

# Enrico Giuseppe Petretto

## *Curriculum Vitae et Studiorum*



### PERSONAL INFORMATION

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**Citizenship** Italian  
**Date of birth** 22 August 1973

### WORK CONTACT DETAILS

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**Address** Duke-NUS Medical School  
Program in Cardiovascular and Metabolic Disorders (CVMD)  
Centre for Computational Biology (CCB)  
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Republic of Singapore

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[ORCID: 0000-0003-2163-5921](https://orcid.org/0000-0003-2163-5921)

### EDUCATION

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**2003** Ph.D. in *Biochemistry, Biology and Molecular Biotechnologies*, University of Sassari (UNISS), Italy

**2000** MSc in *Molecular Medicine and Genetic Epidemiology with specialization in Statistical Genetics*, University of Pavia (I.U.S.S.), Italy

**1998** Master's Degree in *Chemistry* (specialization *Physical Chemistry*), University of Sassari (UNISS), Italy  
*Grade of qualification: First-class Honors (110/110 cum laude)*

### RESEARCH POSITIONS AND EMPLOYMENT HISTORY

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**2020** Deputy Director of the Duke-NUS Centre of Computational Biology, Singapore

**2014 - present** Associate Professor (with Tenure) in *Systems-Genetics*, Duke-NUS Medical School, Singapore

**2012-2014** Group Head (with Tenure), MRC LMS, UK

**2011** Senior Lecturer in *Genomic Medicine*, Imperial College London, UK

**2009** Associated Group Head, Medical Research Council (MRC), London Institute of Medical Sciences (LMS), Imperial College London, UK

**2007-2011** Lecturer in *Genomic Medicine*, Imperial College London, UK

**2003-2007** Career Development Fellowship (*Statistical Geneticist*), Imperial College London, UK

**2000-2003** Statistical Geneticist, SharDNA Life Sciences Genomics Company, Italy

**1999 (Jun-Dec)** Statistical Geneticist, C.N.R. Institute of Population Genetics, Italy

**1999 (Feb-May)** Research Assistant, University of Southern Mississippi, USA

### PROFESSIONAL AWARDS AND HONOURS

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**2013-** Professor for international Ph.D. Course in Life Sciences and Biotechnologies, UNISS, Italy

**2009-2014** Member of the MRC LMS Academic Advisory Group for Computing

**2009** Career Development Award, MRC London Institute of Medical Sciences (LMS), Imperial College

**2007** Research Councils UK (RCUK) competitive fellowship (5 years)

## GRANTS AND RESEARCH SUPPORT

Years	Institution, country (grant type)	Project title	Role	Amount awarded (in SGD)
2020-2022	Horizon 2020 Framework Programme (EU)	COVIRNA A diagnostic test to improve surveillance and care of COVID-19 patients (Work package leader)	Co-PI	\$ 647,435 (\$6,271,218 total award)
2020-2021	Target Translation Consortium (TTC)	The use of small molecule tool compounds to validate WWP2's involvement in cardiac fibrosis	PI	\$ 50,000
2020-2025	BHF, UK (Programme Grant)	Exosomes in ischaemic heart disease accompanied with diabetes mellitus: from pathogenic mediators to novel therapeutic agents	Co-PI	\$ 1,762,743.53
2019-2021	Tan Cheng Lim Research and Education Fund Grant Award	Genetic variation in inflammatory pathway modulators in refractory epilepsy	Co-I	\$ 49,370.80
2019-2024	NMRC, Singapore Translational Research Investigator (STaR) Award	Laminin-based Human Embryonic Stem Cell Differentiation and Cell Therapy Approaches for Diabetic Complications	Co-I	\$ 3,000,000
2019-2021	MRC, UK (Project Grant)	An integrated systems-level framework for deciphering multidrug resistant epilepsy	Co-PI	\$ 1,870,929
2019-2020	UCB Pharma <a href="http://www.ucb.com">www.ucb.com</a> (Industrial partnership)	Systems based target discovery: going single cell to find epilepsy disease treatments ("EpiNet3")	Co-PI	\$ 889,407
2017-2022	NMRC, Singapore (OF-LCG, Open Fund Large Collaborative Grant)	DYNAMO: Diabetes studY in Nephropathy And other Microvascular cOmplications	Co-I	\$ 1,200,000 (~\$25M total award)
2018-2022	NMRC, Singapore (OF-IRG)	Rational Therapeutic Combinations for Wnt Driven Cancers	Coll.	\$ 947,400

### PREVIOUS GRANTS AND RESEARCH SUPPORT

2016-2019	NMRC, Singapore (CS-IRG, Clinical Scientist Individual Research Grant)	Towards Reprogramming of the Blast Crisis Chronic Myeloid Leukaemia Transcriptome	Co-I	\$ 1,428,640
2019-2020	Khoo Bridge Funding Award (Duke-NUS)	Characterising the Role of the E3 Ubiquitin Protein Ligase WWP2 for Immune Cell Function in the Pathogenesis of Cardiac Fibrosis	PI	\$ 125,000
2019	Dementia Australia Research Foundation (Project Grant)	Characterizing and inducing a protective microglia phenotype in human Alzheimer's disease	Co-I	\$ 73,935
2015-2020	BHF, UK (Programme Grant)	MicroRNAs in ischaemic heart disease and diabetes mellitus: from cardiac surgery to basic science (and back?)	Co-PI	\$ 1,434,445
2016-2019	NMRC, Singapore (CBRG - Cooperative Basic Research Grant)	Characterizing the E3 ubiquitin protein ligase WWP2 as a new selective gene target for cardiac fibrosis	PI	\$ 1,216,800
2014-2019	MRC, UK (Medical Bioinformatics Initiative, strategic award)	MICA:UK MEDICAL BIOinformatics partnership-aggregation, integration, and analysis of large, complex data	Co-I	\$ 10,652,774

2018	Monash University, Australia (Networks of Excellence)	Molecular modelling of Alzheimer's Disease	Co-A	\$ 197,485
2013-2018	Seventh Framework Programme (FP7), EU	Targets and biomarkers for antiepileptogenesis (EPITARGET)	Co-PI	\$ 1,329,405 (~£6M total award)
2015-2018	BHF, UK (Project Grant)	Disturbed shear stress and strain act synergistically to promote the pro-atherogenic endothelial cell phenotype responsible for TCFA	Co-I	\$ 642,031
2014-2017	MRC, UK (Project Grant)	A systems-genetics approach to dissect inflammation in fibrosis	Co-PI	\$ 1,118,024
2015-2017	UCB Pharma <a href="http://www.ucb.com">www.ucb.com</a> (Industrial partnership)	Network-based systems-biology approaches to identifying disease modifying targets in epilepsy ("EpiNet2")	Co-PI	\$ 753,786
2015-2017	ESRC/BBSRC, UK (Research network grant)	EpiStressNet: A biosocial systems approach to understanding the epigenetic embedding of social stress response	Co-I	\$ 460,065
2014-2016	Seventh Framework Programme (FP7), European Union (Marie Curie IEF)	Identification of pathways and genetic drivers for childhood epileptic encephalopathies by integrating whole-exome sequencing and gene network approaches (iGENEE)	PI	\$ 413,052
2011-2016	MRC, London Institute of Medical Sciences, UK	Integrative Genomics and Medicine (Tenured Group Head appointment)	PI	\$ 3,424,269
2013-2014	Imperial College UK (Networks of Excellence Award)	Statistical Inference of large-scale biological data: An accurate view through reconfigurable computing	Co-I	\$ 108,249
2012-2014	UCB Pharma <a href="http://www.ucb.com">www.ucb.com</a> (Industrial partnership)	Network-based systems-biology approaches to identifying disease modifying targets in epilepsy ("EpiNet")	Co-PI	\$ 847,427
2012-2013	NIHR Biomedical Research Centre Imperial Innovations UK	SESN3 for neuronal protection	PI	\$ 84,536
2011-2014	BHF, UK (Programme Grant)	Blood flow affects the spatial organization of (vulnerable) plaques: new ways to modify TCFA formation	Co-I	\$ 1,589,948
2011-2014	BHF, UK (PhD Studentship Grant)	Integrated network analysis of the regulation of left ventricular hypertrophy & microvascular remodeling	PI	\$ 197,002
2011-2014	The Academic Health Science Centre, UK	Core Research support in Genome Informatics	Co-I	\$ 1,132,258
2011-2013	BHF, UK (Project Grant)	Investigation into epigenetic basis of pulmonary hypertension: can histone deacetylase inhibitor reverse the pathology?	Co-I	\$ 265,948
2010-2012	Wellcome Trust, UK (Project Grant)	An integrative genomic approach for genetic dissection of macrophage activation	Co-I	\$ 514,224
2010-2012	BRC, UK (Project Grant)	Development of pharmacogenetic predictors of antiepilepsy drug response for use in specialist healthcare	Co-I	\$ 321,025
2010-2012	BHF, UK (Project Grant)	Genetic modifiers of cardiac iron loading in thalassaemia major	Co-I	\$ 408,772
2009-2015	Seventh Framework Programme (FP7), European Union	European large scale functional genomic in the rat for translational research (EURATRANS) [work-package coordinator]	Co-I	\$ 447,295 (£10M total award)

