

**NOKUT - Centre for Excellence, MatRIC evaluation 2017: Evaluation panel meetings at the University of Agder, Kristiansand, May 22.**

**MatRIC informants.**

*(note minor changes to the proposed informant groups could occur).*

**08:30 – 09:00 General presentation of MatRIC**

- 1. Astrid Birgitte Eggen:** Chair of MatRIC's Management Board, Assistant Vice-Chancellor (Education), Professor. Appointed to UiA in 2009 as Professor of Education in the Department of Education, (2011-2015) served as Head of Department of Education. Previous positions as researcher, PhD research fellow, postdoctoral research fellow at University of Oslo and Norwegian University of Science and Technology (1991-2009). Background in curriculum theory and science education. Recent publications in evaluation, school development and educational leadership.
- 2. Simon Goodchild:** MatRIC Director, Professor of Mathematics Education. MatRIC leadership accounts for 50% of workload. Appointed to UiA in 2004, previous experience as secondary school mathematics teacher educator in the UK (1988-2004) and secondary school mathematics teacher, grades 7 to 13 in Malawi and UK (1972-1988). Publications include research reports from mathematics classroom studies and mathematics teaching development.
- 3. Lillian Egelandsaa:** MatRIC Project Manager (since November 2016). MatRIC role accounts for 70% of workload (remainder relates to union leadership and other duties with the Faculty of Engineering and Science. Previous positions as Financial Controller within the Faculty of Engineering and Science, UiA, Kristiansand City administration, and tax authority.
- 4. Kai Steffen Østensen:** Leader of the Student Organization at Agder. In Norway students share a very important role in the university organization with representation on all major boards from the University Board downwards. The 'Student Organization' is the central body that coordinates this and leads the student parliament. The student leader also participates in university leader meetings with the Vice-Chancellor, Director and Assistant Vice Chancellor.

**09.00 – 09.45 Meeting with students**

We would like to meet 6-8 students. We do not wish to meet graduated candidates during this interview. You might include students in their last year of studies.

- 1. Kim Roger Anderssen:** A final year master student studying mechatronics on the UiA Grimstad campus. He leads the MatRIC student advisory panel in Grimstad and has served for two years on MatRIC Management Board. As part of his engagement within MatRIC he acts as the project manager for a student group SCI-CODE that is developing an on-line resource for learning programming.
- 2. Magnhild Rugland:** A final year master student studying mathematics education on the UiA Kristiansand campus. She can report her own 'user' experience of the MatRIC 'Drop-in' mathematics support centre. Magnhild is one of two students who have received the NOKUT stipend for her research, this has been used to enable her to participate in a research project developed at Arizona State University that explores mathematics teachers' knowledge.
- 3. Jon Bjarne Bø:** A fourth year master student who has followed the general teacher education programme for school grades 5 to 10 at the UiA Kristiansand campus. He contributes to MatRIC as a teaching assistant within the Drop-in support centre in Kristiansand. He has experience of the 'Mathematics Education Research Group' course, which is an effort to involve students in research and development based education.

4. **Magnus Lysfjord:** Is a second year student on a masters programme in 'Renewable Energy with Machine Learning'. He is a member of the 'Sci-Code' group that is developing a web-based interactive resource for learning programming. The group has been sponsored by MatRIC, and just now has received funding from the Research Council of Norway in the programme: "Comercialising R&D results" (FORNY2020).
5. **Are Johan Tverrå:** First year student on a computer engineering bachelor degree programme at UiT, The Arctic University of Norway, Bodø Campus. He participated in a pilot study exploring flipped classroom approach for teaching and learning mathematics. Engaged in the pilot study were MatRIC PhD Fellow Helge Fredriksen and visiting PhD research fellow from San Diego State University, Matt Voigt.
6. **Anders Pedersen:** Same profile as student 5. Students 5 and 6 were invited to meet the panel because of their engagement in a MatRIC project, and they are an indicator of the national reach of MatRIC. Also, because the UiA students we would like the evaluation panel to meet are occupied with examinations.
7. **Kim Andre Wiesener:** First year student at University of Bergen, studying biology. He participated in the modelling course developed by UiA/MatRIC PhD fellow Yannis Liakos. He will join the meeting via video link.
8. **Linnea Halveg:** First year biology student at University of Bergen (as student #7).

