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ISRHML  
The International Society  
for Research in Human  
Milk and Lactation

A quarterly insight into Trainee Interest Group (TIG) and happenings in human milk and lactation research

# TIG milk minutes



## *current topics >>>*

### *New Trainee Science*

Do we need to reevaluate the Adequate Intake levels for choline for infants? New data from ISRHML trainees Drs. **Alejandra Wiedeman** (trained with the late Dr. Sheila Innis, then Dr. Zhaoming Xu, University of British Columbia) and **Kyly Whitfield** (trained with Dr. Tim Green, University of British Columbia; trainees pictured below: AW, right; KW, left) suggests we might.

Wiedeman AM, Whitfield KC, et al. (2018) Concentrations of water-soluble forms of choline in human milk from lactating women in Canada and Cambodia. *Nutrients* 20;10(3). pii: E381.



*Want your science featured in the newsletter?*  
Email **Janet Williams** at [janetw@uidaho.edu](mailto:janetw@uidaho.edu)  
with a link for consideration.

## *What's up with TIG?*

*A word from our skookum leader,  
TIG President Dr. Janet Williams*

(trained with Dr. Mark McGuire, University of Idaho)



*"If everyone is moving forward together, then success takes care of itself." – Henry Ford*

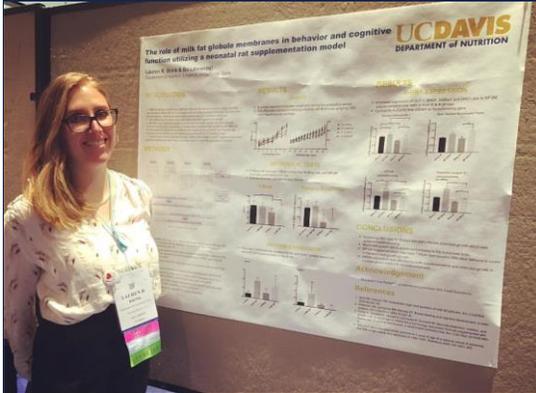
Greetings! I am excited to write this piece for the inaugural TIG newsletter. We hope that ultimately this will become a quarterly publication to bring you news, updates, and announcements for upcoming events and activities, and become one of your go-to sources for all things TIG. As the inaugural newsletter, I would like to share with you some of the history of the TIG, as well as where I see things moving in the future. The TIG was started in 2015 as the creative brainchild of Drs. **Sara Moukarzel** (a TIGer; trained with the late Dr. Sheila Innis, University of British Columbia) and **Lars Bode**, former ISRHML president. We owe a lot to them for all of the time and energy they spent getting this group off the ground, and are greatly appreciative of all that they have done. We recently had our 2<sup>nd</sup>-ever elections for the TIG Governing Committee, and we are excited to welcome Dr. Sarah Taylor (TIG advisor), **Sarah Reyes** (advisor: Dr. Kathleen Rasmussen, Cornell University; secretary) and Dr. **Gabriella Buccini** (advisor: Dr. Rafael Pérez-Escamilla,

Yale University; mentorship series coordinator). With new beginnings come transitions, and as we welcome Dr. Taylor, Sarah, and Gabi to the Governing Committee, we also will be saying goodbye to three outstanding leaders who, with Drs. Moukarzel and Bode, have been there from the beginning: Drs. Shelley McGuire (TIG advisor), **Kamilla Eriksen** (trained with Dr. Kim Michaelsen, University of Cambridge; secretary) and **Anita Esquerro-Zwiers** (trained with Dr. Paula Meier, Rush University; mentorship series coordinator). I would like to extend my utmost thanks and appreciation for the vision, significant time, and efforts that they provided to the TIG over the first full-term to move us forward and help us get to where we stand today. As we make these transitions, we are united in the goal of continually improving the trainee experience, and to strengthening the ties among trainees, so we can work more effectively and collaboratively. One of the questions I am often asked is, "How can I be  
(continued on page 4)

the finder>>>

# Opportunity Knocks

Where can you find info on the newest coolest opportunities out there for you? Look no further.



Trainee **Lauren Brink** (advisor: Dr. Bo Lönnerdal, University of California - Davis) presenting her human milk research (above).



Trainee **Laura Galante** (above) during a milk collection, which takes place as part of her doctoral research.

## On the blog

TIGer **Laura Galante** (advisor: Dr. Mark Vickers, University of Auckland) wrote an awesome post about the challenges she has faced when collecting milk in a neonatal intensive care unit – and how she overcame them.

To read it, check out the TIG Blog:

<https://isrhmltraineesblog.wordpress.com/2018/03/21/human-milk-science-in-the-nicu/>

Do you want to write for the TIG blog? Email the blog editor **Kimberly Lackey** at [kalackey@wsu.edu](mailto:kalackey@wsu.edu) to get started today.