2009-2010	British Council, UK (Travel grant award)	Integrated genomic approaches for dissecting cardiovascular traits	PI	\$ 5,992
2008-2010	MRC, UK (Project Grant)	Genetic influences underlying impulsivity and risk for drug addiction	Co-I	\$ 584,625
2008-2011	Wellcome Trust, UK (Project Grant)	Microarray-based SNP genotyping for advanced eQTL analysis in human obesity	Co-I	\$ 225,653

## SCIENTIFIC ACTIVITIES

2020	Consultancy for CardiOmix Ltd., Milano, Italy
2019	Filed patent “ <i>Treatment and prevention of disease mediated by WWP2</i> ” [application number 1908544.8]
2019	Filed patent “ <i>Cell culture methods and compositions</i> ” [application number 1020190.5939W]
2019	Member of the departmental tenure (HSSR) committee of Duke-NUS, Singapore
2019	Recipient of Artificial Intelligence Molecular Screen (AIMS) program Award by <i>Atomwise Inc.</i> , USA
2018	Member of the recruiting committee for <i>Academic Lectureships</i> , Imperial College London, UK
2017-	Collaborator with the BHF Centre for Vascular Regeneration, UK
2017	Consultancy for Lightstone Ventures Pte. Ltd., Singapore
2017-	Member of <i>Hypertension’s</i> statistical reviewer team (by invitation)
2016-	Collaborator with the Research Program for the <i>FANTOM6</i> Project, RIKEN, Japan
2016	Member of the Director of Neuroscience & Behavioural Disorders Search Committee, Duke-NUS
2016-	Member of <i>The Khoo Postdoctoral Fellowship Award (KPFA)</i> Review Committee, Duke-NUS
2015	Organizer of the <i>Rat Genomics and Models Meeting</i> , Cold Spring Harbor Laboratory, USA
2011-2013	Organizer of the Computational Biology Workshop (1 week) for the LMS, Imperial College, UK
2008	Organization of the <i>Young European Investigators Symposium (YEIS)</i> , Berlin, Germany
2008-2010	Consultancy and mentoring postgraduate students at San Raffaele University Hospital, Milan, Italy

### AD HOC PAPER REVIEWER

*Nature Genetics, Nature Review Genetics, Nature Communications, Science Translational Medicine, Genome Research, PLoS Genetics, Kidney International, European Journal of Human Genetics, Brain, Brain Research, Mammalian Genome, Molecular BioSystems, BMC Bioinformatics, BMC Genomics, BMC Evolutionary Biology, Journal of Lipid Research, Hypertension, Journal of Neuroscience, Nucleic Acids Research, Genetics, Trends in Genetics, Genes, Genome Biology, Journal of Cardiovascular Translational Research, Journal of Clinical Epidemiology, Annals of the Rheumatic Diseases*

### AD HOC BOOK REVIEWER

*Elsevier* (Academic Press) - Research Reference Content

### AD HOC NATIONAL AND INTERNATIONAL GRANT REVIEWER

<i>National Medical Research Council (NMRC)</i>	Singapore
<i>Yale-NUS College</i>	Singapore
<i>NTU, The Academic Research Fund (AcRF) Tier 1</i>	Singapore
<i>KTPH, Science-Translational and Applied Research (STAR) I &amp; II</i>	Singapore
<i>Duke-NUS, Khoo Postdoctoral Fellowship Award (KPFA)</i>	Singapore
<i>The Michael J. Fox Foundation for Parkinson’s Research</i>	USA
<i>Canada Foundation for Innovation</i>	Canada
<i>Canada Research Chairs Program</i>	Canada
<i>The Wellcome Trust</i>	UK
<i>Biotechnology and Biological Sciences Research Council (BBSRC)</i>	UK
<i>British Heart Foundation (BHF)</i>	UK
<i>Medical Research Council (MRC)</i>	UK
<i>Arthritis Research UK</i>	UK
<i>The Chronic Disease Research Foundation</i>	UK
<i>The European Research Council (ERC)</i>	European Union
<i>“La Sapienza” University of Rome</i>	Italy
<i>Fondazione Telethon</i>	Italy
<i>Netherlands Genomics Initiative, Horizon programme</i>	The Netherlands
<i>The Netherlands Organisation for Health Research and Development</i>	The Netherlands
<i>Portuguese Foundation for Science and Technology (FCT)</i>	Portugal
<i>Cy-Tera and Eastern Mediterranean Joint Call for Proposals for HPC access</i>	Cyprus

**EDITORIAL**      **Guest Editor** for Special Issue of *Genes*: "Current Advances In Network Biology For Disease Understanding" Scientific Reports (*Nature Publishing Group*) [nature.com/srep/](http://nature.com/srep/)  
 Statistical Applications in Genetics and Molecular Biology [degruyter.com/loi/sagmb](http://degruyter.com/loi/sagmb)  
 Mammalian Genome (*Springer*) [link.springer.com/journal/335](http://link.springer.com/journal/335)  
 Frontiers in Cardiovascular Medicine [frontiersin.org](http://frontiersin.org)  
 from 2012 to 2019, Genetics (*The Genetics Society of America*) [genetics.org](http://genetics.org)

## MANAGERIAL ACTIVITIES AND EXPERIENCE

**2009-2013**      Member of the Academic Advisory Group for IT & Computing of MRC-LMS, Imperial College  
 Management of the *core-Bioinformatics support service* for the MRC-LMS, Imperial College  
 Management of the IT & Computing department of the MRC-LMS, Imperial College  
*Main responsibilities and duties*

- Recruiting, staffing and training all members of staff of the *MRC-LMS core-Bioinformatics support service* serving all PIs in the MRC-LMS Institute
- Line management of the *MRC-LMS core-Bioinformatics support service* group consisting of 3 core-staff Bioinformaticians (post-doctoral level) supporting the Institute
- Defining new job descriptions and profiles for IT & Computing staff, aligned with the outcome of the management-initiated review of the IT & Computing department of MRC-LMS
- Recruitment of all members of staff for the MRC-LMS IT & Computing department, including the head of the IT & Computing department
- Ad interim head and line management of the IT & Computing department of MRC-LMS consisting of 4 members of staff
- Approving budget for computational and IT infrastructure developments for the MRC-LMS
- Ensuring the *MRC-LMS core-Bioinformatics support service* and MRC-LMS IT & Computing department were aligned with the Institute requirements and scientific mission
- Ensuring the *MRC-LMS core-Bioinformatics support service* and MRC-LMS IT & Computing department were connected with the Data Centre of Imperial College

## CURRENT GROUP MEMBERS & STUDENTS (DUKE-NUS & IMPERIAL COLLEGE)

Huimei Chen [ <i>molecular cell biology &amp; animal work</i> ]	Senior Research Fellow	@ Duke-NUS, Singapore
Vladimir Espinosa Angarica [ <i>bioinformatics</i> ]	Senior Research Fellow	@ Duke-NUS, Singapore
Jing Guo [ <i>bioinformatics</i> ]	Research Fellow	@ Duke-NUS, Singapore
Swarnaseetha Adusumalli [ <i>bioinformatics</i> ]	Research Fellow	@ Duke-NUS, Singapore
Shiyang Liu (MD/PhD) [ <i>bioinformatics &amp; cell biology</i> ]	Research Fellow	@ Duke-NUS, Singapore
Nithya Venkateswaran [ <i>animal work &amp; cell biology</i> ]	Senior Research Assistant	@ Duke-NUS, Singapore
Gabriel Chew Goujun (MD/PhD) [ <i>bioinformatics</i> ]	PhD student	@ Duke-NUS, Singapore
Nathaniel Tay [ <i>bioinformatics &amp; cell biology</i> ]	PhD student	@ Duke-NUS, Singapore
Yu Yuan Huang (Kevin) (MD/PhD) [ <i>bioinformatics</i> ]	PhD student	@ Duke-NUS, Singapore
Maryam Anwar [ <i>bioinformatics</i> ]	Research fellow	@ Imperial College London, UK

## STUDENTS INTERNSHIPS

<b>2019</b> (May-Aug)	Amanda Ho	<i>Activities/learning objectives:</i> Pathway level annotation of GWAS data
<b>2019</b> (Nov-Dec)	Li Jun	<i>Activities/learning objectives:</i> RNA-seq and single-cell-seq data analysis

