

## Curriculum vitae, Cand. Scient. (Ms. Sc.) Ph.D. Mette Andresen

Title Associate Professor (Førsteamanuensis) in Mathematics/Mathematics Education at University of Bergen, Norway

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### Education and qualifications:

2016 Course in supervision of research ('Universitetspedagogik, Forskningsvejledning'), UiB, 5 ECTS

2011 Approved competence as associate professor in Mathematics Education at University of Agder, University of Bergen and Stockholm University

2007 Approved competence as associate professor in Mathematics Education at University of Copenhagen (KU) and at Danish University of Education (DPU)

2006 The course 'Learning and Teaching in Higher Education' ('Adjunktpædagogikum'), DPU 5 ECST

2006 Ph.d.in mathematics education, Learning Lab Denmark (LLD), DPU. Thesis: 'Taking advantage of computer use for increased flexibility of mathematical conceptions'. Supervisor: Ass. Prof. Morten Blomhøj, Roskilde University

2002 Approved as senior lecturer in teacher education ('Seminarielektor') at Blaagaard Academy of Teacher training

1994 Professional postgraduate teacher training for upper secondary school teachers ('Gymnasie pædagogikum') in mathematics and chemistry

1993 Cand. Scient. (Ms.Sc.) from KU. Major: Mathematics, minor: Chemistry

### Work:

June 2011 - Associate Professor in Mathematics/Mathematics Education at University of Bergen, Norway

Sep 2011 – Aug 2012 Scientific consultant at Centre for Science Education (CSE), Århus University, Denmark (20%)

Jan 2008 - March 2011 Director of NAVIMAT (National Knowledge Centre of Mathematics Education), hosted by University College Capital (UCC), Copenhagen, Denmark

- Aug 2005 - Dec 2007 Assistant Professor in Mathematics Education, DPU.
- Aug 2002 - July 2005 Ph.d.- student, and project manager Learning Lab Denmark (LLD), DPU, Copenhagen, Denmark.
- 2001 - 2005 National external examiner in mathematics teacher education, Denmark
- Aug 2000 - Aug 2002 Junior lecturer ('Seminarieadjunkt'), in mathematics at college of teacher education, 'Blaagaard Statsseminarium' in Copenhagen, Denmark (on leave from Avedøre Gymnasium)
- 1997 - 2002 National external examiner in written mathematics at HF, Denmark
- 1993 - 2002 Junior lecturer ('Gymnasiaadjunkt') in mathematics and chemistry in upper secondary school, at Avedøre Gymnasium.

### **Management etc.:**

- Aug 2016 – Dec 2018 Chair of the program board for lecturer education, University of Bergen (20% time)
- Jun 2014 – May 2017 Chair of the board of Nordic Society for Research in Mathematics Education (NoRME) <http://www.norme.me/>
- Jan 2008 - Mar 2011 Director of NAVIMAT, in a full time position at UCC as a chief consultant (Danish: 'chefkonsulent'). NAVIMAT was a project financed by the Danish Ministry of Education (DME), running from 1 January 2008 to 31 December 2010 (continued to 31 March 2011). NAVIMAT had 5 - 6 full-time equivalents employees beside the director with a total budget of about 13 mill. DKK (2 mill. EURO). The obligations encompassed
- Subject management of NAVIMAT's activities
  - Financial management of NAVIMAT
  - Project development and organization across the institutional borders of the UC's
  - Knowledge dissemination and knowledge distribution
  - Participation in concrete projects and other activities financed by external partners
    - Contact with NAVIMAT's collaboration partners
- Jan 2009 – Aug 2012 Director of Danish GeoGebra Institute, member of International GeoGebra Institutes <http://www.geogebra.org/cms/institutes>

### **Selected projects:**

- 2018 – 2020 Participant (10% time) in ARGUMENT, funded by the Research Council of Norway:  
<https://www.forskningsradet.no/prosjektbanken/#/project/NFR/275835/Sprak=en>
- 2015 – 2016 Co-applicant and Norwegian manager and partner in the EEA project 'Improving Quality of Higher Education Based on Development of Multilateral Institutional Cooperation' <http://eeagrants.org/project-portal/project/SK06-0007>

