

Centre for Research, Innovation and Coordination of Mathematics Teaching

Centre Management Board

Meeting Time: Tuesday December 03, 2013: 12.30-14.30

Place: J2-001, Gimlemoen

Minutes (not yet verified and accepted)

01/13 MAN welcomed all to the meeting. Brief introductions around the table.

02/13 Centre Management Board membership:

Chair: Vice Rector (Education, study quality and learning environment). **Marit Aamodt Nielsen**

Members:

Dean Faculty of Engineering and Science. **Frank Reichert**

Head of Department Mathematical Sciences. **Elna Svege**

Leader of MatRIC. **Simon Goodchild**

Lectures: Mathematicians from Grimstad **Morten Brekke,**

from Kristiansand, **Inger Johanne H. Knutsen,**

Mathematics Education. **Ingvald Erfjord**

Students: From Kristiansand. **Harald Hoven Gautestad,**

Grimstad **Henriette Nygård**

External members: NTNU **Frode Rønning**, NMBU **Margrethe Naalsund**.

Substitutes: Førsteamanuensis Claire V. Berg, Student Sondre S. Tørdal

03/13 Apologies for absence: Elna Svege, Ingvald Erfjord.

04/13 Agenda for the meeting agreed, no additional items added.

05/13 Terms of Reference (ToRs) for Centre Management Board (attachment 1).

Resolution:

a) The Centre Management Board accepts the suggested terms of reference for the CMB (with the following changes: i. an additional point: To receive and consider the Centre's annual strategy and action plan, prepared by Centre Leader. ii. To add a note that indicates: The Centre as an independent unit within the university, in collaboration with the Faculty of Engineering and Science. The Centre Management Board's strategic responsibility, answerable to the University Board, and The Board of the Faculty of Engineering and Science's fiscal oversight, on behalf of the University Board.

b) CMB will monitor the ToRs and discuss and develop as necessary.

06/13 Centre Budget for 2014

Resolution:

CMB approves the proposed Centre budget for 2014 with the following observations:

- i. The Centre Management Board welcomes the additional financial support (1 million NOK provided by the Board of the Faculty of Engineering and Science.*
- ii. To add an additional line within “Centre events: “For international networking ... 200K NOK.*
- iii. To add an additional line beneath Total SIG running costs: Further Centre activities ... 800K NOK.*
- iv. To note that this is a provisional budget based on anticipated activities and action plan, as a totally new unit with many unknowns the Centre costs may vary from those proposed.*

07/13 International Advisory Board (IAB), terms of reference (attachment 2)

Resolution:

- a) The Centre Management Board accepts the suggested terms of reference for the IAB with the following changes: i. To make it clear that appointment to the Board is initially for five years, with the possibility of extension as the Centre enters the second phase in 2019.; ii. Agreed that an honorarium of €1000 be offered IAB members. iii. To ensure that IAB has a representative from the Nordic mathematics community.*
- b) CMB will monitor the ToRs and activity of IAB and discuss and develop as necessary.*

08/13 Report from Centre Leader (attachment 3)

Resolution:

CMB accepts the Centre Leader’s report with the following observations: i. CMB will discuss the launch programme more thoroughly in the next meeting.

09/13 Appointment of Centre Administrator/Manager

Resolution:

CMB approves the proposed job description for Centre Administrator/Manager with the following observations/recommendations: i. Centre Leader to discuss the announcement with Faculty Assistant Director, ii. The announcement should appear in Norwegian, fluency in Norwegian and competency in English required. iii. Centre administrator to have offices in both Kristiansand and Grimstad campuses, Centre Administrator to spend one day each week in Kristiansand, Centre Leader to spend one day each week in Grimstad. v. Aim to appoint the best possible person for the post, if necessary the Faculty will share the salary cost, the Centre Administrator would then contribute to Faculty work (up to 20%). iv. Centre Leader given CMB’s authority to proceed with the appointment of the Centre Administrator.

10/13 Relationship between Centre, UiA and partners. (attachment 4).

Resolution:

CMB recommends further discussions between representatives of Centre/UiA and principal collaborating partners (NTNU and NMBU) to develop agreed terms of cooperation. Centre Leader and NMBU representative to develop an agreement similar in nature to that worked out between the Centre and NTNU.

11/13 Proposed Special Interest Working Groups (attachment 5).

Resolution:

CMB approves the SIWGs for 2014 and the proposed terms of reference with the following observations recommendations: i. Centre Leader to work out further details with the SIWG coordinators. ii. SIWG coordinators to be asked to produce better descriptive titles for their groups. iii. The SWIG foci need to make the breadth of user groups more visible.