## SCIENTISTS AND STUDENTS VISITING THE GROUP (2009-)

<b>2016</b>	Jonathan Douros	Duke University, USA
<b>2014</b>	Chrysanthi Ainali	Life Technologies, UK
<b>2012</b>	Neus Martínez Micaelo	Universitat Rovira i Virgili, Terragona, Spain
<b>2012</b>	Michiel Adriaens	Academic Medical Center, The Netherlands
<b>2012</b>	Gianfilippo Coppola	Department of Bioengineering Imperial College London, UK
<b>2011</b>	Marie Pier Scott-Boyer	Institut de recherches cliniques de Montréal, Canada
<b>2011</b>	Charlie Hindmarch	Neuroscience and Endocrinology University of Bristol, UK
<b>2011</b>	Elena Torlai Triglia	San Raffaele University Hospital, Milan, Italy
<b>2010</b>	Maxime Rotival	INSERM, Paris, France
<b>2010</b>	Teresa Esposito	Institute of Genetics and Biophysics, Napoli, Italy
<b>2009</b>	Michelle Krishnan	Medical Education academic FY2 programme, NHLI, UK
<b>2009</b>	Matthias Heinig	MDC, Berlin, Germany

## **SELECTED INVITED TALKS (2009-)**

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**2019**, Invited talk, Institute of Pharmaceutical Science, China Pharmaceutical University, Nanjing, China; **2019**, Keynote speaker for the 4th Jinling Children's Kidney Disease international Forum, Nanjing, China; **2019**, Invited speaker at the 24th Congress of Chinese Pediatric Society, Zhuhai, China; **2018**, Keynote speaker for the 3rd Jinling Children's Kidney Disease international Forum, Nanjing, China; **2018**, National Precision Medicine Alliance (NPMA) meeting, Singapore; **2018**, 19th Congress of the International Society for Biomedical Research on Alcoholism (ISBRA2018), Japan; **2018**, Children's Hospital of Nanjing Medical University, Nanjing, China; **2018**, Muscle Biology In Health & Disease, Singapore; **2017**, 18<sup>th</sup> Congress of The International Society of Developmental Biologists (ISDB), Singapore; **2017**, Keynote Speaker at the NTU-UBC Joint Workshop on 'Genes and the Environment', Singapore; **2017**, Opening Symposium of the Living Systems Institute, University of Dexter, UK; **2016**, Keynote Speaker at World Autism Awareness Singapore (WAAS) Symposium, Singapore; **2015**, Cell Fate Regulation, Genome Institute of Singapore (GIS), Singapore; **2015**, Genome Institute of Singapore, Singapore; **2014**, Genomics of Complex Diseases: new challenges, Malaga, Spain; **2013**, Academic Medical Center, Amsterdam, The Netherlands; **2013**, Annual Scientific Meeting of the American College of Rheumatology (ACR), San Diego, USA; **2012**, Academic Medical Center, Amsterdam, The Netherlands; **2012**, UCB Biopharma, Brussels, Belgium; **2012**, Institut de recherches cliniques de Montréal, Montreal, Canada; **2012**, Cold Spring Harbor/Wellcome Trust meeting on Rat Genomics and Models, Cambridge, UK; **2012**, BHF Systems and Computational Biology, London, UK; **2011**, The Royal Society, Theo Murphy, London, UK; **2011**, MDC PhD retreat, Berlin, Germany; **2011**, Systems Genetics Meeting, University of North Carolina, USA; **2011**, International Congress of Italian Cardiac Society, Rome, Italy; **2011**, Institute of Systems and Synthetic Biology, London, UK; **2011**, MDC/CSC joint retreat, Berlin, Germany; **2010**, Integrative Biology Workshop, Birmingham, UK; **2010**, Imperial College Institute for Mathematical Sciences, London, UK; **2010**, European Bioinformatics Institute (EBI), Cambridge, UK; **2010**, MDC PhD retreat, Berlin, Germany; **2009**, Late Summer Meeting, Berlin, Germany; **2009**, Keynote Speaker at Young European Investigators Symposium (YEIS) meeting, Barcelona, Spain; **2009**, GeneSys meeting, Warwick, UK

## **SELECTED MEDIA COVERAGE AND INTERVIEWS**

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[2019 - Alzforum, Single-Cell Expression Atlas Charts Changes in Alzheimer's Entorhinal Cortex](#)

[2019 - How individual cell types in the brain contribute to Alzheimer's disease](#)

[2018 - Big data method could speed up the hunt for new drugs \(National University of Singapore\)](#)

[2018 - Ground-breaking approach accelerates drug discovery process \(Medical Xpress\)](#)

[2018 - Big data approach reveals therapeutic target for epilepsy \(Technology Networks\)](#)

[2018 - Genomics reveals key macrophages' involvement in systemic sclerosis \(Medical Xpress\)](#)

[2018 - Macrophages may promote progression of systemic sclerosis, study shows \(Scleroderma news\)](#)

[2017 - Gene network is a new target for epilepsy treatments \(National University of Singapore\)](#)

[2017 - Gene related to brain damage in pre-term infants identified \(Science Daily\)](#)

[2017 - Gene linked to brain damage in pre-term babies \(Asian Scientist\)](#)

[2016 - Paper claiming human hand was "Designed by Creator" sparks concern \(comment for Scientific American\)](#)

[2016 - New epilepsy gene network identified by scientists \(Science Daily\)](#)

[2016 - Study identifies druggable brain gene network implicated in epilepsy \(Medical Xpress\)](#)

[2015 - Genetic convergence between cognition, neurodevelopmental disorders discovered \(Science Daily\)](#)

[2015 - Dragnet for epilepsy genes \(Medical Xpress\)](#)

[2015 - Genética de sistemas para el estudio de la epilepsia \(Genetica Medica News\)](#)

[2015 - Una convergenza genetica tra cognizione e disturbi del neurosviluppo \(Le Scienze\)](#)

[2014 - Scientists uncover drug targets for arthritis and inflammatory kidney disease \(Imperial's News site\)](#)

[2013 - Genes for autism and schizophrenia only active in developing brains \(Imperial's News site\)](#)

[2012 - Gene data to hit milestone \(comment for Nature 487, 282-283\)](#)

## TEACHING RECORDS

### Teaching at National University of Singapore (NUS), Singapore

2018-to date	Research-in-Action (RIA) Mentor for the MD Year 1 Molecules, Cells and Tissues (MCT) Course Review and design of questions for Molecules, Cells and Tissues (MCT), Duke-NUS Medical School
2018-to date	Lectures on transcriptomics analysis, Systems-Genetics, gene network and data integration PhD programme in Integrated Biostatistics and Bioinformatics (IBB), Duke-NUS Medical School
2016-to date	Lectures on population genetics and genetic mapping PhD programme in Integrated Biology and Medicine (IBM), Duke-NUS Medical School
2016-to date	Lectures on Systems-Genetics and network analysis PhD programme in Integrated Biology and Medicine (IBM), Duke-NUS Medical School
2015-to date	Guest lectures on Systems-Genetics and network analysis Undergraduate course in <i>Genetics</i> , Yale-NUS College

### Postgraduate teaching at Imperial College London, UK

2009-2014	Lectures for the PhD Training Programme of British Heart Foundation Centre of Research Excellence
2009-2014	Lectures for the MRes/PhD Training Programme, MRC-London Institute of Medical Sciences (LMS)
2009-2014	Lectures for the MSc in <i>Genetic Epidemiology</i>
2007-2014	Lectures for the MSc in <i>Human Molecular Genetics</i>

### Teaching at international schools and other training activities

2009-2014	<i>Chair of the Training Panel</i> for the international consortium EURATRANS (European large-scale functional genomics in the rat for translational research) <ul style="list-style-type: none"> <li>▪ Setting up the training panel for the consortium</li> <li>▪ Managing budget for training activities</li> <li>▪ Organization of training activities for the whole consortium (comprising 19 institutes worldwide, including 2 non-European partner institutions from Japan and the US)</li> <li>▪ Organization and implementation of <i>Short-Term Traveling Fellowships</i> for young investigators</li> </ul>
2014	Guest lecture for the Biology of Ageing Institute, University of Groningen, The Netherlands
2012-2014	Lectures for International PhD Course in Life Sciences and Biotechnologies, University of Sassari, Italy
2008-2010	Lectures and Tutoring for San Raffaele University Hospital, Italy
2008-2009	Lectures for the National e-Science Centre and e-Science Institute, University of Edinburgh, UK
2008	Guest lecture and tutorial for Malmö University, Sweden

### Teaching and Workshop organization at Imperial College London, UK

2011-2013	<i>Computational Biology Workshop</i> (1 week) MRC-London Institute of Medical Sciences (LMS), Imperial College London <ul style="list-style-type: none"> <li>▪ Course organization, definition of course objectives and learning activities</li> <li>▪ Lectures on gene expression and gene regulatory network analysis</li> <li>▪ Lectures on systems-genetics and its applications to biomedical research</li> <li>▪ Hands-on computer-based sessions in R on genomics data analyses and annotation</li> </ul>
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Students assessment at Imperial College London, UK	13 (MSc projects and PhD thesis)
Students assessment at Duke-NUS Medical School, Singapore	5 (PhD thesis)

## SUPERVISION OF STUDENTS

### 8 MSc students supervised from 2007 to 2014, *Imperial College London (UK)*

MSc program in *Bioinformatics and Theoretical Systems Biology* 5 research projects supervised to completion  
MSc program in *Human Molecular Genetics* 3 research projects supervised to completion

