2019	Elected Faculty Council Member
2018-2019	Undergraduate Curriculum Committee
2017-today	Graduate Curriculum and Academic Policy

## **D.** University Committee Service

**2018-2021** Showalter Research Awards Reviewer **2019-ongoing** IDSI Curriculum Committee Co-Chair

## E. Professional

## 1. Grant Review

2023	Study Section Standing Member – General Health and Disease – NIH (three-year tenure)
2022	Reviewer – NIH Review Panel - Biodata Management and Analysis Study Section
2021	Reviewer- ZRG1 BBBP-S02 Member Conflict SEP: Child Psychopathology and Developmental
	Disabilities (CPDD)
2021	Reviewer - SEP/Scientific Review Group 2021/10 ZRG1 GGG-F (03) M
2020	Reviewer – General Health and Disease Study Section, NINDS
2019	Reviewer - NINDS Special Emphasis Panel (SEP) - R13 conference grant applications
2014	Reviewer - European Commission, call Horizon 2020-PHC-2014-two-stage-Stage 1
2014	Reviewer - European Commission, call Horizon 2020-PHC-2014-two-stage-Stage 2
2015	Reviewer - European Commission, call Horizon 2020-PHC-2015-two-stage-Stage 1

## 2. Editorial Boards

2022-today	Editorial Board Member – Scientific Reports
2022-today	Associate Editor – Frontiers in Genetics
2015	Editor – Frontiers Research Topic: The Genetic Basis and Neurobiology of Tourette
	Syndrome (33 articles included)
2012-today	Academic Editor - PLOS ONE
2011-today	Review Editor - Frontiers in Evolutionary and Population Genetics
2009-2015	Academic Editor - Journal of Medical Genetics

# 3. Reviewed Manuscripts for the following journals:

- 1. American Journal of Human Genetics
- 2. Journal of Medical Genetics
- 3. Molecular Biology and Evolution
- 4. PLOS ONE
- 5. Annals of Human Genetics

- 6. American Journal of Medical Genetics
- 7. Journal of Human Genetics
- 8. American Journal of Psychiatry
- 9. Bioinformatics
- 10. Briefings in Bioinformatics
- 11. Molecular Ecology Resources
- 12. Archives of Oral Biology
- 13. British Journal of Clinical Pharmacology
- 14. European Child and Adolescent Psychiatry Journal
- 15. Frontiers in Neuroscience
- 16. Frontiers in Psychiatry

## F. Diversity Activities

From the position of Associate Dean for Graduate Education, Dr Paschou coordinates activities across the College of Science aiming to increase diversity within the graduate student population as well as promote inclusion and equity. She has played a leading role in **establishing partnerships between Purdue College of Science and Minority Serving Institutions** with a goal to broaden pathways towards STEM Graduate Education for students who have been minoritized and historically underserved by Higher Education Institutions. For instance, she initiated a partnership with Chicago State University, a Predominantly Black Institution, successfully pursuing funding from the Sloan Foundation and NSF to build a bridge program and joint mentorship program between Purdue and CSU. She also helped lead discussions between the Purdue College of Science and the School of Computer, Mathematical & Natural Sciences at Morgan State University (HBCU) moving towards the establishment of a dual degree program that will act as a bridge for Morgan State students towards Purdue graduate programs, expanding access to STEM graduate education.

## **Building a Mentoring Program for High-Achieving Students from Under-Served Populations:**

Dr Paschou is Faculty Director for the College of Science Emerging Leaders Scholars program which is meant to recruit high achieving students from historically under-served groups and offer them a unique learning experience that will pave their way to success. Students receive a scholarship as well as intensive mentoring from peers and faculty and opportunities for study abroad, undergraduate research and internships. The program was launched as a pilot in 2020, attracting record numbers of students (88 students across seven departments) and is now expanded across multiple Purdue Colleges. As Faculty Director, Dr Paschou established and oversees the faculty mentoring framework of the program and leads faculty training in culturally aware mentoring in coordination with the Office of Diversity within the College of Science and the Provost's office for Equity and Diversity. This includes a series of guided discussions with faculty mentors focused on mentorship development and sharing of best practices. Her goal in this program is to create a community that fosters mentoring at Purdue and motivates faculty to actively engage in the mentoring process which can be life-changing for both the mentor and the mentee.

