

## Curriculum Vitae

### Personal information

Hilde Beate Molvig Kopperud

### Work experience

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2011-present. Head of laboratory at NIOM, Nordic Institute of Dental Materials, Oslo, Norway. Responsible for the laboratory, the quality system (accredited laboratory, ISO/IEC 17025), the technical staff, and material testing & commercial activities. Managing research projects. Part of the institute's management team: research & business development, strategic discussions. Deputy Director.

2003 – 2011. Senior scientist at NIOM. Research on polymer-based biomaterials. Responsible for the chemical activities at the institute. Management and participation in research projects. International standardisation (ISO).

Apr – Sept 2006: Senior scientist at Ignis Display AS, Norway (now poLight). Development of a polymer gel for display technology.

2001 – 2003: Scientist at Photonyx, Norway (now poLight). Responsible for the chemical activities in the development of a polymer gel for electro-optical components

### Education and training

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2022-present. Master of Public Administration (MPA), Norwegian University of Science and Technology.

1994 – 2001. Dr. scient., Department of chemistry, University of Oslo (UiO), Norway. Chemistry of polymers.

1990 – 1994. Cand. scient., Department of chemistry, UiO, Norway.

1988 – 1989. French language, UiO, Norway.

1987 – 1988. French language, Institut Savoien d'Etudes Françaises, Université de Savoie, and Chambre de Commerce et d'Industrie de Paris, France

### Additional information

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#### Publications

42. Jingwei H, Stenhamer ISR, Dragland IS, Kopperud HM. Preparation of a fluorinated dental resin system and its anti-adhesive properties against *S. mutans*. *Dent Mater* 2023; 39(4): 402-9.
41. Hatleberg K, Svahn J, Lundekvam BF, Lundekvam Berge TL, Gjerde K, Kopperud HM, Vindenes H, Björkman L. Allergisk reaksjon i forbindelse med bruk av søvnnapnéskinne. Kasusrapport. *Tannlegeforen Tid*. 2021; 131: 276–9 (Norwegian).
40. \* Wellendorf H, Valen H, Kopperud HM. Fra NIOM: Hvor mye monomer kan lekke fra en protese? *Nor Tannlegeforen Tid* 2021; 131: 62-4 (Norwegian).
39. De Jong WH, Borges T, Ion RM, Panagiotakos D, Testai E, Vermeire T, Bernauer U, Rouselle C, Bégué Sté, Kopperud HM, Milana MR, Schmidt T, Bertolini R, De Voogt P, Duarte-Davidson R, Hoet P, Kraetke R, Proykova A, Samaras T, Scott M, Slama R, Vighi M, Zacharo S. Guidelines on the benefit-risk assessment of the presence of phthalates in certain medical devices covering phthalates which are carcinogenic, mutagenic, toxic to reproduction (CMR) or have endocrine-disrupting (ED) properties (Commentary). *Regul Toxicol Pharmacol* 2020; 111: 104546.
38. Ranjkesh B, Kopperud HM, Kopperud SE, Løvschall H. Bond strength between dentine and a novel fast-setting calcium silicate cement with fluoride. *Eur J Oral Sci* 2019; 127: 564-9.
37. Dragland IS, Wellendorf H, Kopperud H, Stenhamer I, Valen H. Investigation on the antimicrobial activity of chitosan-modified zinc oxide-eugenol cement. *Biomaterial Investigations in Dentistry* 2019; 6(1): 99-106.
36. Stenhamer ISR, Rukke HV, Dragland IS, Kopperud HM. Effect of methacrylated