13 PhD students graduated from 2007 to date co: co-supervisor M: main supervisor \*medical graduate

#### *Imperial College London (UK)*

Student	PhD status	Current position
Ian Grieve (co)	PhD awarded in 2010	Medical writer (Zoetic Science, UK)
Sarah R Langley (co)	PhD awarded in 2012	Assistant Professor (NTU, Singapore)
Julia S El-Sayed Moustafa (co)	PhD awarded in 2013	Research associate (King's College, UK)
Santosh Atanur (co)	PhD awarded in 2014	Genome Data Scientist (Imperial College, UK)
Thomas Oates * (M)	PhD awarded in 2014	Clinical lecturer (UCL, UK)
Antonio Marvao * (M)	PhD awarded in 2015	Clinical lecturer (Imperial College, UK)
Kirill Shkura (M)	PhD awarded in 2016	Research Fellow (Imperial College, UK)
Aida Moreno-Moral (M)	PhD awarded in 2016	Principal Bioinformatician (Cell Mogrify, UK)
Konstantinos Vanezis (co)	PhD awarded in 2016	Research Fellow (Imperial College, UK)
Liisi Laaniste (co)	PhD awarded in 2019	Research Fellow (Imperial College, UK)

#### *King's College London (UK)*

Michelle Krishnan \* (co) PhD awarded in 2017 Translational Medicine Leader (Roche)

#### *Duke-NUS & NUS (Singapore)*

Uma Sangumathi Kamaraj (M)	PhD awarded in 2020	Research Fellow (Duke-NUS, Singapore)
Amelia Tan Li Min (co)	PhD awarded in 2020	Research Fellow (Harvard Med. School, USA)
Shiyang Liu * (MD/PhD) (M)	PhD awarded in 2020	Research Fellow (Duke-NUS, Singapore)
Gabriel Chew Goujun * (MD/PhD) (M)	...ongoing...	--
Yu Yuan Huang (Kevin) * (MD/PhD) (M)	...ongoing...	--
Nathaniel TAY Zhe Yuan (M)	...ongoing...	--

## MENTORING GRADUATE STUDENTS & POSTDOCTORAL RESEARCHERS

Student/Research Fellow	Previous position held in my group	Current position
Michelle Krishnan	<i>Associate Research Fellow</i> Imperial College UK (2009-10); then <i>PhD student</i> King's College (2013-16)	<i>Translational Medicine Leader</i> Early Research and Development Pharma Roche (Basel), Switzerland
Andree Delahaye-Duriez	<i>Marie-Curie Intra-European Research Fellow</i> , Imperial College UK (2014-16)	<i>Clinical Senior Lecturer</i> Université Paris, Paris, France
Thomas Oates	<i>PhD Student</i> Imperial College UK (2010-14)	<i>NIHR Clinical Lecturer</i> University College London, UK
Gianfilippo Coppola	<i>Research Fellow</i> Imperial College UK (2010-12)	<i>Assistant Professor</i> Yale School of Medicine, USA
Prashant K Srivastava	<i>Research Fellow</i> Imperial College UK (2009-17)	<i>Non-Clinical Lecturer</i> (Tenure Track) Imperial College London, UK
Nathan Harmston	<i>Senior Research Fellow</i> Duke-NUS Singapore (2015-17)	<i>Assistant Professor</i> (Tenure Track) Yale-NUS, Singapore
Owen JL Rackham	<i>Senior Research Fellow</i> Imperial College UK (2013-14) Duke-NUS Singapore (2015-16)	<i>Assistant Professor</i> (Tenure Track) Duke-NUS Medical School, Singapore
Sarah R Langley	<i>PhD student</i> , Imperial College UK (2009-12); then <i>Senior Research Fellow</i> Duke-NUS Singapore (2015-17)	<i>Assistant Professor</i> (Tenure Track) Nanyang Technological University (NTU), Singapore
Aida Moreno-Moral	<i>PhD student</i> Imperial College UK (2012-15); then <i>Research Fellow</i> at Duke-NUS Medical School Singapore (2016-19)	<i>Principal Bioinformatician</i> Cell Mogrify Ltd., Cambridge, UK



## SCIENTIFIC PUBLICATIONS

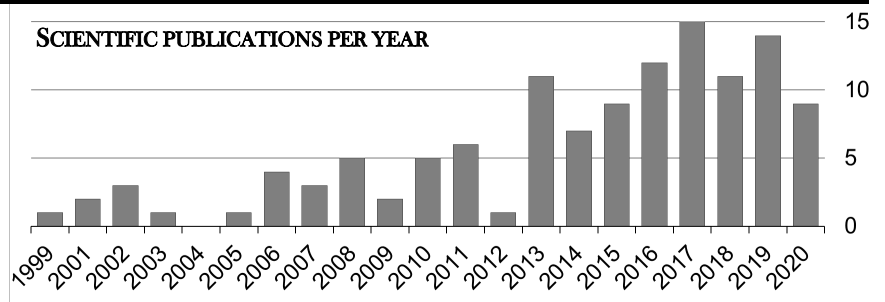
### NUMBER OF CITATIONS

Source: Google Scholar All Since 2015


Citations	7024	3775
h-index	42	34
i10-index	83	74

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### SCIENTIFIC PUBLICATIONS PER YEAR



### SUMMARY STATISTICS

- 122 scientific publications (total)
  - 104 primary peer-reviewed research papers
  - 18 other publications, including invited reviews, commentaries, eLetters, meeting reports & book chapters
- 69 (67%) primary research papers with *Journal IF* > 5 and 32 (31%) with *Journal IF* > 10, including: *Nature* (#4), *Nature Genetics* (#6), *Nature Communications* (#7), *Nature Neuroscience* (#2), *Nature Immunology*, *Cell*, *Cell Reports* (#4), *Genome Research* (#2), *Circulation*, *Genome Biology* (#2), *Annals of the Rheumatic Diseases* (#2), *JCI*, *JASN*
- 68 papers published with Duke-NUS  as primary affiliation (since November 2014)

### SELECTED PAPERS FROM THE LAST 5 YEARS PUBLISHED AS SENIOR/CORRESPONDING AUTHOR

¶ corresponding author(s)      @ directly supervised research staff      § directly supervised PhD student

- 1) OJL Rackham<sup>¶</sup>, ... & **E Petretto<sup>¶</sup>**. EvoTol: A protein-sequence based evolutionary intolerance framework for disease-gene prioritization. *Nucleic Acids Research* 2015 JIF = 11.6
- 2) MR Johnson<sup>¶</sup>, ... & **E Petretto<sup>¶</sup>**. Systems-genetics identifies Sestrin 3 as a regulator of a proconvulsant gene network in human epileptic hippocampus. *Nature Communications* 2015 JIF = 12.4
- 3) A Delahaye-Duriez<sup>¶</sup>, ... **E Petretto<sup>¶</sup>** & MR Johnson<sup>¶</sup>. Rare and common epilepsies converge on a shared gene regulatory network providing opportunities for novel antiepileptic drug discovery. *Genome Biology* 2016 JIF = 11.9
- 4) MR Johnson<sup>¶</sup>, ... & **E Petretto<sup>¶</sup>**. Systems genetics identifies a convergent gene network for cognition and neurodevelopmental disease. *Nature Neuroscience* 2016 JIF = 19.9
- 5) ML Krishnan<sup>§</sup>, ... **E Petretto<sup>¶</sup>** & P Gressens<sup>¶</sup>. Integrative genomics of microglia implicates DLG4 (PSD95) in the white matter development of preterm infants. *Nature Communications* 2017 JIF = 12.4
- 6) PK Srivastava<sup>¶</sup>, ... **E Petretto<sup>¶</sup>** & MR Johnson<sup>¶</sup>. Genome-wide analysis of differential RNA editing in epilepsy. *Genome Research* 2017 JIF = 10.1
- 7) A Moreno-Moral<sup>§</sup>, ... & **E Petretto<sup>¶</sup>**. Changes in macrophage transcriptome associate with systemic sclerosis and mediate *GSDMA* contribution to disease risk. *Annals of the Rheumatic Diseases* 2018 JIF = 12.4
- 8) B Madan, ... **E Petretto<sup>¶</sup>** & DM Virshup<sup>¶</sup>. Temporal dynamics of Wnt-dependent transcriptome reveals an oncogenic Wnt/MYC/ribosome axis. *The Journal of Clinical Investigation* 2018 JIF = 13.3
- 9) PK Srivastava<sup>¶</sup>, ... **E Petretto<sup>¶</sup>**, RM Kaminski<sup>¶</sup> & MR Johnson<sup>¶</sup>. A systems-level framework for drug discovery identifies Csf1R as an anti-epileptic drug target. *Nature Communications* 2018 JIF = 12.4
- 10) H Chen<sup>¶</sup>, A Moreno-Moral<sup>§</sup>, ... & **E Petretto<sup>¶</sup>**. WWP2 regulates pathological cardiac fibrosis by modulating SMAD2 signaling. *Nature Communications* 2019 JIF = 12.4
- 11) A Grubman<sup>¶</sup>, G Chew<sup>¶</sup>, ... **E Petretto<sup>¶</sup>** & JM Polo<sup>¶</sup>. A single-cell atlas of entorhinal cortex from individuals with Alzheimer's disease reveals cell-type-specific gene expression regulation. *Nature Neuroscience* 2019 JIF = 19.9
- 12) J Guo<sup>¶</sup>, ... **E Petretto<sup>¶</sup>**, PH Groop & K Tryggvason<sup>¶</sup>. Whole-genome sequencing of Finnish type 1 diabetic siblings discordant for kidney disease reveals DNA variants associated with diabetic nephropathy. *Journal of the American Society of Nephrology* 2020 JIF = 9.0
- 13) S Liu, ... DM Virshup<sup>¶</sup> & **E Petretto<sup>¶</sup>**. Wnt-regulated lncRNA discovery enhanced by in vivo identification and CRISPRi functional validation. *Genome Medicine* 2020 JIF = 10.5










