Exploring MEChanisms Of disease traNsmission In Utero through the Microbiome

December 2018

Icahn School of Medicine at Mount Sinai

MECONIUM News

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MECONIUM STUDY

4 years later....

Happy New Year from the MECONIUM Study Team!

We are so grateful for the continued participation of all of the dedicated MECONIUM families. It is your participation that makes this research possible! The MECONIUM Study began in the fall of 2014. There are now over 450 families participating, and we have collected more than 5,500 samples; that's a lot of diapers!

4 years later, we are reflecting on the progress we've made and the growth of the wonderful families who make up this research cohort. In this issue, we're updating you about our research progress in the past year, talking about future directions of the research and what's to come in 2019, and sharing some adorable photos of our diaper donors.

Thank you for reading, and enjoy!

Best Wishes,
The MECONIUM Study Team

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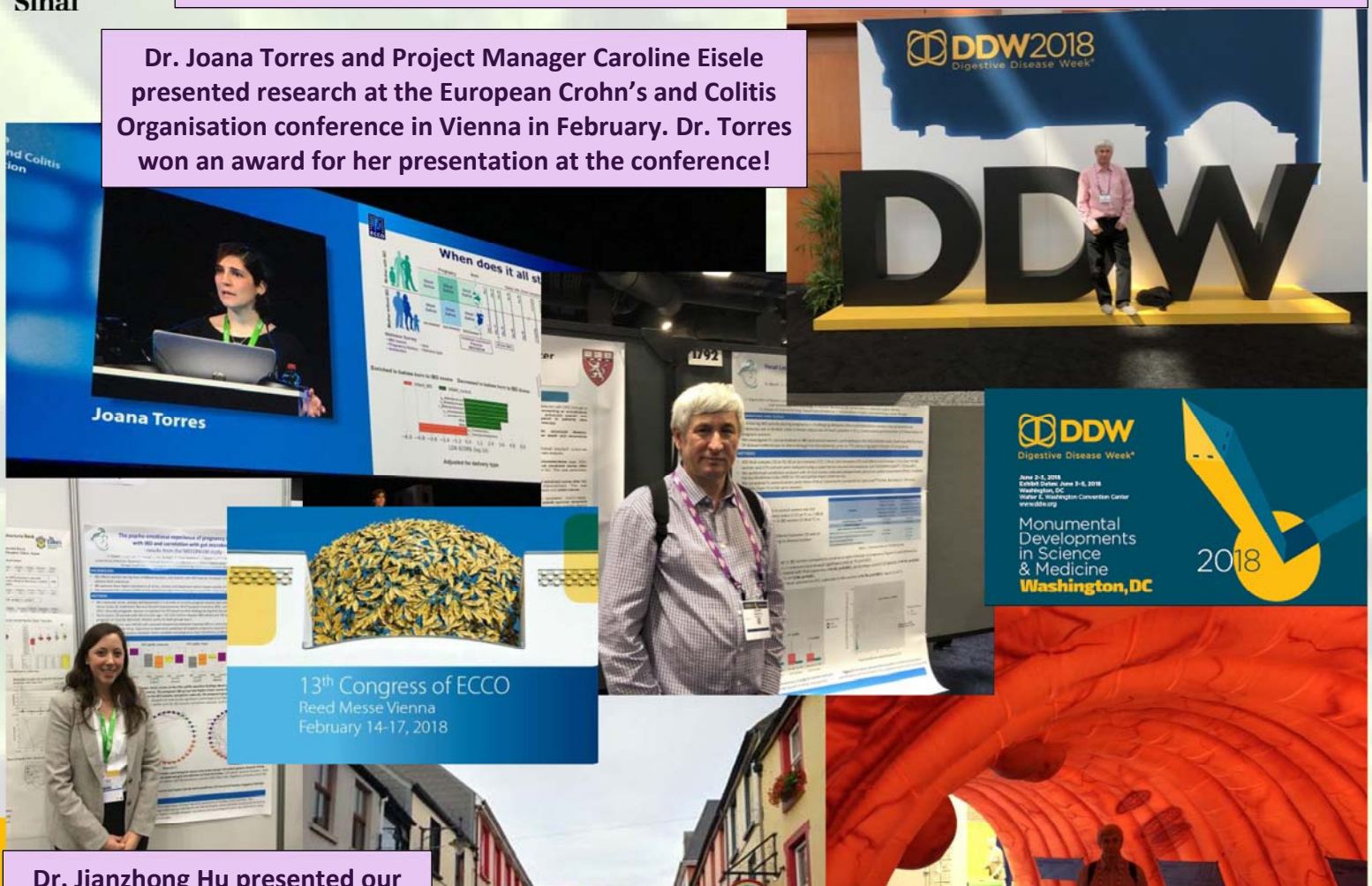
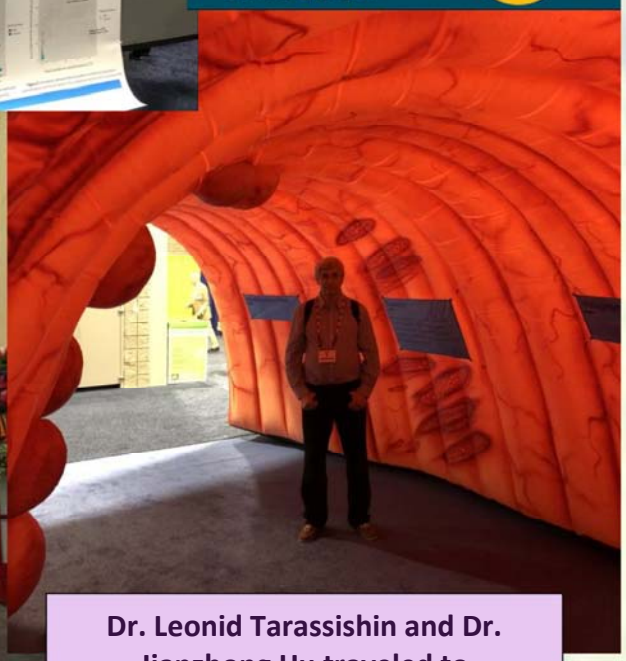
Research Presentations