12/13 Dates for future CMB meetings

- *Suggested dates were not unanimously acceptable, it was decided to fix the dates of the next meeting through e-mail correspondence between Board members – after December 10, when the spring timetable is published.*

13/13 Date for Centre launch conference was agreed

March 12, 2014.

14/13 Open discussion – *did not take place because of lack of time*

15/13 Any other business – *No further items added.*

The meeting finished at 14.35 with thanks especially to the two external members and the Chair for steering the meeting through a long and demanding agenda.

Items for future CMB meetings:

- Centre Leader report
- Centre budget, expenditure and commitments
- Reports from coordinators of Special Interest Working Groups
- Quality management of Centre's activities and operation
- Centre's calendar and activities
- Centre policy, strategy & implementation plan: time-line, milestones, deliverables
- Reports from Centre events
- Reports from International Advisory Board
- Review of proposals for Centre activities and coordinators
- Centre appointments

(A. 1) Centre for Research, Innovation and Coordination of Mathematics Teaching

Centre Management Board

Terms of Reference

The Centre is an independent unit within the university, in collaboration with the Faculty of Engineering and Science. The Centre Management Board has strategic responsibility, answerable to the University Board. The Board of the Faculty of Engineering and Science has fiscal oversight, on behalf of the University Board.

Tasks/responsibilities (may be developed further)

- To provide oversight of the Centre
- Receive regular reports of Centre's activities from Centre Leader
- To receive and consider the Centre's annual strategy and action plan, prepared by Centre Leader.
- To decide Centre policy and priorities and advise on strategy
- To ensure implementation of sound quality management procedures throughout the Centre's activities.
- To support Centre leadership in the appointment of people to Centre's positions and tasks.
- To ensure proper use and disbursement of the Centre's budget.
- To decide about priorities when demands for Centre's resources exceeds the resource available.
- To report to the University Board, and to NOKUT about the Centre.

Board 2014

Chair: Vice Rector (Education, study quality and learning environment). **Marit Aamodt Nielsen**

Members:

Dean Faculty of Engineering and Science.

Frank Reichert

Head of Department Mathematical Sciences.

Elna Svege

Leader of MatRIC.

Simon Goodchild

Lecturers: Mathematicians from Grimstad
Kristiansand,

Morten Brekke

Mathematics education scholar.

Inger Johanne H. Knutsen

Students: From Kristiansand.

Ingvald Erfjord

Grimstad

Harald Hoven Gautestad

External members: NTNU

Henriette Nygård

NMBU

Frode Rønning

Margrethe Naalsund

Lecturer substitute: Claire V. Berg.

Student substitute: (Grimstad) Sondre S. Tørdal

(A.2) Centre for Research, Innovation and Coordination of Mathematics Teaching International Advisory Board.

Terms of Reference:

- Offer advice to the Centre leadership and Management Board that will enable the Centre to realize its vision: *“to lead innovation, research and excellence in mathematics teaching and learning within higher education ‘user programmes’ (throughout Norway).”*
- Study Centre plans and suggest revisions to those plans in order for the Centre to better achieve its goals.
- Receive reports from the Centre and critically evaluate the work and development of the Centre and make suggestions about changes to activities and plans.
- Contribute to the evaluation of proposals of projects sponsored by the Centre.
- Contribute to the evaluation of applicants to positions announced by the Centre.
- Contribute to ‘mid-way’ evaluation of the Centre.
- Contribute to the Centre’s programme of seminars, workshops and conferences.
- Advise on possible speakers for Centre’s programme.
- Advise about possible international Centres of Excellence to which the Centre can sponsor visits.
- Advise about possible international experts who can be invited to visit ‘The Centre’ for a short period.
- Advise on potential international collaborators for future work (eg EU projects)

It is not envisaged that every member of the Board will be engaged in all of the above every year. The demands of the Board must respect Board members time and busy schedules.

Appointment to the Board is initially for five years, with the possibility of extension as the Centre enters the second phase in 2019

One of the initial tasks that we will ask members of the Board is to examine the Board’s terms of reference and suggest revisions to align these with ‘best practice’. The Centre’s budget has been planned with the idea of bring the Board together in Norway once or twice each year, on one of these occasions to coincide with the Centre conference. The feasibility of this will depend upon the availability of individuals to come at the time the conference is planned. We certainly would not want anyone to be discouraged from participating on the Board because they did not want to commit to such a visit.

Members of the Board will receive an honorarium as agreed by the Centre Management Board.