**COMPLETE LIST OF PEER REVIEWED RESEARCH PAPERS**













¶ corresponding author(s)    \* equal contribution author(s)    @ directly supervised research staff    § PhD students












#	Year	Authors, Title, Journal	Journal IF	PMID/link
1	1999	M Rustici, C Caravati, <b>E Petretto</b> , M Branca & N Marchettini. Transition Scenarios during the evolution of the Belousov-Zhabotinsky reaction in an unstirred batch reactor. <i>The Journal of Physical Chemistry A</i> 1999; 103:6564-6570	2.8	doi:10.1021/jp9902708
2	2001	A Angius, PM Melis, L Morelli, <b>E Petretto</b> , G Casu, GB Maestrale, C Fraumene, D Bebbere, P Forabosco & M Pirastu. Archival, demographic and genetic studies define a Sardinian sub-isolate as a suitable model for mapping complex traits. <i>Human Genetics</i> 2001; 109:198-09	4.6	11511926
3	2001	MN Ombra, P Forabosco, S Casula, A Angius, G Maestrale, <b>E Petretto</b> , G Casu, G Colussi, E Usai, P Melis & M Pirastu. Identification of a new candidate locus for uric acid nephrolithiasis. <i>The American Journal of Human Genetics</i> 2001; 68:1119-29	9.0	11309680
4	2002	JA Pojman, J Masere, <b>E Petretto</b> , M Rustici, DS Huh, MS Kim & V Volpert. The Effect of Reactor Geometry on Frontal Polymerization Spin Modes. <i>Chaos</i> 2002; 12:56-65	2.4	12779533
5	2002	A Angius, D Bebbere, <b>E Petretto</b> , M Falchi, P Forabosco, GB Maestrale, G Casu, I Persico, PM Melis & M Pirastu. Not all isolates are equal linkage disequilibrium analysis on Xq13.3 reveals different patterns in Sardinian sub-populations. <i>Human Genetics</i> 2002; 111:9-15	4.6	12136230
6	2002	A Angius, <b>E Petretto</b> , GB Maestrale, P Forabosco, G Casu, D Piras, M Fanciulli, M Falchi, PM Melis, M Palermo & M Pirastu. A new essential Hypertension susceptibility locus on chromosome 2p24-25 detected by genome-wide search. <i>The American Journal of Human Genetics</i> 2002; 71:893-905	9.0	12228842
7	2003	C Fraumene*, <b>E Petretto</b> *, A Angius & M Pirastu. Striking differentiation of sub-populations within a genetically homogeneous isolate (Ogliastra) in Sardinia as revealed by mtDNA analysis. <i>Human Genetics</i> 2003; 114:1-10	4.6	13680359
8	2005	N Hübner, CA Wallace*, H Zimdahl*, <b>E Petretto</b> *, H Schulz, F Maciver, M Mueller, O Hummel, J Monti, V Zidek, A Musilova, V Kren, H Causton, L Game, G Born, S Schmidt, A Muller, SA Cook, TW Kurtz, J Whittaker, M Pravenec & TJ Aitman. Integrated transcriptional profiling and linkage analysis for identification of genes underlying disease. <i>Nature Genetics</i> 2005; 37:243-253	27.1	15711544
9	2006	<b>E Petretto</b> <sup>1</sup> , J Mangion, N Dickens, SA Cook, MK Kumaran, H Lu, J Fischer, H Maatz, V Kren, M Pravenec, N Hubner & TJ Aitman. Heritability and tissue-specificity of expression QTLs. <i>PLoS Genetics</i> 2006; 2:e172	5.5	17054398
10	2006	TJ Aitman, R Dong, TJ Vyse, PJ Norsworthy, MD Johnson, J Smith, J Mangion, C Robertson-Lowe, AJ Marshall, <b>E Petretto</b> , MD Hodges, G Bhargal, SG Patel, K Sheehan-Rooney, M Duda, PR Cook, DJ Evans, J Domin, J Flint, JJ Boyle, DC Pusey & HT Cook. Copy number polymorphism in <i>Fcgr3</i> predisposes to glomerulonephritis in rats and humans. <i>Nature</i> 2006; 439:851-5	40.1	16482158
11	2007	M Fanciulli*, PJ Norsworthy*, <b>E Petretto</b> *, R Dong, L Harper, L Kamesh, JM Heward, SCL Gough, A de Smith, AIF Blakemore, P Froguel, CJ Owen, SHS Pearce, L Teixeira, L Guillevin, DS Cunninghame Graham, CD Pusey, HT Cook, TJ Vyse & TJ Aitman. <i>FCGR3B</i> copy number variation is associated with susceptibility to systemic but not organ-specific autoimmunity. <i>Nature Genetics</i> 2007; 39:721-3	27.1	17529978
12	2007	CG Bell, D Meyre, <b>E Petretto</b> , C Levy-Marchal, S Herberg, MA Charles, C Boyle, J Weill, M Tauber, CA Mein, TJ Aitman, P Froguel & AJ Walley. No contribution of angiotensin-converting enzyme (ACE) gene variants to severe obesity: a model for comprehensive case/control and quantitative cladistic analysis of ACE in human diseases. <i>European Journal of Human Genetics</i> 2007; 15:320-7	4.3	17164796
13	2008	IC Grieve <sup>§</sup> , NJ Dickens, M Pravenec, V Kren, N Hubner, SA Cook, TJ Aitman, <b>E Petretto</b> <sup>1</sup> & J Mangion. Genome-wide co-expression analysis in multiple tissues. <i>PLoS ONE</i> 2008; 3: e4033	2.8	19112506
14	2008	S Bernichtein, <b>E Petretto</b> , S Jamieson, A Goel, TJ Aitman, J Mangion & IT Huhtaniemi. Adrenal gland tumorigenesis after gonadectomy in mice is a complex genetic trait driven by epistatic loci. <i>Endocrinology</i> 2008; 149:651-61	4.0	18006632