## Trainee Experience Program (TEP) Awards

The next round of TEP awards are due June 30. Head over to the new ISRHML webpage ([www.ISRHML.com](http://www.ISRHML.com)) and find more information under the "Trainees" tab.

## Mapmaker Needed

Do you want to get more involved in TIG? We have a project for you. Email Janet at [janetw@uidaho.edu](mailto:janetw@uidaho.edu) for more information.

## Travel Awards

ISRHML 2018 in Kanagawa, Japan is fast approaching. Don't miss out on the deadline to submit abstracts AND apply for trainee travel awards. It's May 15<sup>th</sup>, mark your calendars!

## Going to Nutrition 2018?

Let TIG connect you with other trainees who will be there. Email Janet Williams ([janetw@uidaho.edu](mailto:janetw@uidaho.edu)) and she will send a list of attending trainees AND the announcement of a group activity, stay tuned.

Want to submit an opportunity for ISRHML trainees? Send the info to [tiggovcommittee@gmail.com](mailto:tiggovcommittee@gmail.com) to appear in future newsletters.

featured artist >>>

## Alonsa Guevara

"Alonsa Guevara was born in Rancagua, Chile. She spent seven years of her childhood living in the Ecuadorian tropical forest with her family, growing up surrounded by magnificent landscapes and magical environments, a big reason to be a lover of light, nature and colors. Alonsa received her BFA from the Pontific Catholic University of Chile in 2009, and moved to New York in 2011. She graduated from the MFA Program of the New York Academy of Art in 2014 and was granted the Academy's Fellowship award 2015. Her most recent solo show was at Anna Zorina Gallery in NYC, 2016. Alonsa is currently living and working in New York." – excerpt taken from <http://www.alonsaguevara.com/>

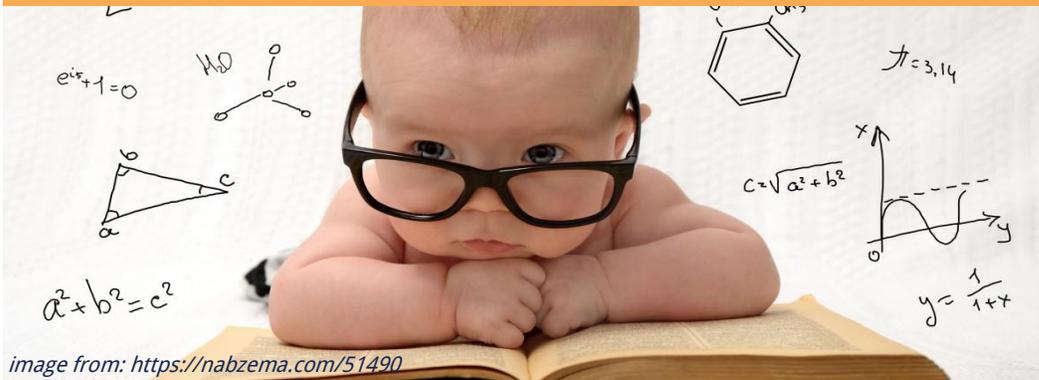


© Copyright: Alonsa Guevara. *Anabel's Ceremony*, oil on canvas, 2017.

Editor's note: Please do not copy or distribute this image in any way without explicit permission from the artist.

# Current Challenges: Human Milk Oligosaccharides (HMO) And The Brain

Is adding human milk components to formula our best approach when we don't fully understand the mechanisms by which they function? Contributed by trainee **Stephen Fleming** (advisor: Dr. Ryan Dilger, University of Illinois, Urbana-Champaign).



Providers of infant formula are looking for key ingredients and formulations that can bridge the gap between infant formula and human milk. The current approach to that task appears to be identifying nutrients or bioactive compounds in human milk that aren't present in infant formula and adding them once there is sufficient evidence and regulatory approval. On the surface, this makes sense, however I propose that, rather than trying to create an identical formulation to human milk, which is impossible by current technological standards, the goal should be to recreate the functionality. However, the issue with this is that our

understanding of the mechanisms behind how oligosaccharides function are quite poor. The world of prebiotics and HMO suffer from the same problems as the world of probiotics, we don't fully understand how they work. We understand there is a gut-brain-axis and the microbiome is presumably an important player, but that hasn't yet helped explain why some oligosaccharides promote brain development and others don't. When we look at the large variation in the HMO content of human milk, which not only changes by geography, but also by the stage of lactation, are adequate **(continued on page 4)**



## Featured Trainee Photo

Trainee **Kristen Meyer** (advisor: Dr. Kjersti Aagaard, Baylor University) shares this photo, which shows her (right) and Dr. Amanda Prince (left), who she says "has helped her get one of her projects on human milk 'up and running,' and is a constant source of moral support when her DNA extractions fail."

