

CURRICULUM VITAE FOR ANNETTE LYKKNES



Date of birth: 31.10.1974

Position: Full professor, Norwegian University of Science and Technology (NTNU)

Nationality: Norwegian

Phone: (+47) 73590496 (office) / (+47) 48031517 (mobile)

I am chair of the research group ScienceHumanities (SHRG) at Department of Teacher Education at NTNU. SHRG is a cross-disciplinary group of researchers brought together by shared interest in working across knowledge boundaries. SHRG is dedicated to innovative research that explores the intersections of science education and the humanities, including literature, history, and other artistic practices. To this end, we apply perspectives from the humanities and the social sciences to the study of natural science (including science in school) as a discipline and cultural practice, past and present. Another area of our work is innovative projects to develop new research-based teaching resources for education. Sub-projects include NOS Essentials: History and Philosophy of Science Meets Science Teaching, Science and Children's Literature, Drawing to Learn in Science, Disciplinary Teaching and Learning in Chemistry and Physics.

I consider myself to be an interdisciplinary scholar. Over the course of my academic career, I have collaborated extensively with chemists and other natural scientists as well as with educators within these fields, with historians, philosophers and sociologists of science, with pedagogy scholars and with researchers of the Norwegian language, and with a political scientist. The result of this is a foot in different fields and a knowledge of quite distinct research methods and theoretical perspectives, which I consider a strength. My core areas are the history of 20th century chemistry, the history of women in science, nature of science in science teaching.

Education

- 2005: PhD in chemistry education/history of chemistry, Department of chemistry, NTNU, including two semesters at Department for the history of science/Department for the history of the exact sciences, Aarhus University, Denmark.
- 1999: Teacher certificate ("Praktisk-pedagogisk utdanning") in chemistry and mathematics, NTNU
- 1998: Cand.scient. degree (MSc) in chemistry education, NTNU
- 1996: Cand.mag. degree (BSc) in chemistry (major) and mathematics (minor), NTNU

Work experience

2018-present: Full professor, Department of teacher education, NTNU.

Sabbaticals at Katholieke Universiteit Leuven, Faculty of Arts, Research group Cultural history since 1750 (August-October 2018, March 2019), Université de Nantes, Faculté des Sciences et Techniques, Laboratoire François Viète (June-July 2019), Freudenthal Institute, Utrecht University (September 2024, January and June 2025), and Center for the History of Science, Royal Swedish Academy of Sciences, Stockholm (November-December 2024, March-June 2025).

2013–2018: Associate professor, Department of teacher education (until 2017 Programme for teacher education), NTNU

2007–2013: Associate professor, Department of chemistry, NTNU.

Short-term visiting scholar at the Chemical Heritage Foundation, Philadelphia, USA (January 2008)

2005–2007: Associate professor, Faculty of teacher and interpreter education, Sør-Trøndelag University College (HiST)

2004–2005: Part-time participant in project on the collection and registration of historical instruments and equipment at Department of chemistry, NTNU

2004: Lecturer, chemistry education course, Department of chemistry, NTNU

2000–2005: Research fellow (PhD student), Department of chemistry, NTNU.

Two periods as visiting scholar at Department of History of Science, Aarhus University (3 months in 2002, 6 months in 2004)

1998–2000: Mathematics and science teacher, two upper secondary schools in Trøndelag county (Tiller videregående skole, Gauldal videregående skole)

1998–1999: Secretary (5 % position), Sør-Trøndelag Kristelig Folkepartis Ungdom (Youth party of the Norwegian Christian democratic party in Trøndelag county)

1994–1997: Summer job, Scanox A/S (varnish factory), Oslo

1995: Laboratory assistant (part-time), inorganic chemistry, Department of chemistry, NTNU

Supervision

Since 2009 I have successfully supervised 22 master students and three PhD students. I have currently five PhD students under supervision.

Committees, boards, scholarly commissions

2018- **Chair**, ScienceHumanities research group at Department of Teacher Education, NTNU

Councils and boards:

- 2025- Member of Three-member Review Committee for Respectful Behaviour, International Union of History & philosophy of Science and Technology (IUHPST)
- 2023 Grants and Awards Officer for Society for the History of Alchemy and Chemistry (SHAC) (member of Council since 2022)
- 2023- **Chair** of the Norwegian Association for the History of Science (NVF)
- 2022- National member of Committee on Chemistry Education (CCE) under International Union of Pure and Applied Chemistry (IUPAC)
- 2021- **Chair**, Division of History of Chemistry [formerly, Working Party on the History of Chemistry, Vice-chair 2011-2019, Chair-elect 2019-2021, Webmaster 2005-2019]
- 2020–.....: **Chair**, History of chemistry group, Norwegian Chemical Society [Secretary 2004-2019]
- 2017-2022 Member of International Advisory Board, Center for History of Science, Royal Swedish Academy of Sciences, Stockholm
- 2009–2013: Board member, Commission Women in Science, International Union for the History and Philosophy of Science, Technology and Medicine

