EUROPEAN COMMISSION

RENALTRACT

Horizon 2020 – Marie Sklodowska-Curie Actions
Innovative Training Network (ITN)
Development and Disease of the Renal Tract

2018

RENALTRACT Newsletter 9

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RENALTRACT Newsletter

January 2018

➢ Editorial

RENALTRACT project wishes you a happy new year 2018!

RENALTRACT project is moving to its last phase in 2018 with **the organisation by the Early Stage Researchers of the RENALTRACT International Conference on "Developmental Nephrology and Future Therapies"** on 12 and 13 April 2018 in Manchester, UK. This will be organised with a back-to-back Nephrogenesis Workshop on 11 April 2018. Also, by the end of 2018, some of the Early Stage Researchers **will finish their PhDs** and for sure this will be a great step for their **future career in science.**

➢ Latest updates

RENALTRACT International Conference has its line-up!

Speakers list and provisional talks titles are available on the RENALTRACT Conference website (renaltractconference.eu):

- *Loss of function mutations in beta-actin encoding ATCB gene cause a pleiotropic syndrome with renal defects*
Banka, Siddharth
Manchester, UK

- *Fgfr signalling in nephron progenitors: Links to metabolism*
Bates, Carlton M.
Pittsburgh, USA

- *What can we learn from a simple model of the kidney?*
Dow, Julian
Glasgow, UK

- *Tshz3 mouse models of 19q12-associated autism spectrum disorder and renal tract abnormalities*
Fasano, Laurent
Marseille, France

- *Diabetic neuropathy and the bladder*
Gardiner, Natalie J.
Manchester, UK

- *Human Genetic disorders to mechanisms of development, homeostasis and repair*
Hastie, Nick
Edinburgh, UK

- *Pluripotent stem cells for kidney development and disease modelling*
Kimber, Sue
Manchester, UK

- *MicroRNAs as regulators of renal fibrosis: a metabolic vision*
Lamas, Santiago
Madrid, Spain

- *Kidney stem/progenitor cells in kidney regeneration*
Li, Zhongwei
La Jolla, USA

- *Urothelial progenitors in development, regeneration and cancer*
Mendelsohn, Cathy
NY, USA

- *Genomic sequencing to unravel causes of disorders of the lower urinary tract*
Newman, William
Manchester, UK

- *Phenotype-based drug discovery in the zebrafish*
Peterson, Randall T.
Cambridge, USA

- *Hedgehog Signaling and the Pathogenesis of CAKUT: Opportunities for Human Translation*
Rosenblum, Norman D.
Toronto, Canada

- *A Life in Science*
Rothwell, Nancy
Manchester, UK

- Analysis of the amniotic fluid "-ome" for prediction of post-natal renal outcome in CAKUT
Schanstra, Joost P.
Toulouse, France

- to be announced
Schmidts, Miriam
Nijmegen, Netherlands

- Perturbation of retinoid homeostasis leads to reduced nephron endowment in offspring of diabetic mothers
Shum, Alisa S.
Hong Kong

- Urothelium: a barrier in renal development and health
Southgate, Jenny
York, UK

- Fetal & Neonatal gene therapy
Waddington, Simon N.
London, UK

- What do we really know about human renal tract malformations?
Woolf, Adrian S.
Manchester, UK

➢ Events

RENALTRACT International Conference "Developmental Nephrology and Future Therapies" – Manchester, UK – 12 and 13 April 2018 – forthcoming event

RENALTRACT International symposium under organisation of the 12 Early Stage Researchers at the Royal Northern College of Music, University of the Manchester (UK) from 12 to 13 April 2018, looks very promising! Already 19 International, European and local high-level speakers accepted the invitation to intervene in this symposium, which will be entitled **"International conference on Developmental Nephrology and Future Therapies"**. Several sessions will take place at the Concert Hall and will see multiple exchange of views on the subject during these two days.

UK Nephrology Workshop – Manchester, UK – 11 April 2018 – forthcoming event

Back-to-back with RENALTRACT International Symposium, Early Stage Researchers will be invited to attend the UK Nephrology Workshop organised in Manchester on 11 April 2018. This event has been taken place for more than 20 years and gather high-level scientists from the field.

➢ Scientific views

Saurav Ghimire – ESR 11 – University of Glasgow

"Renaltract is a consortium of 8 partners (6 academics and 2 R&D), with 12 PhD students in different countries of Europe. We work in diverse areas within renal system from development to disease condition using different model organisms. Basically, I work with kidney stones formation using *Drosophila melanogaster*.

Kidney stones is second most common renal disease, with high prevalence rate, but with poorly understood etiology. In spite of the large amount of investment in treatment, research and medication of the disease worldwide (>US$ 5.3 billion/yr. in the US alone), little progress has been achieved in the last few decades. The prevalence rate of kidney stones has been growing parallel with other epidemics such as, cardiovascular and hypertension disease, depression, diabetes mellitus, and also metabolic diseases. Thus, basic research at the molecular level with new animal models to explicate the patho-physiology of the disease may play a major role in the advancement of the field, leading to the new therapeutic agents for the management of the disease. Among many organisms used for the study, *Drosophila* has been an ideal organism for 3Rs: "replacement, reduction, refinement" in terms of cost speed and ethics. *Drosophila* renal system comprises of two pairs of malpighian tubules explicitly; anterior and posterior tubules which have similar genetic and physiological function to human renal system.

My work over last two years was to study simple models for nephrolithiasis and renal sequelae of inborn errors of metabolism. I modelled different types of kidney stones (oxalate, phosphate and uric acid) in *Drosophila* tubules. I screened different RNAi and/or mutant panels for genes that increase or decrease the rate of oxalate stone formation, identify the genes responsible and seek homologous human candidate gene loci. In addition to that, I also tried to observe the relation of kidney stones formation and temperature."