- 2013 – 2015 Co-applican and Norwegian manager and partner of the Comenius project KeyCoMath <http://keycomath.eu> regarded as a 'Success story' by the Directorate-General for Education and Culture of the European Commission, see: <http://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details-page/?nodeRef=workspace://SpacesStore/40375d43-3c22-48f9-bd77-e50bd9dfa461>
- 2009 – 2018 Co-applicant and Danish project manager of Nordic GeoGebra Network and its continuation, funded by NordPlus Horizontal <://nordic.geogebra.no/home>
- 2010 – 2013 Partner and manager of the Danish TC2 in the EU 7<sup>th</sup> FP project Fibonacci <http://fibonacciproject.eu>
- 2010 – 2013 Member of the International Consultancy Panel in the EU 7<sup>th</sup> FP project PRIMAS <http://www.primas-project.eu/en/index.do>
- 2008 - 2009 Manager and participant in the evaluation of 'Matematiksatsningen' for the Swedish National Agency for Education ( 'Skolverket').
- 2006 - 2007 Expert consultant and researcher in the European Leonardo da Vinci project: '*MariComp. Developing the Competencies of Maritime Lecturers*'. Project manager: M. Hundahl, SIMAC. The research encompassed the design of a web based quantitative analysis of data from 260 respondents in 6 countries
- 2002 - 2005 Manager and participant in the project 'Lærere i bevægelse' (teachers in move) at LLD. The project developed and tried out a model for professional development for math, science and technology teachers based on reflections-portfolios. Funded by the Danish Government via 'Efteruddannelsesudvalg for Længerevarende Uddannede' (ELU).
- 2003 - 2004 Planning and execution of the evaluation of 'Genombrottet' (The Breakthrough), a professional development project for assistant and associate professors at the Lund Institute of Technology (LTH), finances by LTH. See: <http://www.lth.se/genombrottet/>
- 2000 – 2002 Local project leader of the 'Papert-project', which was a collaboration project on constructionistic learning partly financed by the Novo-Nordisk Foundation. The collaboration partners were three other, Danish teacher education institutions (Odense Seminarium, Skive Seminarium and Zahle Seminarium), and Proff. Seymour Papert, MIT, was attached as a consultant for the project.
- 2000 - 2007 Research into, and evaluation of the projects 'World Class Math and Science' I and II subproject A, and 'Danish Science Gymnasiums', subproject 'CAS and ICT in mathematics teaching' <http://www.matnatverdensklasse.dk/>

## **Selected recent publications (2009 – 2018):**

### **Articles in journals, peer reviewed (7):**

Andresen, Mette Susanne; Søndergaard, Bettina Dahl. (2018). Medrivende dialog som fransk fletning (Captivating dialogue as a French braid). In *Tangenten: Tidsskrift for matematikk i grundskolen* 2018 ;Volum 3. s. 39-47

- Andresen, M. (2015). Meningsfuld begynderundervisning i matematisk analyse (Meaningfull introduction to calculus). In *Uniped 4-2015* ISSN 1893-8981 pp 353 – 362.

- Andresen, M. (2015). Students' creativity in problem solving. In *Acta Mathematica Nitriensia*. 2015 vol 1. ISSN 2453-6091 10 pages.

- Andresen, M. (2015). Glimt af kreativitet I problemløsning (Glimpses of creativity in problem solving). In *Tangenten: Tidsskrift for matematikk i grundskolen* 2015 vol. 2. ISSN 0802-8192. 6 pages.