Awards and event committees:

- 2021-2023 Judge for the Morris Award for Outstanding Achievement in the History of Modern Chemistry or the History of Chemical Industry, Society for the History of Alchemy and Chemistry (SHAC)
- 2020 Judge for Nature Research Awards for Inspiring and Innovating Science – Science Outreach Category
- 2020-2021: Member of the American Chemical Society HIST Award Committee
- 2013–2014: Member of national committee, celebration of the 150th anniversary of Cato Guldberg and Peter Waage's law of mass action

Chair of Organizing Committees:

- 2022- 2023 Chair of the programme committee and the local organizing committee for the 9th Norwegian Conference on History of Science
- 2015–2017: Main organizer and member of international programme committee of the 11th international conference on history of chemistry (11ICHC) in Trondheim, August–September 2017

Editorial experience:

- 2026- In-coming Editor-in-Chief of *Ambix* (Journal of the Society for the History of Alchemy and Chemistry, SHAC)
- 2022-2025 Guest editor for special issue of *Centaurus*
- 2020- Editorial board member, J-STEM: Journal of Research in STEM Education
- 2020-2022 Guest editor for special issue of *Ambix*
- 2019- : Series editor (with Brigitte Van Tiggelen) of *Analysis. Historical Cases in Chemistry* from World Scientific
- 2019- Topic Editor, History of Chemistry for *ChemTexts* (Springer-Nature)
- 2018-2019 Guest editor for special issue of *Centaurus*
- 2018-2019 Guest editor for special issue of *Substantia*

(And editor of two published and two forthcoming collective volumes)

Selected publications

Books, collective volumes and special issues

(in preparation) **Annette Lykknes**, Thomas Brandt, Mattias Bäckström, Magne Brekke Rabben (guest editors). “Academic Workspaces as Sites of Production, Adaptation and Circulation of Knowledge” Special issue of *Centaurus*

(in press) **Annette Lykknes**, Ragnhild Lyngved Staberg and Niklas Gericke (editors). “Kritisk tenkning i grunnskolen” [Critical thinking in primary and lower secondary school] (Fagbokforlaget)

(in press) **Brigitte Van Tiggelen** and **Annette Lykknes** (editors). *Discovering Elements. No Simple Stories* (World Scientific)

Annette Lykknes, Elena Serrano, Joris Mercelius (guest editors). “‘I am not a Lady, I am a Scientist’. Chemistry, women and gender in the Enlightenment and the era of professional science”, *Ambix* 69(3) (2022).

Annette Lykknes, Elena Serrano, Joris Mercelius (guest editors). “‘I am not a Lady, I am a Scientist’. Chemistry, women and gender in the Enlightenment and the era of professional science”, *Ambix* 69(3) (2022).

Unni Eikeseth and **Annette Lykknes**. *Periodesystemet: Fra alkymi til kjernekjemi* (Museumsforlaget, 2019). [Shortlisted for the NTNU Literature Award 2020]

Brigitte Van Tiggelen, **Annette Lykknes** and Luis Moreno Martínez (guest editors). “The Periodic System: A History of Shaping and Sharing”, *Substantia* 3(2) Suppl. 4 (2019)

Annette Lykknes and Brigitte Van Tiggelen (guest editors). “The Periodic System: The (Multiple) Values of an Icon”, *Centaurus* 61(4) (2019)

Annette Lykknes and Brigitte Van Tiggelen (eds.). *Women in their Element: Selected Women’s Contributions to the Periodic System* (Singapore: World Scientific, 2019). <https://doi.org/10.1142/11442>

Annette Lykknes and Joakim Ziegler Gusland. *Akademi og industri: Kjemiutdanning og –forskning ved NTNU gjennom 100 år* (Bergen: Fagbokforlaget, 2015) [100 years of chemistry teaching and research at NTNU].

Annette Lykknes, Donald L. Opitz and Brigitte Van Tiggelen (eds.). *For Better or For Worse. Collaborative Couples in the Sciences* (Basel: Birkhäuser Verlag, Science Networks. Historical Studies, Vol. 44, 2012).

Refereed articles

Thomas Brandt, Mattias Bäckström, **Annette Lykknes** and Magne Brekke Rabben. «Academic Workspaces as Sites of Production, Adaptation, and Circulation of Knowledge: Introduction». *Centaurus* (accepted for publication).

Magne Brekke Rabben and **Annette Lykknes**. «Professional Identities on Display: Materiality, Spatiality and the Professors' Changing Role and Identity as Seen Through Photographs of Academic Offices in Trondheim». *Centaurus* (accepted for publication).