#### 10.00 – 11.15 Meeting with stakeholders

We would like to meet 4-6 stakeholders.

1. **Arvid Sigveland:** Is Professor in Mathematics at University College of Southeast Norway. He is a member of MatRIC's Advisory Board, and recently has taken on the role of MatRIC Ambassador. Until recently he was leader of the Norwegian Mathematics Council. His research is in the field of algebra and algebraic geometry. His teaching focuses on mathematical analysis and statistics, and engineering mathematics. He was part of the working group set up by the Norwegian Association of Higher Education Institutions to look into supporting students' transition from upper secondary school to STEM mathematics at university. This developed into MatRIC TV. He was a leading member of the editorial group for the development of the video resource. As a stakeholder he represents the Norwegian community of university mathematics teachers.
2. **Yannis Liakos:** Is a PhD fellow within MatRIC based at UiA in Kristiansand, he is researching mathematical modelling within the mathematical modelling network. His fieldwork is part of the on-going collaboration between MatRIC and bioCEED, during the autumn semester 2016 Yannis made regular visits to the biology department at the University of Bergen to meet with first year biology students in the development and piloting of an introductory course of mathematical modelling in biology. Yannis has a bachelor degree in mathematics from Aristotle University of Thessaloniki and a masters degree in mathematics education awarded by the University of Athens. As a stakeholder he represents the community of university level mathematics education research.
3. **Burkhard Alpers:** Is Professor of Mathematics at Aalen University of Applied Science. He is a member of MatRIC's Advisory Board, he teaches mathematics to bachelor level engineering students. Until recently He was leader of the Mathematics Working Group of the European Society for Engineering Education (SEFI). As a stakeholder he represents the international community of university mathematics educators, especially those teaching mathematics as a service subject.
4. **Mette Mo Jakobsen:** Is Senior Advisor with the Norwegian Association of Higher Education Institutions (UHR). Her areas of responsibilities include: UHR-MNT- the National Academic Unit for the STEM field (UHR-MNT), a unit of UHR, which aims to strengthen higher education, research, development work and innovation in mathematical, science and

technology subjects. The unit shall, on its own initiative or at the request of member institutions, from the subcommittees MNT education, MNT disciplines and MNT publishing, or other UHR bodies, provide advice on overall academic and professional policy issues of interdisciplinary or inter-professional nature and other issues of mutual interest. UHR-MNT replaces the two former bodies: National Council for Technological Education (NRT) and the National Faculty Meeting for Natural Sciences (NFmR). Further she is leader of different projects within the STEM-field, e.g. the MNT-conference. Her background is PhD within Integrated Product Development, Production- and Quality Engineering. As a stakeholder she can tell about the importance of MatRIC and the other four centres of excellence in education (bioCEED, EXCITE, ENGAGE & CCSE) that make a contribution to STEM education in Norwegian universities and university colleges.

5. **Ragnhild Johanne Rensaa:** Is Vice Dean of Education and Professor of Mathematics in the Department of Electrical Engineering at UiT, The Arctic University of Norway, Narvik Campus. Following research publications in mathematics more recently she has published in areas related to the mathematical education of engineering students. She has received MatRIC grants for research to explore the development of mathematical videos that support conceptual learning, She has presented the projects funded by these grants at MatRIC events. She is a member of the MatRIC conference programme committee, and she is co-supervisor of a MatRIC PhD fellow. As a stakeholder she will provide a department/faculty leader perspective of the value and impact of MatRIC actions.
6. **Margrethe Wold** Is a recent appointment as Associate Professor and physics and mathematics teacher at the UiA, Grimstad campus in the Department of Engineering Sciences. Her PhD is in Astrophysics. She has participated in the MatRIC 'induction course'. She has also been involved with the student group who are developing a web-based learning platform for programming. As a stakeholder she will represent the views of mathematics teachers near the beginning of their careers and how MatRIC can support teachers in career progression.