15	2008	M Pravenec, P Churchill, O Viklicky, L Kazdova, TJ Aitman, <b>E Petretto</b> , N Hübner, C Wallace, H Zimdahl, V Zidek, V Landa, J Dunbar, A Bidani, K Griffin, N Qi, J Wang & T Kurtz. Identification of renal Cd36 as a determinant of blood pressure and risk for hypertension. <i>Nature Genetics</i> 2008; 40:952-4	27.1	18587397
16	2008	<b>E Petretto</b> *, R Sarwar*, I Grieve, H Lu, MK Kumaran, PJ Muckett, J Mangion, B Schroen, M Benson, PP Punjabi, SK Prasad, DJ Pennell, C Kiesewetter, ES Tasheva, LM Corpuz, MD Webb, GW Conrad, TW Kurtz, V Kren, J Fischer, N Hubner, YM Pinto, M Pravenec, TJ Aitman & SA Cook. Integrated genomic approaches implicate osteoglycin (Ogn) in the regulation of left ventricular mass. <i>Nature Genetics</i> 2008; 40:546-52	27.1	18443592
17	2009	M Traglia <sup>®</sup> , C Sala, C Masciullo, V Cverhova, F Lori, G Pistis, S Bione, P Gasparini, S Ulivi, M Ciullo, T Nutile, E Bosi, M Sirtori, G Mignogna, A Rubinacci, I Buetti, C Camaschella, <b>E Petretto</b> & D Toniolo. Heritability and demographic analyses in the large isolated population of Val Borbera suggest advantages in mapping complex traits genes. <i>PLoS ONE</i> 2009; 10:e7554	2.8	19847309
18	2009	JPA Ioannidis, DB Allison*, CA Ball*, I Coulibaly*, X Cu*, AC Culhane*, M Falchi*, C Furlanello*, L Game*, G Jurman*, T Mehta*, J Mangion*, M Nitzberg*, GP Page*, <b>E Petretto</b> * & V van Noort*. Repeatability of published microarray gene expression analyses. <i>Nature Genetics</i> 2009; 41:149-55	27.1	19174838
19	2010	SS Atanur <sup>§</sup> , I Birol, V Guryev, M Hirst, O Hummel, C Morrissey, J Behmoaras, X Fernandez, MD Johnson, W McLaren, G Patone, <b>E Petretto</b> , C Plessy, KS Rockland, C Rockland, K Saar, Y Zhao, P Carninci, P Flicek, T Kurtz, E Cuppen, M Pravenec, N Hubner, SJM Jones, E Birney & TJ Aitman. The genome sequence of the spontaneously hypertensive rat: analysis and functional significance. <i>Genome Research</i> 2010; 20:791-803	10.1	20430781
20	2010	<b>E Petretto</b> *, L Bottolo*, SR Langley, M Heinig, C McDermott-Roe, R Sarwar, M Pravenec, N Hubner, TJ Aitman, SA Cook & S Richardson. New insights into the genetic control of gene expression using a Bayesian multi-tissue approach. <i>PLoS Computational Biology</i> 2010; 6:e1000737 <b>Highlighted in Nature Review Genetics</b> 11, 388-389, doi:10.1038/nrg2802	4.0	20386736
21	2010	M Heinig*, <b>E Petretto</b> *, C Wallace, L Bottolo, M Rotival, H Lu, Y Li, R Sarwar, SR Langley, A Bauerfeind, O Hummel, Y Lee, S Paskas, C Rintisch, K Saar, J Cooper, R Buchan, EE Gray, JG Cyster, Cardiogenics Consortium, J Erdmann, C Hengstenberg, S Maouche, WH Ouwehand, CM Rice, NJ Samani, H Schunkert, AH Goodall, H Schulz, H Roeder, M Vingron, S Blankenberg, T Münzel, T Zeller, S Szymczak, A Ziegler, L Tiret, DJ Smyth, M Pravenec, TJ Aitman, F Cambien, D Clayton, JA Todd, N Hubner & SA Cook. A trans-acting locus regulates an anti-viral expression network and type 1 diabetes risk. <i>Nature</i> 2010; 467:460-4	40.1	20827270
22	2011	C Morrissey, IC Grieve <sup>§</sup> , M Heinig, S Atanur <sup>§</sup> , <b>E Petretto</b> , M Pravenec, N Hubner & TJ Aitman. Integrated genomic approaches to identification of candidate genes underlying metabolic and cardiovascular phenotypes in the spontaneously hypertensive rat. <i>Physiological Genomics</i> 2011; 43:1207-18	2.8	21846806
23	2011	B Lin, D Huntley, G AbuAli, SR Langley, G Sindelar, <b>E Petretto</b> , S Butcher & S Grimm. Determining Signalling Nodes for Apoptosis by a Genetic High-Throughput Screen. <i>PLoS ONE</i> 2011; 6:e2502	2.8	21966401
24	2011	M Molokhia, M Fanciulli, <b>E Petretto</b> , AL Patrick, P McKeigue, AL Roberts, TJ Vyse & TJ Aitman. FCGR3B copy number variation (CNV) is associated with SLE risk in Afro-Caribbeans. <i>Rheumatology</i> 2011; 50:1206-10	5.2	21296850
25	2011	L Bottolo, <b>E Petretto</b> , S Blankenberg, F Cambien, SA Cook, L Tiret & S Richardson. Bayesian detection of expression quantitative trait loci hot-spots. <i>Genetics</i> 2011; 189:1449-59	4.1	21926303
26	2011	L Bottolo, M Chadeau-Hyam, DI Hastie, SR Langley, <b>E Petretto</b> , L Tiret, D Tregouet & S Richardson. ESS++: a C++ object-oriented algorithm for Bayesian stochastic search model exploration. <i>Bioinformatics</i> 2011; 27:587-8	5.5	21233165
27	2011	C McDermott-Roe, J Ye, R Ahmed, X Sun, A Serafin, J Ware, L Bottolo, P Muckett, X Cañas, J Zhang, G C Rowe, R Buchan, H Lu, A Braithwaite, M Mancini, D Hauton, R Martí, E García-Arumí, N Hubner, H Jacob, T Serikawa, V Zidek, F Papousek, F Kolar, M Cardona, M Ruiz-Meana, D García-Dorado, J X Comella, LE Felkin, PJR Barton, Z Arany, M Pravenec, <b>E Petretto</b> , D Sanchis & SA Cook. Endonuclease G is a novel determinant of cardiac hypertrophy and mitochondrial function. <i>Nature</i> 2011; 478:114-8	40.1	21979051

28	2012	AJ Walley*, P Jacobson*, M Falchi*, L Bottolo, JC Andersson, <b>E Petretto</b> , A Bonnefond, E Vaillant, C Lecoeur, V Vatin, M Jernas, D Balding, M Petteni, YS Park, TJ Aitman, S Richardson, LM Sjostrom, L Carlsson & P Froguel. Differential co-expression analysis of obesity-associated networks in subcutaneous adipose tissue from humans and mice. <i>International Journal of Obesity</i> 2012; 36:137-47	5.3	21427694
29	2013	M Mancini, <b>E Petretto</b> , C Kleinert, T De, SA Cook, J Silhavy, V Zidek, M Pravenec, G D'Amati & P Camici. Mapping genetic determinants of coronary microvascular remodeling in the spontaneously hypertensive rat. <i>Basic Research in Cardiology</i> 2013; 108:316	5.7	23197152
30	2013	SR Langley <sup>§</sup> , L Bottolo, J Kunes, J Zicha, V Zidek, N Hubner, SA Cook, M Pravenec, TJ Aitman & <b>E Petretto</b> <sup>1</sup> . Systems-level approaches reveal conservation of <i>trans</i> -regulated genes in genetic determinants of blood pressure in humans. <i>Cardiovascular Research</i> 2013; 97:653-65	6.3	23118132
31	2013	IF Vidal, B Taylor, T Carroll, A Terry, Z Liang, L Bruno, BS Cobb, ST Smale, M Spivakov, PK Srivastava, <b>E Petretto</b> , AG Fisher & M Merkenschlager. Genome-wide identification of Ikaros targets elucidates its contribution to mouse B cell lineage specification and pre-B cell differentiation. <i>Blood</i> 2013; 121:1769-82	15.1	23303821
32	2013	A Hoerder-Suabedissen, FM Oeschger, ML Krishnan, TG Belgard, WZ Wang, S Lee, C Webber, <b>E Petretto</b> , AD Edwards & Z Molnár. Expression profiling of subplate reveals a spatially and temporally dynamic gene network and disease association with autism and schizophrenia. <i>Proceedings of the National Academy of Sciences USA</i> 2013; 110:3555-60	9.7	23401504
33	2013	A Moreno-Moral <sup>§</sup> , M Mancini, G D'Amati, P Camici & <b>E Petretto</b> <sup>1</sup> . Transcriptional network analysis for the regulation of left ventricular hypertrophy and microvascular remodeling. <i>Journal of Cardiovascular Translational Research</i> 2013; 6:931-44	2.3	23929067
34	2013	RP Hull, PK Srivastava, Z D'Souza, SS Atanur, F Mechta-Grigoriou, L Game, <b>E Petretto</b> , HT Cook, TJ Aitman & J Behmoaras. Combined ChIP-Seq and transcriptome analysis identifies AP-1/JunD as a primary regulator of oxidative stress and IL-1 $\beta$ synthesis in macrophages. <i>BMC Genomics</i> 2013; 14:92	3.7	23398888
35	2013	PK Srivastava <sup>®</sup> , RP Hull, J Behmoaras, <b>E Petretto</b> <sup>1</sup> & TJ Aitman <sup>1</sup> . JunD/AP1 regulatory network analysis during macrophage activation in a rat model of crescentic glomerulonephritis. <i>BMC Systems Biology</i> 2013; 7:93	2.1	24053712
36	2013	L Bottolo, M Chadeau-Hyam, DI Hastie, T Zeller, B Liquet, P Newcombe, L Yengo, PS Wild, A Schillert, A Ziegler, SF Nielsen, BG Nordestgaard, A Tybjærg-Hansen, WK Ho, R Castagné, T Munzel, D Tregouet, M Falchi, F Cambien, B Balkau, A Butterworth, P Froguel, J Danesh, <b>E Petretto</b> , S Blankenberg, L Tiret & S Richardson. GUESS-ing polygenic associations with multiple phenotypes using a GPU-based Evolutionary Stochastic Search algorithm. <i>PLoS Genetics</i> 2013; 8:e1003657	5.5	23950726
37	2013	SS Atanur <sup>§</sup> , AG Diaz, K Maratou, A Sarkis, M Rotival <sup>®</sup> , L Game, MR Tschannen, PJ Kaisaki, GW Otto, M C J Ma, TM Keane, O Hummel, K Saar, W Chen, V Guryev, K Gopalakrishnan, MR Garrett, B Joe, L Citterio, G Bianchi, M McBride, A Dominiczak, DJ Adams, T Serikawa, P Flicek, E Cuppen, N Hubner, <b>E Petretto</b> , D Gauguier, A Kwitek, H Jacob & TJ Aitman. Genome sequencing reveals loci under artificial selection that underlie disease phenotypes in the laboratory rat. <i>Cell</i> 2013; 154:691-703	31.4	23890820
38	2014	X Xiao <sup>®</sup> , A Moreno-Moral <sup>§</sup> , M Rotival <sup>®</sup> , L Bottolo & <b>E Petretto</b> <sup>1</sup> . Multi-tissue analysis of co-expression networks by Higher-Order Generalized Singular Value Decomposition identifies functionally coherent transcriptional modules. <i>PLoS Genetics</i> 2014; 10(1):e1004006	5.5	24391511
39	2014	HO Heyne, S Lautenschläger, R Nelson, F Besnier, M Rotival <sup>®</sup> , A Cagan, R Kozhemyakina, IZ Plyusnina, L Trut, O Carlborg, <b>E Petretto</b> , L Kruglyak, S Pääbo, T Schöneberg & FW Albert. Genetic influences on brain gene expression in rats selected for tameness and aggression. <i>Genetics</i> 2014; 198(3):1277-90	4.1	25189874
40	2014	P-C Lai, LY Chiu, PK Srivastava <sup>®</sup> , C Trento, F Dazzi, <b>E Petretto</b> , HT Cook & J Behmoaras. Unique regulatory properties of mesangial cells are genetically determined in the rat. <i>PLoS ONE</i> 2014; 9(10):e111452	2.8	25343449
41	2014	MD Johnson, M Mueller, M Adamowicz-Brice, MJ Collins, P Gellert, K Maratou, PK Srivastava <sup>®</sup> , M Rotival <sup>®</sup> , S Butt, L Game, SS Atanur <sup>§</sup> , N Silver, PJ Norsworthy, SR Langley <sup>§</sup> , <b>E Petretto</b> , M Pravenec & TJ Aitman. Genetic analysis of the cardiac methylome at single nucleotide resolution in a model of human cardiovascular disease. <i>PLoS Genetics</i> 2014; 10(12):e1004813	5.5	25474312












