

## **June 2015**

### **Leader Report to Management Board meeting 8 June 2015**

Since the last Management Board a great deal of effort has been made to operationalize the plans we set out in March into the events of May, June and further into the autumn. Many of the details in the Leader report presented to the Board in the March meeting are still current. This report will only include detail and information that was not included in the last report.

### **Planned events for 2015**

The three major events are planned to take place at the end of May and beginning of June are related to MatRIC working groups: Visualization and Simulation; Mathematical Modelling; and Computer Aided Assessment. The coordinators of these working groups (Per Henrik Hogstad, Yuriy Rogovchenko and Morten Brekke respectively) have worked very hard to put together exciting and interesting programmes that include presentations by international guests and colleagues from many higher education institutions around Norway. Programmes and abstracts for these events can be found at [www.matric.no](http://www.matric.no). The complex arrangements necessary with these three consecutive events have been managed by Line Eielsen Malde, assisted by Elisabeth Rasmussen.

The events will take place between the writing of this report and the Management Board meeting, at the Board meeting an oral report from the events will be given.

#### *Additional details about events mentioned in the previous report*

Håvard Tjora will visit 11 September 2015. He will speak at campus Kristiansand and campus Grimstad. Pupils from upper secondary schools as well as our own students will be invited to participate.

Video colloquium Tromsø will take place 14-16 October.

NOKUT plans a SFU conference 3-4 November 2015. More information about this event will be circulated when available.

### **News from working groups**

Most activity has been directed towards organizing the speakers and programmes for the events that take place end of May beginning of June

*Visualization and simulation:* Two students have offered to design and create a more user-friendly interface for the visualization and simulation programs created by Per Henrik Hogstad. We agree with the need to improve the interface, and this could lead to much wider use of the programmes. Also we are keen to involve students in MatRIC's work. However, the amount of work involved and the possible cost implications lead us to be rather hesitant in accepting the offer. We plan to meet with the students between writing this report and the Board meeting. More information will be shared at the meeting.

*Mathematical modelling:* Collaboration with bioCEED has developed and on 14 April a small research team from MatRIC (Yuriy Rogovchenko, leader, Olov Viirman and Simon Goodchild, and the new PhD fellow John Liakos) visited UiB to meet with a group of 10 biology students to pilot some mathematical biology modelling tasks. This pilot study will be presented at the Mathematical Modelling colloquium (28-29 May). We hope to agree with the biologists and mathematics teachers at UiB to extend the pilot study to a main study that will involve several modelling events through the autumn semester.

Yuriy Rogovchenko visited Mogens Niss at Roskilde University 23-24 April. Mogens is a member of MatRIC's advisory board and a recognized international leader in the field of mathematical modelling education research.

Yury Rogovchenko will also be attending as an observer "Student Mathematical Modelling Workshop" 24-26 June in Limerick, Republic of Ireland, and (with Olov Viirman and John Liakos) ICTMA mathematical modelling conference in Nottingham 19-24 July 2015 (YR, OV, JL) see <http://www.nottingham.ac.uk/conference/fac-socsci/ictma-17/documents/ictma-17-first-announcement.pdf>.

*Video Teaching:* The collaboration with UHR on developing a digital resource to support students in the transition from upper secondary school to university mathematics continues. An authoring group has been set up and this will meet with Tom Lindstrøm (Leader of the Editorial Group) 8-12 June, in Grimstad. The intention is for this group to produce scripts for a digital resource covering 'pre-calculus'.

We have also entered an agreement with Loughborough University to purchase a license to translate into Norwegian material from a digital resource produced to support students in transition in the UK. The material is high quality and lies at a level below that of the pre-calculus course mentioned above.

*Computer Aided Assessment:* In the last Board meeting we reported the visit of a computer aided assessment software developer from The Netherlands. Following review of this program it seems likely that it will replace the mathematics assessment software that has been used so far. The new program SOWISO appears to be cheaper and more flexible. We also hope to be able to use the SOWISO software on the MatRIC web-site, but this will require a special agreement with the producers because normally the licenses are restricted to use by students of a particular university and are priced according to the number of users. This arrangement cannot work for [www.matric.no](http://www.matric.no) which has potentially many thousands of users.