### 12.00 – 13.00 Meeting with staff

We would like to meet 6-8 staff members, some of whom are directly involved in the centre. This could include teaching staff, technical staff and supporting staff. Teaching staff not directly involved should also be included.

1. **Lillian Egelandsaa** MatRIC Project Manager, see profile above.
2. **Morten Brekke:** Coordinator of two MatRIC networks – Computer Aided Assessment, and Video. His scientific background is in the field of astrophysics. He teaches mathematics on the electronics engineering course and has been responsible for radical and effective innovation in the teaching and learning approach taken. He has developed the use of CAA and video in his own teaching and is a leading exponent of these tools within university level mathematics education in Norway. He was also part of the editorial group that shaped MatRIC TV.
3. **Anne Berit Fuglestad:** Is leader of the MatRIC Drop-in support centre in Kristiansand (20% full-time position), she is Professor of Mathematics Education and leader of the Mathematics Education PhD programme at UiA. Her research is within the areas of mathematics teaching development and the use of ICT in teaching and learning mathematics.
4. **Claire V. Berg:** Is coordinator of the Teacher Education Network (20% full-time position). She is Associate Professor in the Department of Mathematical Sciences in Kristiansand. Her research interests lie within inquiry based mathematics education.

5. **Thomas Gjesteland:** Is Associate Professor in the Department of Engineering Sciences on the Grimstad campus, UiA. He teaches mathematics and Physics to engineering students. His research lies within the field of geophysics. He participated in the first MatRIC induction course, he has received a MatRIC grant to develop the teaching approach for mathematical modelling in the Physics lab. Element of a first year course. He is working within the MatRIC group to develop the competence of student teaching assistants who are engaged to support mathematics courses.
6. **Said Hadjerrouit:** Is Professor of Informatics Education and Mathematics Education, employed within the Department of Mathematical Sciences on the UiA Kristiansand Campus. He has worked closely with the coordinator of the Simulation and visualization network to explore how a digital tool, developed for engineering students, transfers to a mathematics teacher education context. He has received MatRIC grants to support him in this study.
7. **Kirsten Bjørkestøl:** Is Associate Professor in the Department of Mathematical Sciences at UiA Kristiansand campus. She is a statistician and has long experience teaching undergraduate courses at UiA. She also works some hours each week providing mathematics support within the Kristiansand MatRIC Drop-in. Recently, sponsored by MatRIC, she joined colleagues from the UiA Business School on a fact-finding tour to institutions in Sweden and Denmark to explore alternative approaches to teaching mathematics to economics students.

#### 14.15 – 15.45 Meeting with senior institutional managers, centre leader and key team members

A maximum of 8 people.

1. **Frank Reichert:** Vice Chancellor, University of Agder, Professor in mobile systems.
2. **Astrid Birgitte Eggen:** Assistant Vice-Chancellor (Education) See profile above
3. **Duncan Lawson:** Pro-Vice-Chancellor for Formative Education Newman University, Birmingham UK. Member of MatRIC's Advisory Board. Professor of Mathematics. He makes a very significant contribution in guiding the development of MatRIC. He has extensive relevant experience, in developing and leading a centre for excellence in the UK, **sigma**, and the development of the centre for excellence programme in Norway. His knowledge of the challenges of leading university level mathematics teaching and learning development, international and Norwegian contexts and advances in knowledge provides an invaluable resource for MatRIC. He will join the meeting via video link.
4. **Michael Rygaard Hansen:** Is Dean of the Faculty of Engineering and Science. He is Professor of Engineering.
5. **Magne Aasheim Knudsen:** Faculty Director for Engineering and Science.
6. **Elna Svege:** Head of Department of Mathematical Sciences.
7. **Frode Rønning:** Professor of Mathematics and Mathematics Education at Norwegian University of Science and Technology (NTNU). He is a member of MatRIC's Management Board. NTNU is a collaborating partner in MatRIC. He shares in leading several MatRIC actions such as the 'induction teaching course', symposia at the Nordic mathematics education conference. He is one of the designated MatRIC Ambassadors. He will join the meeting via video link.
8. **Simon Goodchild:** MatRIC Director, see profile above