(A.3) Centre for Research, Innovation and Coordination of Mathematics Teaching

Centre Leader Report December 3, 2013

Thursday October 31, about 16.00, I received a telephone call informing me that the MatRIC proposal was selected. I was requested to prepare for the presentation and produce a display of MatRIC at the NOKUT 10 year 'jubileumskonferanse' in Oslo on November 8. Until NOKUT made the formal announcement the news was to be held 'top secret'. The 'secrecy' made preparation somewhat difficult with some unwanted consequences (i) the creation of an 'illegal' logo, (ii) over exposure of the Centre leader at the expense of the Centre team. We (Myself, Faculty Director, Dean and other administrators) prepared for the November 8 announcement.

Friday November 8, announcement of status awarded to MatRIC, Rector, Dean of Faculty of Technology and Science and Designated Centre Leader received the 'award' on behalf of the University of Agder.

Several days 'outpouring' of congratulations and goodwill. It does feel as if the Centre is generally welcomed both within UiA and across Norway, and further afield.

Wednesday November 13, Centre presented at 'UiAdagen' using material prepared for Oslo presentation.

Four weeks have been spent setting up Centre Management Board, International Advisory Board, Special Interest Working Groups, revised budget, preparation for announcing Centre administrator position. The outcome of this activity provides the basis of the CMB agenda (131203).

Frank Reichert (Dean of Faculty of Technology and Science) has presented the Centre at a Deans meeting. Centre leader has presented the Centre to University Rectorat and to UiA's Central Research Board.

In addition to the collaboration with NTNU and NMBU, we also have agreed to declare our active collaboration with the Norwegian Centre for Mathematics Education (NSMO).

A new appointment takes over as Director of NSMO in January. As soon as possible I hope to have a meeting with the new director to explore how we can exploit the potential for synergy between the Centres. I hope Frode Rønning will be part of that meeting.

The Centre web site is being developed by an external design company (Op-design: <http://opdesign.no/>) a group of colleagues is taking responsibility for this (Cornelia Brodahl, Ingvald Erfjord and Per Sigurd Hundeland). We have secured the domain name matric.no, I hope to be able to present the 'landing page' for the web-site at the Board meeting.

I want to have the opportunity, with colleagues to present the Centre to 'alle-møter' (Gimlemoen and Grimstad).

I had initially thought the Centre launch would be a national event at Gardermoen during January. I have had to accept that this is unrealistic. So we are now suggesting a date in the middle of March.

Suggestion for programme of launch event:

- 09.15 Arrival, registration, coffee/fruit
- 10.00 Opening, welcome and introduction to the Centre (20 minutes – Simon & others NOKUT??? Etc.)
- 10.20 Keynote lecture (50 minutes - Invited speaker – who???)
- 11.10 2 Presentations (about 25 minutes each: Per Henrik, Morten,) : content – presentation of current teaching innovation or outline of plan for development within the Centre.
- 12.00 Lunch (45 minutes)
- 12.45 3 Presentations (about 25 minutes each: Frode, Yuriy, Pauline) : content – presentation of current teaching innovation or outline of plan for development within the Centre.
- 14.00 Presentation of other Centres (ProTed, bioCEED, CEMPE – if they want to) (30 minutes)
- 14.30 Plenary discussion (30 minutes)
- 15.00 Presentation – what next (30 minutes – Simon)
- 15.30 Close

I have agreed to organize a presentation of the Centre at the next “MNT-forum” (Matematikk, Naturfag og Teknologi –forum is a meeting in which especially upper secondary teachers and university lecturers come together to explore issues and sites of interest – e.g. during 2013 the MNT forum has been to the new control tower at Kjevik, The industrial concern Saint Gobain, the radiology department at Sørlandetsykehuset and learned about Norway’s role in a European energy exchange.)

(A. 4) Collaboration with NTNU. (from supplementary material submitted to NOKUT)

MatRIC will have a national profile that facilitates networking, collaboration and dissemination of innovation and research in teaching and learning mathematics within user programmes. In Norway, The Norwegian University of Science and Technology (NTNU) is the leading technological university and is investing heavily in developing and researching approaches using multimedia based technology in teaching and learning mathematics and other subjects. Teachers and developers at NTNU are creating high quality educational videos on specific subject topics and researching the factors that impact upon the videos' effectiveness in teaching and learning. There is considerable complementarity and some duplication of effort in mathematics teaching through video at NTNU and UiA, and thus scope for collaboration and synergy. MatRIC will be keen to support the national networking of teachers with NTNU and other universities and university colleges and the dissemination of teaching products and research into the use of these multimedia products.