As Associate Dean for Graduate Education Dr Paschou is also involved and indeed leads multiple additional activities and initiatives with a goal to increase diversity and foster a welcoming environment at Purdue. She helps coordinate the organization of the Graduate Diversity Visitation Program, with students from under-represented minorities visiting the College of Science. She also coordinates an effort across all College of Science Depts to increase the pool of applicants from under-represented groups across our graduate programs through targeted recruitment efforts. She launched a series of workshops on Intercultural Competence (World-Wise) for graduate students at the College of Science. She participated in the first Purdue cohort in the USC Institutes of Equity Training Program, undertaking discussions on diversity, equity and inclusion with the entire College of Science leadership team. Dr Paschou has also served on the Diversity Committee of the Dept of Biological Sciences in 2016-2021. From this position she participated in all efforts trying to coordinate diversity activities at the Department and coordinate with other such diversity activities at the College of Science.

Dr Paschou also participated as a Faculty Mentor in the Horizons Program. Purdue Horizons is a federally funded TRIO Program that was authorized by the Higher Education Amendments of 1968. The name TRIO stands for the original three programs that were initiated by the U.S. Department of Education and were the first national college access and retention programs to address the serious social and cultural barriers to education in America. Dr Paschou has mentored five female graduate students as a major professor (past and present) and she is currently co-advising a Black PhD student at Purdue, who recently won an NSF Graduate Research Fellowship as well as a Black female PhD student who just won an American Association for the Advancement of Women Fellowship. At her previous institution (Democritus University of Thrace) she was the first professor to recruit international students in the graduate program of the Department of Molecular Biology and Genetics. Dr Paschou has mentored 25 female undergraduate students (at Purdue and Democritus University of Thrace). From the position of Chair of the European Society for the Study of Tourette Syndrome, she has provided multiple travel awards to allow students from low-income countries to attend the annual ESSTS meeting as well as educational workshops.

## **Highlights of Participation and Leadership in DEI initiatives**

Alfred P. Sloan Foundation Award: Equitable Pathways to Graduate Education. Role: Co-PI. Title of Project: Sloan-PReMMiSS (Partnering in Research Mentoring for Minoritized Students in STEM). Level of funding: \$250,000. The goal of the project is to build a partnership between Purdue and Chicago State University, an urban, Predominantly Black Institution, and establish a joint mentoring framework that will equip mentors and students with increased intercultural competencies, leading to systemic transformation in climate at both institutions and widening pathways towards graduate education for minoritized students.

- 2022 Establishment of Purdue-Morgan State University 2+3 Dual MS-PhD program in Physics. Dr Paschou helped lead discussions as well as the review process that led to the establishment of a partnership between Purdue Department of Physics and Astronomy and the Department of Physics at the Historically Black Research University Morgan State. She oversaw discussions and development of the Activity Agreement, approval, and launch for a dual degree program that connects the Morgan State MSc in Physics to the Purdue Physics and Astronomy PhD program.
- 2021-ongoing Emerging Leaders Science Scholars (ELSS) Program, Faculty Director. The ELSS Program is a signature initiative at Purdue College of Science, aiming to increase recruitment of high achieving students from backgrounds traditionally underserved by higher education institutions and equip students with skills they will need to become the next generation of STEM leaders. The program has led to record high enrollment of students from under-represented backgrounds at College of Science departments in the three years it has been running. DrPaschou established and coordinates the Faculty Mentoring component of the program, overseeing 70 ELSS Faculty Mentors, matching of ELSS students to Mentors as well as Mentor training. She has also established a community of practice for ELSS Faculty Mentors, offering a venue for Mentors to get together and discuss inclusive mentoring practices through the "Discussions on Mentoring" series.
- **2019-ongoing Oversight of Summer Research Opportunity Program (SROP)** across seven departments at the Purdue College of Science. SROP is a pathway to graduate education at Purdue University. It is designed to provide equal access and opportunities to underrepresented and diverse students by preparing students for Graduate School by offering eight-weeks intensive research experiences, and graduate school resources that contributes to student's professional and academic growth.
- **2019-ongoing Oversight of** Graduate Diversity Visitation Program (GDVP) across seven departments at the Purdue College of Science. This is a four-day program held each fall semester hosting students from under-represented backgrounds. During the visit, selected students become familiar with Purdue graduate programs, faculty and students. The goal is to encourage students from under-represented backgrounds to pursue a graduate education at Purdue.
- 2019-ongoing Member of the Purdue College of Science Faculty Committee for Diversity. This College-wide committee meets on a monthly basis to discuss issues related to Diversity, Equity, & Inclusion across the College of Science, monitor progress of various initiatives and programs and discuss new directions with the Dean and department representatives.
- **2019-2020** In collaboration with Purdue CILMAR (Center for Intercultural Learning, Mentoring, Assessment, and Research), Dr Paschou launched a series of workshops aiming to

train graduate students across the Purdue College of Science in Intercultural Competencies (World-Wise Workshops).