42	2014	H Kang, A Kerloc'h, M Rotival <sup>®</sup> , X Xu, Q Zhang, Z D'Souza, M Kim, J Carlson Scholz, JH Ko, PK Srivastava <sup>®</sup> , T Rossetti <sup>®</sup> , JR Genzen, W Cui, TJ Aitman, L Game, JE Melvin, A Hanidu, J Dimock, J Zheng, D Souza, A Behera, G Nabozny, HT Cook, D Bassett, GR Williams, J Li, A Vignery <sup>§</sup> , <b>E. Petretto</b> <sup>1</sup> & J Behmoaras <sup>1</sup> . Kcnn4 is a regulator of macrophage multinucleation in bone homeostasis and inflammatory disease. <i>Cell Reports</i> 2014; 8(4):1210-24	8.0	25131209
43	2015	KM Dominy, C Roufosse, H de Kort, M Willicombe, P Brookes, JV Behmoaras, <b>E. Petretto</b> , J Galliford, P Choi, D Taube, HT Cook & AG Mclean. Use of Quantitative Real Time Polymerase Chain Reaction to Assess Gene Transcripts Associated With Antibody-Mediated Rejection of Kidney Transplants. <i>Transplantation</i> 2015; 99:1981-1988	4.0	25675206
44	2015	M Rotival <sup>®</sup> , JH Ko, PK Srivastava <sup>®</sup> , A Kerloc'h, A Montoya, C Mauro, P Faull, PR Cutillas, <b>E. Petretto</b> <sup>1</sup> & J Behmoaras <sup>1</sup> . Integrating phosphoproteome and transcriptome reveals new determinants of macrophage multinucleation. <i>Molecular and Cellular Proteomics</i> 2015; 14:484-98	6.5	25532521 
45	2015	J Behmoaras, A Garcia Diaz, L Venda, JH Ko, P Srivastava <sup>®</sup> , A Montoya, P Faull, Z Webster, B Moyon, CD Pusey, DJ Abraham, <b>E. Petretto</b> , HT Cook & TJ Aitman. Macrophage epoxygenase determines a pro-fibrotic transcriptome signature. <i>The Journal of Immunology</i> 2015; 194(10):4705-4716	4.5	25840911 
46	2015	OJL Rackham <sup>®</sup> , H Shihab, MR Johnson & <b>E. Petretto</b> <sup>1</sup> . EvoTol: A protein-sequence based evolutionary intolerance framework for disease-gene prioritization. <i>Nucleic Acids Research</i> 2015; 43(5):e3	11.6	25550428 
47	2015	OJL Rackham <sup>®</sup> , P Dellaportas, <b>E. Petretto</b> & L Bottolo. WGBSSuite: Simulating Whole Genome Bisulphite Sequencing data and benchmarking differential DNA methylation analysis tools. <i>Bioinformatics</i> 2015; 31:2371-3	5.5	25777524 
48	2015	B Buyandelger, C Mansfield, S Kostin, O Choi, AM Roberts, JS Ware, F Mazzarotto, F Pesce, R Buchan, RL Isaacson, J Vouffo, S Gunkel, G Knöll, SJ McSweeney, H Wei, A Perrot, C Pfeiffer, M Reza Toliat, K Ilieva, E Krysztofinska, MM López-Olañeta, JM Gómez-Salineró, A Schmidt, K Ng, N Teucher, J Chen, M Teichmann, M EilersW Haverkamp, V Regitz-Zagrosek, G Hasenfuss, T Braum, DJ Pennell, I Gould, PJR Barton, E Lara-Pezzi, S Schafer, N Hubner, LE Felkin, DP O'Regan, T Brand, H Milting, P Nürnberg, MD Schneider, S Prasad, <b>E. Petretto</b> & R Knöll. ZBTB17 (MIZ1) is important for the cardiac stress response and a novel candidate gene for cardiomyopathy and heart failure. <i>Circulation: Cardiovascular Genetics</i> 2015; 8(5):643-5	6.1	26175529 
49	2015	RM Pedrigo <sup>®</sup> , CB Poulsen, VV Mehta, NR Holm, N Pareek, AL Post, ID Kilic, WA Banya, G Dall'Ara, A Mattesini, MM Bjørklund, NP Andersen, AK Grøndal, <b>E. Petretto</b> , N Foin, JE Davies, C Di Mario, JF Bentzon, HE Bøtker, E Falk, R Krams & R de Silva. Inducing persistent flow disturbances accelerates atherogenesis and promotes thin cap fibroatheroma development in D374Y-PCSK9 hypercholesterolemic minipigs. <i>Circulation</i> 2015; 132(11):1003-12	18.9	26179404 
50	2015	P Roncon, M Soukupová, A Binaschi, C Falcicchia, S Zucchini, M Ferracin, SR Langley <sup>§</sup> , <b>E. Petretto</b> , MR Johnson, G Marucci, R Michelucci, G Rubboli & M Simonato. MicroRNA profiles in hippocampal granule cells and plasma of rats with pilocarpine-induced epilepsy – comparison with human epileptic samples. <i>Scientific Reports</i> 2015; 5:14143	4.5	26382856 
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82	2018	PK Srivastava <sup>*®</sup> , JV Eyll <sup>*</sup> , P Godard, M Mazzuferi, A Delahaye-Duriez <sup>®</sup> , JV Steenwinckel, P Gressens, B Danis, C Vandenplas, P Foerch, K Leclercq, G Mairet-Coello, A Cardenas, F Vanclaf, L Laaniste <sup>§</sup> , I Niespodziany, J Keane, J Gasser, G Gillet, K Shkura <sup>§</sup> , SA Chong, J Behmoaras, I Kadiu, <b>E Petretto</b> <sup>†</sup> , RM Kaminski <sup>†</sup> & MR Johnson <sup>†</sup> . A systems-level framework for drug discovery identifies Csf1R as an anti-epileptic drug target. <i>Nature Communications</i> 2018; 9(1):3561  <b>Recommended in F1000Prime as being of special significance in its field</b> <b>In F1000Prime, 15 Feb 2019; 10.3410/f.733932397.793556114</b>	12.4	30177815	
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97	2020	Q Ding, A Tan Li Min <sup>s</sup> , EJ Parra, M Cruz Lopez, X Sim, YY Teo, J Long, HS Al Safar, <b>E Petretto</b> , TE Shyong & H Chen. Genome-wide meta-analysis associates GPSM1 with type 2 diabetes, a plausible gene involved in skeletal muscle function. <i>Journal of Human Genetics</i> 2020; 65(4):411-420	3.5	31959871	