The MECONIUM Study research was presented at several conferences throughout the past year.

Dr. Joana Torres and Project Manager Caroline Eisele presented research at the European Crohn's and Colitis Organisation conference in Vienna in February. Dr. Torres won an award for her presentation at the conference!



Dr. Jianzhong Hu presented our research at the International Human Microbiome Consortium meeting in Killarney, Ireland.



Dr. Leonid Tarassishin and Dr. Jianzhong Hu traveled to Washington, DC for Digestive Disease Week in June.

If you are pregnant again or planning another pregnancy, you can participate in the MECONIUM Study through your next pregnancy. Please contact the research coordinators at meconiumstudy@gmail.com to let us know the good news if interested!

CONTACT US

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Project Updates: What's coming in 2019?

Introducing:

the MELODY Trial

*M*odulating *E*arly *L*ife Micr*O*biome through Prenatal *D*ietar*Y* Intervention in Crohn's Disease

The MECONIUM Study has added valuable data to the accumulating evidence showing that maternal health and diet as well as maternal microbiome during pregnancy have an impact on the baby's microbiome. It is already known that diet may play a role in the development and treatment of Crohn's disease by changing the gut bacterial flora. With this information…

We are initiating a **new clinical trial** in collaboration with the Center for Applied Nutrition at the University of Massachusetts Medical School. The trial will **assess whether a non-invasive diet intervention implemented during the third trimester of pregnancy can beneficially shift the microbiome in patients with Crohn's disease and their babies.**

By modifying maternal microbiome during pregnancy through diet, we hope to be able to promote a healthy microbiome, and thereby healthy immune system development, in infants born to mothers with Crohn's disease.

Eligibility: Women who have Crohn's disease or no disease (controls) and are less than 30 weeks pregnant. Women may choose whether to follow the diet intervention or participate in the control group.
If you or someone you know is interested in participating, please email us at: **themelodytrial@gmail.com**

The MELODY Trial is funded by the Helmsley Charitable Trust.

The Exposome

The exposome refers to all of the chemicals, metals, medications, and other environmental factors that a person is exposed to throughout their lifetime and even during prenatal development before birth. This is a growing area of research because different levels of exposure have been linked to risk of developing disease, and environmental factors are thought to play a major role in the development of Inflammatory Bowel Disease. Exposures can be measured in hair, tooth, and nail samples, and can provide information about what we were exposed to even as early as during the second trimester of prenatal development.

In 2019, we will start collecting baby hair, teeth and toenails as an optional part of the MECONIUM Study participation.
Be on the lookout for collection instructions in your upcoming sample collection kit!

MELODY Trial participation entails:

Collection of samples:

- Maternal stool and saliva during 3rd trimester of pregnancy
- Umbilical cord blood at birth
- 5 baby diapers up through 1 year
- Breast milk sample (if it applies)

Questionnaires:

- Health history questionnaire
- In-depth diet assessments
- Infant and mother health updates

Research Results

We acquired 30 baby teeth from Inflammatory Bowel Disease patients and healthy controls that they kept since they were young, and analyzed them to determine levels of metal exposure as far back as the second trimester of pregnancy. We found higher levels of Lead, Copper, and Chromium metal uptake in the teeth of individuals who eventually developed IBD as compared to those who did not. This data suggests that increased metal exposure during a critical window of time during prenatal development can be correlated with risk of developing IBD.


The MECONIUM Study
diaper donors
are growing up…
what a smiley bunch!