Sonia Martins Felix, Marthe Lønnum, **Annette Lykknes** and Ragnhild Lyngved Staberg. "Teachers' Understanding of and Practices in Critical Thinking in the Context of Education for Sustainable Development: A Systematic Review". *Education Sciences* 15(7) (2025), 824. <https://doi.org/10.3390/educsci15070824>

Tove Grete Lie, **Annette Lykknes** and Marthe Lønnum. «Norwegian primary school teachers' understanding of, and experiences with, source criticism». *Education 3-13* (2025), 1-15. <https://doi.org/10.1080/03004279.2025.2517165>

Helen S. Palmer, Sophia Efstathiou and **Annette Lykknes**. «Towards more culturally aware teaching of 'scientific practices': Understanding science as a social-historical human endeavour». *NorDiNa* 20(2) (2024), 229–246.

Ehtegebreale Aregehagn, **Annette Lykknes**, Dawit Asrat Getahun and Maria I. M. Febri. Representation of Image Formation–Observation in Optics in Ethiopian Textbooks: Student Learning Difficulties as an Analytical Tool. *Education Sciences* 13 (2023), 445. <https://doi.org/10.3390/educsci13050445>

Annette Lykknes. Fighting for Modern Teaching and Research Laboratories in Norway: The Chemistry Laboratory in Political Dispute around 1920. In: Klaas van Berkel and Ernst Homburg (eds.), *The Laboratory Revolution and the Creation of the Modern University, 1830–1940*. Amsterdam: Amsterdam University Press, 2023, pp. 179–202.

Madelene Losvik Berntsen, Camilla Berge Vik and **Annette Lykknes**. Let them *research with*. Using history of science to teach upper-secondary chemistry students about the nature of science. *Science & Education* 2023. <https://doi.org/10.1007/s11191-023-00426-7>

Ehtegebreale Aregehagn, **Annette Lykknes**, Maria I. M. Febri and Mengesha Ayene. The Transformative Effects of Guided Inquiry-based Learning on Scientific Knowledge of Vision. *African Journal of Research in Mathematics, Science and Technology Education* 2022. <https://www.tandfonline.com/doi/full/10.1080/18117295.2022.2135294>

Sonia Martins Felix, **Annette Lykknes** and Ragnhild Lyngved Staberg. Identifying the 'Different we's' in Primary Teachers' Education for Sustainable Development Discourse – A Positioning Theory Perspective. *Sustainability* 14 (2022), 13444 <https://www.mdpi.com/2071-1050/14/20/13444>

Mirtachew T. Ali and **Annette Lykknes**. In-service chemistry teachers' reflections on and experiences with supervised laboratory instruction in Ethiopia. *African Journal of Chemistry Education* 12(2) (2022), 60–95.

Annette Lykknes. Enabling circumstances: Women Chemical Engineers at the Norwegian Institute of Technology, 1910–1943. *Ambix* 69(3) (2022), 262–290.

Elena Serrano, Joris Mercelis and **Annette Lykknes**. "I am not a Lady, I am a Scientist". Chemistry, women and gender in the Enlightenment and the era of professional science: Introduction", *Ambix* 69(3) (2022), 203–220.

Brigitte Van Tiggelen and **Annette Lykknes**. A Seat at the Table: Women and the Periodic System. In: *The Palgrave Handbook of Women and Science since 1660* (Palgrave Macmillan, 2022), pp. 355–378.

Annette Lykknes. The Chemistry Professor as Consultant at the Norwegian Institute of Technology, 1910–1930. *Ambix* 67(3) (2020), 271–288. <https://doi.org/10.1080/00026980.2020.1794697>

Luis Moreno Martínez and **Annette Lykknes**. The Periodic System and the Nature of Science: The History of the Periodic System in Spanish and Norwegian Secondary School Textbooks. *Substantia* 3(2) Suppl. 4 (2019), 61–74. <https://doi.org/10.13128/Substantia-737>

Brigitte Van Tiggelen, **Annette Lykknes** and Luis Moreno-Martinez. The Periodic System History of Shaping and Sharing. *Substantia* 3(2) Suppl. 4 (2019), 9–12. <https://doi.org/10.13128/Substantia-301>

Annette Lykknes and Brigitte Van Tiggelen. The Periodic System: The (Multiple) Values of an Icon. *Centaurus* 61(4) (2019), 287–298. <https://doi.org/10.1111/1600-0498.12246>

Brigitte Van Tiggelen and **Annette Lykknes**. A Tale of Resilience: The Periodic Table after Radioactivity and the Discovery of the Neutron. *Centaurus* 61(4) (2019), 345–359. <https://doi.org/10.1111/1600-0498.12245>

Annette Lykknes. Sonja Smith-Meyer-Hoel – Chemical Engineer in the Ferrosilicon and Aluminium Industry in Norway. In: *Women in their Element: Selected Women's Contributions to the Periodic System* (World Scientific, 2019), pp. 405–414. doi: 10.1142/9789811206290_0032