98	2020	S Zhang, B Reljić, C Liang, B Kerouanton, JC Francisco, JH Peh, C Mary, NS Jagannathan, V Olexiouk, C Tang, G Fidelito, S Nama, R-K Cheng, CL Wee, LC Wang, PD Roggli, P Sampath, L Lane, <b>E Petretto</b> , RM Sobota, S Jesuthasan, L Tucker-Kellogg, B Reversade, G Menschaert, L Sun, DA Stroud & L Ho. BRAWNIN: A sORF-encoded Peptide Essential for Vertebrate Mitochondrial Complex III Assembly. <i>Nature Communications</i> 2020; 11(1):1312	12.4	32161263	
99	2020	B Jupp*, S Pitzoi*, <b>E Petretto</b> *, AC Mar, YP Oliver, ER Jordan, S Taylor, SS Atanur, PK Srivastava, K Saar, N Hubner, WH Sommer, O Staehlin, R Spanagel, ES Robinson, G Schumann, H Moreno, BJ Everitt, TW Robbins, TJ Aitman & JW Dalley. Impulsivity is a heritable trait in rodents and associated with a novel quantitative trait locus on chromosome 1. <i>Scientific Reports</i> 2020 Apr 21;10(1):6684	4.5	32317713	
100	2020	L Yap*, JW Wang*, A Moreno-Moral <sup>s</sup> , LY Chong, Y Sun, N Harmston <sup>®</sup> , X Wang, SY Chong, K Vanezis, MK Öhman, H Wei, R Bunte, S Gosh, S Cook, O Hovatta, DPV de Kleijn, <b>E Petretto</b> & K Tryggvason <sup>1</sup> . In vivo generation of post-infarct human cardiac muscle by laminin-promoted cardiovascular progenitors. <i>Cell Reports</i> 2020; 31(8):107714	8.0	32460024	
101	2020	M Pereira, J-H Ko, J Logan, H Protheroe, K-B Kim, A Tan Li Min, K-S Park, M Rotival, <b>E Petretto</b> , JHD Bassett, GRW & J Behmoaras. A trans-eQTL network regulates osteoclast multinucleation and bone mass. <i>eLife</i> 2020; 9:e55549	7.6	32553114	
102	2020	US Kamaraj, J Chen, K Katwadi, JF Ouyang, YB Yang Sun, Y Ming Lim, X Liu, L Handoko, JM Polo <sup>1</sup> , <b>E Petretto</b> <sup>1</sup> & OJL Rackham <sup>1</sup> . EpiMogrify models H3K4me3 data to identify signaling molecules that improve cell fate control and maintenance. <i>Cell Systems</i> 2020; S2405-4712(20)30334-3	8.7	33038298	
103	2020	F Lovisari, P Roncon, M Soukoupova, G Paolone, M Labasque, S Ingusci, C Falcicchia, P Marino, M Johnson, T Rossetti, <b>E Petretto</b> , K Leclercq, RM Kaminski, B Moyon, Z Webster, M Simonato & S Zucchini. Implication of sestrin3 in epilepsy and its comorbidities. <i>Brain Communications</i> 2020, fcaal30, <a href="https://doi.org/10.1093/braincomms/fcaal30">https://doi.org/10.1093/braincomms/fcaal30</a>	n.a.	in press	
104	2020	S Liu, N Harmston, TL Glaser, Y Wong, Z Zhong, B Madan, DM Virshup <sup>1</sup> & <b>E Petretto</b> <sup>1</sup> . Wnt-regulated lncRNA discovery enhanced by in vivo identification and CRISPRi functional validation. <i>Genome Medicine</i> 2020; 12, 89 <a href="https://doi.org/10.1186/s13073-020-00788-5">https://doi.org/10.1186/s13073-020-00788-5</a>	10.5	in press	

**REVIEW ARTICLES, COMMENTARIES, eLETTERS & BOOK CHAPTERS**

**PUBLICATIONS: 18 (total)**

Publications since joining Duke-NUS (Singapore) in Nov 2014 are indicated 

#	Year	Authors, Title, Journal (or Publisher)	[* joint author contribution, † corresponding author]	Journal IF	PMID/link
1	2006	<b>E Petretto</b> , J Mangion, SA Cook, TJ Aitman, M Pravenec, H Schulz, J Fischer & N Hubner. Reply to ‘Normalization procedures and detection of linkage signal in genetical-genomics experiments’. <i>Nature Genetics</i> 2006; 38:858-859. Correspondence		27.1	doi:10.1038/ng0806-858
2	2006	<b>E Petretto</b> , J Mangion, M Pravenec, N Hubner & TJ Aitman. Integrated gene expression profiling and linkage analysis in the rat. <i>Mammalian Genome</i> 2006; 17:480-489 Review		2.7	16783629
3	2007	<b>E Petretto</b> , ET Liu & TJ Aitman. A gene harvest revealing the archaeology and complexity of human disease. <i>Nature Genetics</i> 2007; 38:1299-1301. Meeting Report		27.1	17968342
4	2008	M Pravenec & <b>E Petretto</b> . Insight into the genetics of hypertension, a core component of the metabolic syndrome. <i>Current Opinion in Clinical Nutrition and Metabolic Care</i> 2008; 11:393-7. Review		4.5	18541997
5	2010	M Fanciulli <sup>†</sup> , <b>E Petretto</b> & TJ Aitman. Gene copy number variation and common human disease. <i>Clinical Genetics</i> 2010; 77:201-13. Review		3.5	20002459
6	2013	JS Ware, <b>E Petretto</b> & SA Cook. Integrative genomics in cardiovascular medicine. <i>Cardiovascular Research</i> 2013; 97:623-30. Review		6.3	23024270
7	2013	<b>E Petretto</b> <sup>†</sup> . Single cell expression quantitative trait loci and complex traits. <i>Genome Medicine</i> 2013; 5:72. Research highlight		8.9	23998908
8	2014	M Rotival <sup>†</sup> & <b>E Petretto</b> <sup>†</sup> . Leveraging gene co-expression networks to pinpoint the regulation of complex traits and disease, with a focus on cardiovascular traits. <i>Briefings in Functional Genomics</i> 2014; 13:66-78. Review		3.8	23960099
9	2014	RM Pedrigi, R De Silva, SM Bovens, VV Mehta, <b>E Petretto</b> & R Krams. TCFA rupture is associated with a fine interplay of shear and wall stress. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> 2014; 34(10):2224-31. Review		6.1	25060797
10	2016	A Moreno-Moral <sup>†</sup> & <b>E Petretto</b> <sup>†</sup> . From integrative-genomics to systems-genetics in the rat to link genotypes to phenotypes. Special Collection Spotlight on Rat: Translational Impact. <i>Disease Models &amp; Mechanisms</i> 2016; 9(10):1097-1110. Review		4.4	27736746 
11	2016	US Kamaraj <sup>†</sup> , J Gough, J Polo, <b>E Petretto</b> <sup>†</sup> & OJL Rackham <sup>†</sup> . Computational methods for direct cell conversion. <i>Cell Cycle</i> 2016; 15(24):3343-3354. Review		3.3	27736295 
12	2017	NS Baliga*, JLM Bjorkegren*, JD Boeke*, M Boutros*, N Crawford*, AM Dudley*, CR Farber*, A Jones*, AI Levey*, AJ Lusis*, HC Mak <sup>†</sup> , JH Nadeau*, MB Noyes*, <b>E Petretto</b> *, NT Seyfried*, LM Steinmetz* & SC Vonesch*. The State of Systems Genetics in 2017. <i>Cell Systems</i> 2017; Volume 4(1), 7-15 ( <i>Cell Press</i> ). Commentary		9.0	28125793 
13	2018	M Pereira, <b>E Petretto</b> , S Gordon, JHD Bassett, GR Williams & J Behmoaras <sup>†</sup> . Common signalling pathways in macrophage and osteoclast multinucleation. <i>Journal of Cell Science</i> 2018; 131(11). Review		4.4	29871956 
14	2019	J Behmoaras <sup>†</sup> & <b>E Petretto</b> <sup>†</sup> . Cell function in disease: there are more than two parties at play. <i>Annals of the Rheumatic Diseases</i> 2019; 78(3):e20. eLetter		12.4	29523522 
15	2019	G Chew & <b>E Petretto</b> <sup>†</sup> . Transcriptional networks of microglia in Alzheimer’s disease and insights into pathogenesis. <i>Genes</i> 2019; 10, 798. Review		3.3	31614849 
<b>BOOK CHAPTERS</b>					
16		TJ Aitman, <b>E Petretto</b> & J Behmoaras. Genetic mapping and positional cloning. <i>Rat Genomics: Methods in Molecular Biology</i> . Springer New York (Humana Press). Year: 2010; vol. 597:13-32			20013223
17		M Imprialou <sup>†</sup> , <b>E Petretto</b> & L Bottolo. Expression QTLs mapping and analysis: a Bayesian perspective. <i>Methods in Molecular Biology - Systems Genetics</i> . Springer New York (Humana Press). Year: 2017; vol. 1488:189-215			27933525 
18		A Moreno-Moral <sup>†</sup> , F Pesce, J Behmoaras & <b>E Petretto</b> <sup>†</sup> . Systems Genetics as a tool to identify master genetic regulators in complex disease. <i>Methods in Molecular Biology - Systems Genetics</i> . Springer New York (Humana Press). Year: 2017; vol. 1488:337-362			27933533 