- 2016-2020 Member of the Purdue Dept of Biological Sciences Diversity, Equity, & Inclusion Committee.
- Participated in the first Purdue cohort in the <u>USC Equity Institute</u> Training Program. This is an 8-week Program that leverages the expertise of the USC Race and Equity Center researchers and faculty affiliates to support senior administrative leaders from the same campus in exploring topics on racial equity, cultivating cohorts of race-conscious, equity-minded colleagues and collaborators, and strategically achieving racial equity goals.
- Purdue Horizons Program Faculty Mentor. Purdue Horizons is a federally funded TRIO Program that were originally established by the federal government in 1965 to ensure equal educational opportunity for all Americans, regardless of race, ethnic background, or economic circumstances. They were the first national college access and retention programs to address the serious social and cultural barriers to education in America.
- 2010-2014 From the position of Chair of the European Society for the Study of Tourette Syndrome (ESSTS), Dr Paschou provided multiple travel awards to allow students from low-income countries to attend the annual ESSTS meeting as well as educational workshops.

## **G.** Other Engagement Activities

### **Public Engagement**

- **Invited Speaker -** Women In Science Program (WISP) at Purdue University "The Influence of Data Science in Scientific Research", February 22, 2022
- **2011-2017** Established (in 2011) and co-organized in 2011-2017 the Annual International meeting of Tourette Syndrome Support and Advocacy Groups with participation of TS patient groups from around the world
- Establishment of European Tourette Syndrome Awareness Day (June 7) (from the position of Chair of European Society for the Study of Tourette Syndrome)
- 2010-2014 As Chair of the EU-funded COST Action European Network for the Study of Tourette Syndrome, organized multiple workshops for the education of health professionals in Tourette Syndrome diagnosis, assessment and management in several European countries (Greece, France, Italy, Poland, UK, Spain)
- **2012-2016** Together with PhD students from the EU-funded TS-EUROTRAIN Training Program, published a semi-annual newsletter highlighting research developments in Tourette Syndrome research

**2010-2017** Established and maintained website for the European Society for the Study of Tourette Syndrome

# Scientific meetings - organizing committees

Scientific r	neetings – organizing committees
2022	Greater Indiana Chapter Society for Neuroscience, April 2022
2022	Program Committee Member –World Congress for Psychiatric Genetics, Florence, Italy, September 2022
2022	Member of the Program and Organizing Committee, Annual Meeting of the Greater Indiana Society for Neuroscience, April 2022
2017	Proposer and Co-Chair of Symposium at XXVth World Congress for Psychiatric Genetics: Genetics of Gilles de la Tourette Syndrome: Accelerating discoveries through large-scale collaborative efforts. Orlando, USA, October 2017
2017	Member of the Program and Organizing Committee, Annual Meeting of the European Society for the Study of Tourette Syndrome, Seville, Spain, 2017
2016	Member of the Program and Organizing Committee, Annual Meeting of the European Society for the Study of Tourette Syndrome, Warsaw, Poland, 2016
2015	Co-Chair of Scientific Committee, 1 <sup>ST</sup> World Congress on Tourette Syndrome and Tic Disorders, 2015
2014	Chair of the Program and Organizing Committee, Annual Meeting of the European Society for the Study of Tourette Syndrome, Paris, France, 2014
2013	Chair of the Program and Organizing Committee, Annual Meeting of the European Society for the Study of Tourette Syndrome, Athens, Greece, 2013
2012	Chair of the Program and Organizing Committee, Annual Meeting of the European Society for the Study of Tourette Syndrome, Catania, Italy, 2012
2011	Chair of Program and Organizing Committee, International workshop on "Planning the future of Tourette Syndrome Genetics Studies", Amsterdam, December 14, 2001
2008	Program Committee Chair – International workshop "The Genetic basis of Gilles de la Tourette Syndrome", Athens, November 18, 2008
2001	Organizing Committee Member – 11 <sup>th</sup> International Clinical Genetics Seminar: "The