Annette Lykknes. Ellen Gleditsch and Research on Radium, Chlorine and Potassium. In: *Women in their Element: Selected Women's Contributions to the Periodic System* (World Scientific, 2019), pp. 301–312. doi: 10.1142/9789811206290_0022

Brigitte Van Tiggelen and **Annette Lykknes**, Celebrate the Women Behind the Periodic Table. *Nature* 595 (2019), 559–561; doi: 10.1038/d41586-019-00287-7

Kari Tove Elvbakken and **Annette Lykknes**. Relationships Between Academia, State and Industry in the Field of Food and Nutrition: The Norwegian Chemist Sigval Schmidt-Nielsen (1877-1956) and His Professional Roles, 1900—1950. *Centaurus* 58 (2016), 257—280; doi: 10.1111/1600-0498.12138

Gebrekidan Mebrahtu Tesfamariam, **Annette Lykknes** and Lise Kvittingen. 'Named Small but Doing Great': An Investigation of Small-Scale Chemistry Experimentation for Effective Undergraduate Practical Work. *International Journal of Science and Mathematics Education* 2015, DOI 10.1007/s10763-015-9700-z

Annette Lykknes. Ignored, Disregarded, Discarded? On the introduction of the Periodic System in Norwegian Periodicals and Textbooks, c. 1870–1930s. In: Masanori Kaji, Helge Kragh, and Gábor Palló (eds.), *Early Responses to the Periodic System* (Oxford: Oxford University Press, 2015), pp. 191–209.

Gebrekidan Mebrahtu Tesfamariam, **Annette Lykknes** and Lise Kvittingen. Teacher's Perception of the Use of Small-Scale Chemistry Experimentation. In: Ingo Eilks, Silvija Markic og Bernd Ralle (ed.), *Science education research and education for sustainable development* (Aachen: Shaker verlag, 2014), pp. 237–242.

Gebrekidan Mebrahtu Tesfamariam, **Annette Lykknes** and Lise Kvittingen. Small-scale chemistry for a hands-on approach to chemistry practical work in secondary schools: Experiences from Ethiopia. *African Journal of Chemical Education*. Special issue: Lecture in chemistry education (part II), 4 (2014), 48–94.

Donald L. Opitz, **Annette Lykknes**, and Brigitte Van Tiggelen. Introduction. In: Annette Lykknes, Donald L. Opitz, and Brigitte Van Tiggelen (eds.), *For Better or For Worse. Collaborative Couples in the Sciences* (Basel: Birkhäuser Verlag, Science Networks. Historical Studies, Vol. 44, 2012), pp. 1–15.

Brigitte Van Tiggelen and **Annette Lykknes**. Ida and Walter Noddack through Better and Worse: An Arbeitsgemeinschaft in Chemistry. In Annette Lykknes, Donald L. Opitz, and Brigitte Van Tiggelen (eds.), *For Better or For Worse. Collaborative Couples in the Sciences* (Basel: Birkhäuser Verlag, Science Networks. Historical Studies, Vol. 44, 2012), pp. 103–147.

Per-Odd Eggen, Lise Kvittingen, **Annette Lykknes**, and Roland Wittje. Reconstructing Iconic Experiments in Electrochemistry – Experiences from a History of Science Course. *Science & Education* 21(2) (2012), 179–189. doi: 10.1007/s11191-010-9316-1

Annette Lykknes, Lise Kvittingen, and Anne Kristine Børresen. Ellen Gleditsch: Duty and Responsibility in a Research and Teaching Career, 1916–1946. *Historical Studies in the Physical and Biological Sciences* 36 (2005), 131–188.

Annette Lykknes, Lise Kvittingen, and Anne Kristine Børresen. Appreciated abroad, Depreciated at home. The Career of a Radiochemist in Norway: Ellen Gleditsch (1879–1968). *Isis* 95 (2004), 576–609.

Annette Lykknes, Lise Kvittingen, and Anne Kristine Børresen. Struggles and Achievements. Ellen Gleditsch (1879-1968): Norwegian Female Radiochemist. In: Soňa Štrbáňová, Ida Stamhuis and Katařina Mojsejová (eds.). *Women Scholars and Institutions* (Proceedings of the International Conference: Women Scholars and Institutions, Prague, June 8-11, 2003, Commission Women in Science of the IUHPS/DHS), Special issue of *Studies in the History of Sciences and Humanities* 13 (2004), 693–725.

Annette Lykknes, Helge Kragh, and Lise Kvittingen. Ellen Gleditsch: Pioneer Woman in Radiochemistry. *Physics in Perspective* 6 (2004), 126–155.

Annette Lykknes and Lise Kvittingen. Arsenic: -Not So Evil After All. *Journal of Chemical Education* 80 (2003), 497–500.