- Andresen, M. (2014). Development of the project: visualisations of transformations. In *The Electronic Journal of Mathematics & Technology* 2014 ;Volum 2.(1) ISSN 1933-2823 (electronic) and in *Research Journal of Mathematics and Technology* ISSN 2163-0380 (print) (June 2014) 17 pages

- Andresen, M. and Misfeldt, M. (2011). Essentials of teacher training sessions with GeoGebra. In *The International Journal for Technology in Mathematics Education (IJTME)* Vol 17. Num. 4. ISSN: 1744-2710 pp 169-176

- Andresen, M. and Lindenskov, L. (2009). New roles for mathematics in multidisciplinary, upper secondary school projects. In: *ZDM. The international Journal of Mathematics Education*. 41:213-222 Springer, Berlin. ISSN 1863-9690 (Print) 1863-9704 (Online) 10.1007/s11858-008-0122-z

### **Chapters in academic books and conference proceedings, peer reviewed (14):**

- Andresen, Mette Susanne. (2018). In the case of jeopardising the learning outcomes – could we have known better? In proceedings of Madif11 2018-01-24 IN PRINT

- Andresen, M. (2018). Glimpses of students' Mathematical creativity, which occurred during a study of students' strategies for problem solving in upper secondary mathematics classes. In P. Błaszczuk (ed.): *Mathematical Transgressions 2015*. Krakow: Universitas 2018 ISBN 97883-242-3196-6. s. 167-178

- Andresen, M. and Dahl Søndergaard, B. (2018). Classroom dialogue as a french braid: A case study from trigonometry. In Bergquist, E.; Österholm, M.; Granberg, C. and Sumpter, L. (eds.). *Proceedings of the 42nd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 3). Umeå, Sweden: International Group for the psychology of Mathematics Education 2018 ISBN 978-91-7601-904-7. 8 pages

- Andresen, M., Bjoernestad, A. and Lahn – Johannesen, M. (2016). Best experiences with implementing student active methods: results and challenges, ideas and tasks. In Ceretková, S. (ed.). *Staircase to even more interesting mathematics teaching*. Pp. 9 – 66. Constantine the Philosopher University in Nitra, Slovakia. ISBN 978-80-558-0973-1

- Andresen, M. (2015). Students' strategies for modelling a Ferris wheel. Two upper secondary students using GeoGebra. In Silfverberg, Harry; Kärki, Tomi; Hannula, Markku S. (eds.) *Nordic Research in Mathematics Education: Proceedings of NORMA14*, The Finnish Research Association for Subject Didactics University of Turku. ISBN 978-952-5993-17-2, pp 247-257

- Andresen, M. (2013). European Aims to Stimulate Inquiry in School Mathematics. In: *Nordic research in didactics of mathematics: Past, present and future*. Cappelen Damm Akademisk 2013 ISBN 978-82-02-39348-9. s. 41-60

- Andresen, M., & Misfeldt, M. (2012). Scenario based teaching and a new representational competence. In Guðný Helga Gunnarsdóttir et.al.(eds.) *Proceedings of NORMA11*, The sixth Nordic Conference on Mathematics Education. ISBN: 978-9979-54-965-9 pp137 – 146

- Andresen, M. (2011). Forsknings- og udviklingsprojekter i læreruddannelsen i matematik (Research – and development projects in mathematics teacher education). Christiansen, F. V., Horst, S., Holm, C. and Bagger Laursen, K. (eds.) *Forskningsbaseret undervisning – realiteter og potentialer*. (Researchbased teaching - reality and potentials). Proceedings from Conference on research based teaching (<http://www.ind.ku.dk/majkonference/>). Pp. 107 - 119. Copenhagen University.IND's skriftserie nr. 21/2011. ISSN: 1602-2149 pp107 - 118

- Andresen, M. and Petersen, A. (2011). Modelling chemical equilibrium in school mathematics with technology. In Kaiser, G. Blum, W.; Borromeo Ferri, R.; Stillman, G. (Eds.) *Trends in Teaching and Learning of Mathematical Modelling*. Germany. Springer. ISBN 978-94-007-0909-6, Hardcover (Pp. 519 – 528). Online:

<http://dx.doi.org/10.1007/978-94-007-0910-2>

- Drijvers, P., Kieran, C., Mariotti, M., with Ainley, J., Andresen, M., Chan, Y. C., Dana-Picard, T., Guedet, G., Kidron, I., Leung, A. and Meagher, M. (2010). Integrating technology into mathematics education: Theoretical perspectives. In: Hoyles, C. and Lagrange, J.-B. (eds.). *Mathematics Education and technology - rethinking the terrain. The 17th ICMI study*. Springer. ISBN 978-1-4419-0145-3 (Pp. 89-132)
- Lindenskov, L. and Andresen, M. (2010). Recent developments in school mathematics' roles and relations. In: Sriraman, B., Bergsten, C., Goodchild, S., Palsdottir, G., Søndergaard, B., and Haapasalo, L. (eds.). *The sourcebook on Nordic research in mathematics education* Information age Publishing (IAP). ISBN: 978-1-61735-098-6 (Pp. 583-598)
- Andresen, M. and Misfeldt, M. (2009). Teachers' dealing with technology-enhanced mathematics in teaching practice. In: Yang, Mei-Chi, Majewski, M., Alwis, T. d., and Cao, Y. (eds.) *A journey to discover more mathematics – Proceedings of the fourteenth Asian Technology Conference in Mathematics*, 17.-21. dec 2009. Beijing Normal University, Beijing, China. ISBN 978-0-9821164-2-5 (print) 1940-4204 (online). Pp 286-295
- Andresen, M. (2009). Teaching to reinforce the bonds between modelling and reflecting. In Blomhøj, M. & S. Carreira, (eds.). *Different perspectives on research in teaching and learning mathematical modelling*. Proceeding from Topic Study Group 21 at ICME-11 in Monterrey, Mexico. IMFUFA-text no. 461, Department of science, systems and models, Roskilde University. ISSN 0106-6242 pp 73-85.
- Andresen, M. (2009). What roles can modeling play in multidisciplinary teaching. Presented in Working Group 11: Applications and modeling. In *proceedings from CERME VI*, 28.jan. – 2. feb. 2009 Lyon, France <http://www.inrp.fr/editions/editions-electroniques/cerme6/>

#### **Chapters in books, not peer reviewed (2):**

- Andresen, M. (2011). Små sandsynligheder (Tiny probabilities). In: Andresen, M. (ed.) *Levende matematik i flerfaglige sammenhænge* (Living mathematics with multi-disciplinary connections). Pp. 438 - 518. Copenhagen, NAVIMAT. ISBN 879239705-0
- Andresen, M. (2011). Didaktisk viden genereret i NAVIMAT? (Knowledge about education generated in NAVIMAT). In: Andresen, M. (ed.). *Viden om lærere - lærerviden*. (Knowledge about teachers - teachers' knowledge). Pp. 214 - 231. Copenhagen, NAVIMAT ISBN 879239706-9.

#### **Academic books (3):**

- Andresen, M. and Brun, T. (2015). *Matematisk kreativitet i problemløsning. Presentasjon av forskningsprosjektet "Elevstrategier"* (Mathematical creativity in problem solving. Presentation of the research project «Students' strategies») 69 pages University of Bergen, ISBN 978829216050-3.
- Andresen, M. (ed.) (2011). *Viden om lærere - lærerviden*. (Knowledge about teachers - teachers' knowledge). 230 pages. Copenhagen, NAVIMAT ISBN 879239706-9.
- Andresen, M. (ed.) (2011). *Levende matematik i flerfaglige sammenhænge* (Living mathematics with multi-disciplinary connections). 533 pages. Copenhagen, NAVIMAT ISBN 879239705-0.

#### **Academic reports, not peer reviewed (1):**

- Henriksen, B. and Andresen, M. (2010). *Effective, long-range developments – evaluation of a national initiative - report on the Mathematics Project, 2006 – 2008*. <http://www.skolverket.se/sb/d/2129/a/11992> 49 pages. Copenhagen. NAVIMAT ISBN: 978-87-91786-00-6