MatRIC will provide the context and release resources for collaboration between mathematics teachers at UiA and NTNU, and because of the critical mass they produce others will want to participate. Innovative teachers of mathematics, science and engineering, and researchers in mathematics education at UiA and NTNU are seeking opportunities to collaborate to form the nuclei of several interest groups focusing on producing and researching the effectiveness of a diversity of resources for teaching, learning and applying mathematics with emergent technology.

- MatRIC will support the development of a special interest group that focuses on the innovation and research in using multimedia technology in teaching and learning mathematics. MatRIC will contribute towards travel and subsistence of teachers engaged in and wishing to develop similar teaching products from other institutions to meet and collaborate with the NTNU team.
- At UiA and NTNU mathematics teachers have experience of working with computer simulations of mathematical concepts to support teaching and learning, and there has been some exchange of ideas. The existence of productive divergent thinking between the UiA and NTNU groups will result in creative engagement and both groups are looking forward to the opportunities for collaboration in this development that will be opened up by MatRIC.
- MatRIC will support research, complementary to that already proposed and pursued by teachers and developers at NTNU into the use and effectiveness of multimedia based technology in teaching and learning mathematics.
- MatRIC will provide opportunities for the dissemination of innovative products and research evidence within the Norwegian community (MatRIC Newsletter, MatRIC Journal, links from the MatRIC website).
- NTNU will be represented on MatRIC Management Board. (Professor Frode Rønning, Professor of Mathematics and Mathematics Education at NTNU).

Professor Berit Johanne Kjeldstad, Pro-Rector (Pro Vice Chancellor) at NTNU, with special responsibilities for educational matters writes as follows: "I fully support the initiative taken to establish collaboration between NTNU and the University of Agder in the proposal to establish an SFU based on the MatRIC project. The responsible unit at NTNU to follow up the project will be the Faculty of Information Technology, Mathematics and Electrical Engineering represented by the Department of Mathematical Sciences."

Through networking and other means MatRIC will seek to support and disseminate innovation and research in teaching mathematics to engineers, economists, scientists etc. that are being carried out in all Norwegian institutions of higher education. MatRIC will only seek acknowledgement when the Centre has provided substantial support, it will not claim ownership of products. It will be the aim of MatRIC to recognize and promote innovation and research and direct to expertise and centres of innovation and research in teaching mathematics for the benefit of teachers and students in Norway, Scandinavia and internationally. Intellectual property rights will remain with the authors and originators of research and developments, but a condition of receiving Centre support will be that products supported by the Centre will be freely available.

(A.5) Centre for Research Innovation and Coordination of Mathematics Teaching.

Special Interest Working Groups. (Draft outline of Terms of reference)

In 2014 it is hoped there will be 4 active and productive groups, these may be:

1. Digital simulation group
2. Digital assessment group
3. Modelling simulation group
4. Mathematics in Teacher Education group

An ideal group will:

- Have a designated coordinator.
- Have at least five participants.
- Comprise university teachers from three or more institutions, a majority who are teaching mathematics on user programmes. There may also be specialists from a user programme discipline.
- Include participants from both UiA campuses and possibly more than one faculty.
- Include one or more students (bachelor level projects, masters and PhD level research)
- Include at least one mathematics education researcher
- Collaborate in innovation and the production of a teaching/learning support 'product' that can be shared – through workshops and the Centre web-site
- Collaborate in researching the use of the product in teaching/learning situations.
- Publish research in the Centre web-site, newsletter, journal, conference – and international journals and conferences.

Reporting: Each SIWG will report its activity to the Centre Leader on a monthly basis. Reports should be brief and factual – number of face to face meetings, progress, obstacles to progress, meetings (virtual and face-face), production, plans for development, new members of the group, people dropped out of the group, opportunities for external funding, national and international events of interest, etc.

Each SIWG should present its work through at least one workshop each year, and at the MatRIC conference.

Duration: Normally a SIWG will be funded to exist on a yearly basis. Continuation of funding will be dependent on the SIWGs productivity, potential to produce, security of students' research and projects, and demand from other interests.

Budget: The Centre has budgeted for the operations of each (of four) SIWGs

530000NOK, divided as 0,3 full-time position (360000NOK) and the remainder (170000NOK) for technical support, travel, accommodation etc. The use of the total amount available can be shared between these items as each SIWG decides. The budget does not cover the acquisition of hardware or equipment.

The Centre has additional funds to cover workshop costs, international visits and visitors.