

Long-Term Vision for the Rumen Microbial Network and Critical Steps

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Origin

The RMG Network was formed following a workshop held in NZ in February 2011 and is an initiative of the Livestock Research Group of the Global Research Alliance.

Purpose - To initiate support for global collaborative network of researchers, working with common set of principles and guidelines to underpin the development of methane mitigation and rumen adaptation technologies using microbial genomics approaches.

Following from that workshop two international, collaborative research projects focused on rumen microbes were developed and are part of the RMG Network.

RMG Network goals

- Enhanced communication and collaboration between research groups
- Improved ability to attract funding with integrated, international studies
- Streamline future RMG research to prevent duplication
- Training – exchange of students, technicians, staff
- Accelerated access to protocols, cultures, primer sets and facilitate sharing of knowledge and technologies
- Generation of reference datasets
- Facilitate research in microbial genomics, ecology and physiology

RMG Network meetings

1st RMG Network meeting

Palmerston North, New Zealand, February 2011

2nd RMG Network meeting

Associated with INRA-RRI meeting, France, June 2012

3rd RMG Network meeting (jointly with RuminOmics)

Associated with GGAA2013, Dublin, Ireland, June 2013

4th RMG Network meeting (jointly with RuminOmics/ECO-FEC)

Associated with INRA-RRI meeting, Scotland, June 2014

5th RMG Network meeting (GRC/Hungate 100 workshop)

Associated with the 2015 Congress on Gastrointestinal Function
Chicago.

RMG Network activities

RMG Network meetings/workshops

These are well attended and regarded by many as the most valuable part of the whole conference because of the focus on rumen microbiology.

Newsletter

Appears twice a year and is edited by Carl Yeoman, Montana State University.

Website/Social media

www.rmgnetwork.org.nz **Twitter:** @RMG_network

The RMG Network coordinator is Sharon Huws, Aberystwyth University.

Collaborative projects

- Global Rumen Census www.globalrumencensus.org.nz
 - Culture-independent study based on sequencing ribosomal RNA genes to identify the extent of diversity of the microbial groups in the rumen.
- Hungate1000 www.hungate1000.org.nz
 - Aims to produce a reference set of rumen microbial genome sequences from cultivated rumen microbes including bacteria, methanogens, phage, anaerobic fungi and ciliate protozoa.
- Several Network-based collaborative projects have been successful in obtaining funding or have applications in progress.

Long term aspirations

- Encourage applications to network enabling funding resources:
 - Marie-Curie Research and Innovation Staff Exchange (RISE) applications among members.
 - Compile a list and promote use of national funding for building networks:
 - BBSRC International Scientific Interchange Scheme.
- Encourage and promote uplift projects as a consequences of RMG network interactions.

Long term aspirations

- **Currently:**

- >200 scientists receive the biannual RMG newsletter.
- The meetings are well attended by both academia and industry.

- **Future Vision:**

- Encourage more active involvement from postgraduate students and early-stage postdocs.
- Engage better with social media for promotion.

Steps to Realising this vision

- **Funding**

- Identification of funding sources that will support the running of the network.
 - Administrative support for organising meetings.
 - Travel for invited speakers.

- **Young researcher engagement**

- Better use of social media
- Promote mentorship within the network
- Encourage application to early-stage researcher awards.

Steps to Realising this vision

- **What is achievable by Feb 2016?**
 - Identification of funding targets.
 - Collaborators identified and commitments received (partner matching?)
 - Collate and publish network funding opportunities in the RMG newsletter.
 - Increased presence on social media

How can the LRG facilitate?

- **Remote administrative support:**
 - Compiling/managing email lists.
 - Workshop organisation/registration support.
- **Support for funding applications**
 - Help identify and target funding sources.
 - Co-ordination support for funding applications.