## V. Mentoring

### A. Undergraduate Students

Dr Paschou has led discussions at Purdue to promote inclusive and culturally responsive mentoring at the undergraduate and graduate level. She also serves as Faculty Director for the Purdue Emerging Leaders Science Scholars Program, a program that is meant to attract high-achieving undergraduate students from populations that have been under-served by Purdue and provide them a unique learing experience. As ELSS Faculty Director, Dr Paschou launched and currently coordinates a Faculty Mentor program, including workshops and seminars for training in Mentoring. With support from the Sloan Foundation, Dr. Paschou played a leading role in establishing a joint mentoring program in partnership with Chicago State University, bringing together Purdue faculty and CSU faculty in

genetics of Diabetes Mellitus", Heraklion, June 9-14 2001.

a community of practice to share best practices and learn from each other about culturally inclusive mentoring. 10 CSU students were part of the pilot cohort, supported by faculty and graduate student mentors over the course of the program, which aims to open up paths to graduate education for all students. She also worked with Purdue's Center for Intercultural Learning Mentoring and Research to build a training program that will enhance effective cross-cultural communication for Mentors and Mentees.

Dr Paschou strongly supports early involvement in research at the undergraduate level and has already supervised 30 undergraduate students in their diploma thesis at the Department of Molecular Biology of Genetics, Democritus University of Thrace and nine undergraduate students at Purdue. She participates as a mentor in the Horizons Program, the Beering program, and the Emerging Leaders Science Scholars Program. She also offers opportunities for undergraduate students to present their work at national and international conferences (ten undergraduate students who trained with Dr Paschou have presented their work at national and international conferences as lead authors). Six of Dr Paschou's published peer-reviewed journal papers include undergraduate researchers as co-authors.

#### **B.** Graduate Students

Dr Paschou currently serves as Associate Dean for Graduate Education at Purdue University and from this position she oversees programs and facilitates discussions on mentoring graduate students across Purdue College of Science. From this position, she also works with Graduate Chairs across the College of Science departments to develop training and mentoring programs across the College. Dr Paschou has a long track record in supporting and mentoring graduate students prior to joining Purdue. She coordinated TS-EUROTRAIN, a Marie Curie Initial Training Network funded by the EU with 3,000,000 Euros and aiming to train 12 PhD students hosted by ten partners from academia and industry to pursue studies on the neurobiology and genetics of TS. In her own lab, she has mentored five graduate students who have already graduated and is currently supervising four graduate students at Purdue University. 23 of Dr Paschou's research papers have a graduate student supervised by her as first author. Dr Paschou has taught classes at both the undergraduate and graduate levels and she has served on the Master's Program Organizing Committee at her previous institution.

#### **Training and Mentoring Programs**

- **Training Grant Coordinator:** TS-EUROTRAIN: Interdisciplinary training network for Tourette Syndrome; structuring European Training capacities for neurodevelopmental disorders." Marie Curie Initial Training Network
- 2010-2014 From the position of Chair of the EU-funded COST Action European Network for the Study of TS, Dr Paschou coordinated numerous training workshops as well as short-term scientific missions (training visits/exchanges) of young investigators across different European counties
- **2017-2019** Purdue Horizons Program Faculty Mentor

**2018-2020** Purdue Beering Scholars Faculty Mentor

mentee.

2021-today

Faculty Director - Mentoring Program - Emerging Leaders Science Scholars. Dr Paschou is Faculty Director for the College of Science Emerging Leaders Scholars program which is meant to recruit high achieving students from historically under-served groups and offer them a unique learning experience that will pave their way to success. Students receive a scholarship as well as intensive mentoring from peers and faculty and opportunities for study abroad, undergraduate research and internships. The program was launched as a pilot in 2020, attracting record numbers of students (88 students across seven departments) and is now expanded across multiple Purdue Colleges. As Faculty Director, Dr Paschou established and oversees the faculty mentoring framework of the program and leads faculty training in culturally aware mentoring in coordination with the Office of Diversity within the College of Science and the Provost's office for Equity and Diversity. This includes a series of guided discussions with faculty mentors focused on mentorship development and sharing of best practices. Her goal in this program is to create a community that fosters mentoring at Purdue and motivates faculty to actively engage in the mentoring process which can be life-changing for both the mentor and the

**2022-today** 

Sloan Foundation Award Co-PI. Title of Project: Sloan-PReMMiSS (Partnering in Research Mentoring for Minoritized Students in STEM). Level of funding: \$250,000. Dr Paschou played a leading role in the establishment of the partnership leading to this project. The goal is to build a joint mentoring framework between Purdue and Chicago State University, an urban, Predominantly Black Institution. This program will equip mentors and students with increased intercultural competencies, leading to systemic transformation in climate at both institutions and widening pathways towards graduate education for minoritized students.