- chitosan incorporated in experimental composite and adhesive on mechanical properties and biofilm formation. *Eur J Oral Sci* 2019; 127: 81-88.
35. Becher R, Wellendorf H, Sakhı AK, Samuelsen JT, Thomsen C, Bølling AK, Kopperud HM. Presence and leaching of bisphenol A (BPA) from dental materials. *Acta Biomater Odont Scand* 2018; 4(1): 56–62.
  34. He J, Kopperud HM. Preparation and characterization of Bis-GMA free dental composites with dimethacrylate monomer derived from 9,9-Bis[4-(2-hydroxyethoxy)phenyl]fluorene. *Dent Mater* 2018; 34(7): 1003-13.
  33. Bruzell E, Kopperud HM, Rukke HV. Lysherdning - så enkelt og så vanskelig. In: Holmstrup P (ed.), *Aktuel Nordisk Odontologi* 2018, Oslo, Universitetsforlaget, 2018; 43: 68-77. ISSN 1902-354533 (Norwegian).
  32. \* Kopperud HM. Nytt fra NIOM. Kompositmaterialer - utleking av monomer og cytotoxisitet. *Nor Tannlegeforen Tid* 2017; 127: 882-3 (Norwegian). *Tandläkartidningen* 2018; (1):56-58 (Swedish).
  31. Nguyen LG, Kopperud HM, Øilo M. Water sorption and solubility of polyamide denture base materials. *Acta Biomater Odont Scand* 2017; 3(1): 47-52.
  30. Kopperud SE, Rukke HV, Kopperud HM, Bruzell EM. Light curing procedures – Performance, knowledge level and safety awareness among dentists. *J Dent* 2017; <http://dx.doi.org/10.1016/j.jdent.2017.02.002>
  29. Kopperud HBM, Peutzfeldt A. Komposite materialer – basale egenskaper. *Tandlægebladet* 2016; 120: 984-992 (Danish). *Nor Tannlegeforen Tid* 2016; 116: 848-56 (Norwegian). *Tandläkartidningen* 2017; (4):68-76 (Swedish).
  28. Dragland IS, Valen H, Lönn-Stensrud J, Kopperud HM. Antibacterial and anti-biofilm effect of low viscous chitosan against *Staphylococcus epidermidis*. *Intern J Microbiology*, Volume 2016, Article ID 9159761, 7 pages, <http://dx.doi.org/10.1155/2016/9159761>.
  27. Testai E, Hartemann P, Rodríguez-Farre E, Chandra Rastogi S, Bustos J, Gundert-Remy U, Hensten A, Kopperud HM, Olea N, Piersma A, De Jong W. The safety of the use of bisphenol A in medical devices. *Regul Toxicol Pharmacol* 2016; 79: 106-7.
  26. Nguyen S, Adamczak M, Hiorth M, Smistad G, Kopperud HM. Interactions of liposomes with dental restorative materials. *Colloids Surf B Biointerfaces* 2015; 136: 744–51.
  25. Dragland IS, Kopperud HM. Chitosan — antibakteriell bruk i dentale materialer. In: Holmstrup P (ed.), *Odontologi 2015 - Aktuel Nordisk Odontologi*, København, Munksgaard, 2015; 97-109 (Norwegian).
  24. \* Kopperud HM, Bruzell E. Nytt fra NIOM; Retningslinjer for lysherdning i odontologi. *Nor Tannlegeforen Tidende* 2014; 124: 910 (Norwegian). *Tandläkartidningen* 2014; (15): 58-9 (Swedish).
  23. Kopperud HM, Johnsen GF, Lamolle S, Kleven IS, Wellendorf H, Haugen HJ. Effekt av kort herdetid på kjemiske og mekaniske egenskaper til kompositter. *Nor Tannlegeforen Tid* 2014; 124: 356-62 (Norwegian).
  22. Cornelio RB, Wikant A, Mjøsund H, Kopperud HM, Haasum J, Gedde UW, Örtengren UT. The influence of bis-EMA on the degree of conversion and water sorption and solubility of dental composite materials. *Acta Odont Scand* 2014; 72(6): 440-7.
  21. Lodiené G, Kopperud HM, Ørstavik D, Bruzell EM, Detection of leachables and cytotoxicity after exposure to methacrylate- and epoxy-based root canal sealers in vitro. *Eur J Oral Sci* 2013; 121: 488–96.
  20. Kopperud HM, Johnsen JF, Lamolle T, Kleven IS, Wellendorf H, Haugen HJ. Effect of short LED lamp exposure on wear resistance, residual monomer and degree of conversion for Filtek Z250 and Tetric EvoCeram composites. *Dent Mater* 2013; 29: 824-34.