*Want your photo featured? Send it to [tiggovcommittee@gmail.com](mailto:tiggovcommittee@gmail.com) with the caption.*

## ask the experts >>>

**Q:** How can I network more effectively?

**A:** I tell students to remember that *everyone* is there to make new connections, and most are at least a little anxious about networking – including senior scientists. Those who move around the room effortlessly have learned to be present in the moment as their genuine selves. Eye contact and mindfully listening are important as well. These are skills that could be cultivated with practice.

- Dr. David Sela

Don't be shy to ask questions and introduce yourself to new people at seminars, conferences, etc. Follow up afterwards with a short but personal email - this gives you a thread to pick up on in the future if you want to get in touch.

- Dr. Meghan Azad

*Got a question you'd like an answer to? Email it to [tiggovcommittee@gmail.com](mailto:tiggovcommittee@gmail.com) to be featured in a future Milk Minute.*



## State of the Science

*Need a refresher on what we know about the passage of drugs into milk during lactation? There's a new review for that:*

Anderson PO. (2018) Drugs in Lactation. *Pharm Res*; 35(3):45.

*How about the specific training that health professional students get on breastfeeding? You're in luck:*

Yang SF, Salamonson Y, Burns E, Schmied V. (2018) Breastfeeding knowledge and attitudes of health professional students: a systematic review. *Int Breastfeed J*; 13:8.

# A Letter From The Editor

First of all, let me express my sincerest gratitude for all of the trainees and senior ISRHML members who contributed their time, words, and photos to this newsletter. It would never have left the ground without you. We would like to make this newsletter a regular TIG publication, so please let us know what you'd like to see in the future. Our overarching goal is to connect trainees and foster a collaborative environment where human milk science can be shared and expanded to improve the health of women and infants worldwide. You can help us get there by sharing your opinions and ideas, so please don't hesitate to reach out if you have an idea or suggestion, or if you want to write for the next newsletter.

With sincerest thanks,  
Kimberly

*This edition of "TIG milk minutes" was created and written by trainee **Kimberly Lackey**, pictured with Dr. Janet Williams in Nepal, upper right).*

(What's Up, continued from page 1) more active in TIG?" This excites me to know that there are so many of you who want to contribute, and as such, we currently have several opportunities if you are someone who would like to take a more active role with the TIG! At present, we are looking for someone who has an interest in putting together an interactive map that displays the location of all the TIGers and ISRHML members. Check out "Opportunity Knocks" on page 2 of this newsletter for more details. There are always opportunities to share your research on the TIG blog, and you can email me (janetw@uidaho.edu) or **Kimberly Lackey**, (advisor: Dr. Shelley McGuire, Washington State University) our blog editor, kalackey@wsu.edu, to get started. As we gear up for the 2018 ISRHML conference, we are exploring opportunities for TIGers to get together and network. If you have ideas for an activity during the meeting and/or an excursion either before or after the meeting, let me know. While you can always email me, I will be attending the 2018 Nutrition conference in Boston which is coming up in June (more details in "Opportunity Knocks," page 2). If you will be there too, let's connect. We are hard at work trying to plan the next step, and would welcome the opportunity to work with you.

Looking forward, Janet



(Current Challenges, continued from page 3) controls attainable? The second issue is, given the quantity and complexity of HMO, it would be unrealistic to assume that the scientific community can generate a wealth of data on each oligosaccharide and their interactions with each other in a reasonable period of time. Third, the difficulty of different research groups to align in using the same prebiotics with the same dosing regimens in the same study designs impedes the ability to generalize observed effects. Lastly, and more surmountable, are the difficulties in conducting clinical research, controlling nutrition, and assessing cognitive outcomes throughout the human lifespan. Typically, this is where animal research steps in, as it provides a cheaper and more controllable source of experimentation. Of course, if we accept that human milk is unique to humans, how is measuring their function in animals relevant? Our research group (led by Dr. Dilger) has chosen to use the piglet, which offers greater similarities to the human than the widely-used rodent in terms of neurodevelopment and gastrointestinal anatomy. Using the piglet still does not overcome the issue of species-specific milk profiles; however, it takes us a step in the right direction. Ultimately, I hope to see more mechanistic work completed in a variety of species, rather than continuing to describe the observable effects of feeding HMO.



*coming soon >>>*

## In The Next Issue

*More trainee science*

*New opportunities*

*How to improve the trainee experience*

*Tips from the pros*



Read Stephen's full publication:

**Fleming S, et al. (2018) Dietary sialyllactose does not influence measures of recognition memory or diurnal activity in the young pig. *Nutrients*, 10(4): 395.**

*Good news, there's more! You can read **Stephen's** (pictured above) full piece on HMOs and the Brain on the TIG blog at <http://isrhmltraineesblog.wordpress.com>*

Questions?  
Comments?

Want to get involved?  
Contact us anytime at

[tiggovcommittee@gmail.com](mailto:tiggovcommittee@gmail.com)

Let's work together today.