*Resource and Support Centre:* Arrangements for the Mathematics Resource and Support Centres are underway and we hope to have everything in place by mid August. Preliminary announcement of these has been met with enthusiasm. As part of their preparation for the task the two support centre leaders are visiting the Republic of Ireland, Anne Berit Fuglestad visited four centres in Dublin 11-12 May, and Svitlana Rogovchenko will attend 9th Annual Irish Workshop on Mathematics Learning Support on 29 May, see <http://supportcentre.maths.nuim.ie/mathsnetwork/ucd2015>

We have been in conversation with student leaders of the 'Fadder' programme to make arrangements to advertise the centres during the first week of the autumn semester. Arrangements for developing the MatRIC web-site and [www.uia.no/matric](http://www.uia.no/matric) to accommodate the needs of the centres is also underway.

*University Mathematics Teaching Course:* Svitlana Rogovchenko visited NTNU on 23 April to have discussions about the course with Frode Rønning and department leaders. As a result of this visit and a subsequent discussion on 7 May it was decided to postpone the beginning of the course until November. A draft schedule for the course and content has been produced, with suggestions for many of the course presenters and tutors. A copy of this will be made available to the Board, but not published generally until all agreements have been reached.

#### **Other MatRIC activities**

*MatRIC research grants* – Two reports from the 2014 grants are now published on [www.matric.no](http://www.matric.no). The announcement of a new round of small grants attracted two proposals, both from UiA. One of

these is related to mathematical visualization and simulation, the other with mathematical modelling. We expect to receive a third proposal by the end of May, and the door remains open to consider more until the budgeted sum available is exhausted.

*Web Development:* [www.matric.no](http://www.matric.no) Tenders were invited from three 'preferred' companies for the development of phase 2 of the website. The winning tender came from the company that produced phase 1. We are very happy to have this continuation. The up-graded web site will provide a means of up-loading teaching and learning resources, in particular, [www.matric.no](http://www.matric.no) will host the digital resources produce through the UHR/MatRIC collaboration. The up-grading will mean the web-site is functional for the resource and support centres. Also there will be the possibility of a limited degree of interactivity.

*Proposal for external funding:* Norwegian centres of excellence (SFFs, SFIs and SFUs) were invited to apply within a joint SIU/NFR INTPART programme designed to support international partnerships. MatRIC will submit a proposal (deadline 27 May) to establish partnerships with Arizona State University, San Diego State University and our MatRIC collaborating partners NTNU and NMBU. The US partners were chosen because of their highly regarded PhD programmes and their focus on research in undergraduate mathematics education. If successful the project will draw in new money of about one million NOK per year that will support mobility, shared doctoral courses and annual summer schools. Beyond these actions, the establishment of partnerships with these two institutions would be very good for MatRIC, and we believe UiA.

### **Presenting MatRIC**

NORAD: As leader of MatRIC Simon Goodchild was invited to make a presentation at a small NORAD seminar that focused on evidence based development.

IMA-MEE conference in Loughborough. Presentations were made as planned. Important contact with a leader of a research and support centre in Dublin was made. This has led to the two visits to Dublin by the UiA support centre leaders mentioned above.

Publication NOKUT's SFU magazine – issue 2. We believe MatRIC and UiA is well-represented in this issue. We are also very pleased that the quality is much higher than the first issue.

Simon Goodchild presented MatRIC to a delegation from Adam Mickiewicz University in Poznan led by Prof. Jacek Witkos 19 March.

### **Participation in forthcoming conferences and workshops**

Simon Goodchild, Olov Virman and Frode Rønning have been invited to participate in the conference: "Didactics of Mathematics in Higher Education as a Scientific Discipline" Hannover Germany 1-4 December 2015. A significant proportion of the cost of attending is covered by the Volkswagon Foundation. We have requested that Yuriy Rogovchenko is also invited and been told he has been placed on a 'waiting list'.