19. Ansteinsson V, Kopperud HB, Morisbak E, Samuelsen JT. Cell toxicity of methacrylate monomers – the role of glutathione adduct formation. *J Biomed Mater Res: Part A* 2013; 101(12): 3504-10.
18. Cornelio RB, Kopperud HM, Haasum J, Gedde U, Örtengren U. Influence of different mould materials on the degree of conversion of dental composite resins. *Braz J Oral Sci* 2012; 11(4): 469-74.
17. Hautamäki MP, Puska M, Kopperud HM, Aho AJ, Vallittu PK. Surface structure of fiber-reinforced composite implant and its effect on the attachment of implant to simulating bone material, in *Repair of segmental bone defects with fiber-reinforced composite*, PhD Dissertation of Mikko Hautamäki, Turku, Finland, ISBN 978-951-29-5237-3. As well as: "Surface modification of fiber reinforced polymer composites and their attachment to bone simulating material" *J Mater Sci Mater Med* 2013; 24(5): 1145-52.
16. Michelsen VB, Kopperud HM, Lygre GB, Björkman L, Jensen EP, Kleven IS, Svahn J, Ström MB, Lygre H. Detection and quantification of monomers in unstimulated whole saliva after treatment with resin-based composite fillings *in vivo*. *Eur J Oral Sci* 2012; 120: 89-95.
15. von Kageneck JG, Kopperud HM, Kleven IS, Dahl JE. Helserisiko ved bruk av resinforsterket glassionomermaterial til barn. *Nor Tannlegeforen Tid* 2011; 121: 360-3 (Norwegian).
14. Kopperud HBM, Finger WJ, Hørsted-Bindslev P. Moderne tannfargede fyllingsmaterialer. *Nor Tannlegeforen Tid* 2011; 121: 34-9 (Norwegian). *Tandläkartid* 2011; 103: 88-94 (Swedish). *Tandlægebl* 2011; 115: 44-50 (Danish). *Suomen Hammasl* 2011: 34-40 (Finnish).
13. Samuelsen JT, Kopperud HM, Holme J, Dragland I, Christensen T, Dahl JE. Role of thiol-complex formation in 2-hydroxyethyl-methacrylate-induced toxicity *in vitro*. *J Biomed Mater Res: Part A* 2011; 96A: 395-401.
12. Kopperud HM, Kleven IS, Wellendorf H. Identification and quantification of leachable substances from polymer-based orthodontic base-plate materials. *Eur J Orthod* 2011; 33: 26-31.
11. Kopperud HM, Schmidt M, Kleven IS. Elution of substances from a silorane-based dental composite. *Eur J Oral Sci* 2010; 118(1): 100-2.
10. Kopperud HM. Komposita fyllningsmaterial. Art. nr 2008-123-2, Kunskapsdokument från Kunskapscenter för dentala material (KDM), Socialstyrelsen, Stockholm, 2008 (Swedish).
9. Kopperud HM, Derand T. Plastfyllinger og nanoteknologi. In: Holmstrup P, red. *Aktuel nordisk odontologi* 2008. København: Munksgaard Danmark, 2008; 101-10 (Norwegian).
8. \* Dahl JE, Kopperud HM. Spør NIOM - Kompositfyllinger - suksess eller fiasko? *Nor Tannlegeforen Tid* 2008; 118: 40-1 (Norwegian). *Tandlægebladet* 2007; 111(14): 1104-5 (Danish). *Tandläkartidningen* 2008; 100(4); 68-9 (Swedish).
7. Kopperud HM. Polymerbaserte tannfyllingsmaterialer - en undersøkelse av viktige egenskaper. *Nor Tannlegeforen Tid* 2007; 117: 954-60 (Norwegian).
6. Becher R, Kopperud HM, Al RH, Samuelsen JT, Morisbak E, Dahlman HJ, Lilleas EM, Dahl JE. Pattern of cell death after *in vitro* exposure to GDMA, TEGDMA, HEMA and two compomer extracts. *Dent Mater* 2006; 22(7): 630-40.
5. \* Kopperud, HM. Spør NIOM - Hvor holdbare er kompositmaterialene? *Nor Tannlegeforen Tid* 2005; 115: 780-2 (Norwegian). *Tandläkartidningen* 2005; 97(13): 66 (Swedish). *Tandlægebladet* 2005; 109(14): 1148-50 (Danish). *Kysy NIOMilta - Yhdistelmämäuvien kestävyyts*. *Suomen Hammasläkärilehti* 2005; 20: 1198-200 (Finnish).
4. Kopperud HBM, Hansen FK. Surface tension and surface dilatational elasticity of associating hydrophobically modified polyacrylamides in aqueous solutions. *Macromolecules* 2001; 34(16): 5635-43.

3. Kopperud HBM, Walderhaug H, Hansen FK. Polymer self-diffusion and surfactant binding in aqueous solutions of unmodified and hydrophobically modified polyacrylamide studied by pulsed field gradient NMR and surface tension measurements. *Macromol Chem Phys* 1999; 200(8): 1839-45.
2. Ostrovskii D, Jacobsson P, Nyström B, Marstokk O, Kopperud HBM. Raman spectroscopic characterization of association and thermoreversible gelation in aqueous systems of poly(N-acetamidoacrylamide). *Macromolecules* 1999; 32(17): 5552-60.
1. Kopperud HM, Hansen FK, Nyström B. Effect of surfactant and temperature on the rheological properties of aqueous solutions of unmodified and hydrophobically modified polyacrylamide. *Macromol Chem Phys*. 1998; 199(11): 2385-94.

#### Projects

Research within the field of dental materials, in particular polymer-based materials and composites. Leaching, elution, chemical analysis, mechanical properties, material technology, 3D-printing.

#### Memberships

#### Other Relevant Information