

CURRICULUM VITAE

NAME	Øystein Grong
BORN	05-01-1956
NATIONALITY	Norwegian
EDUCATION	MSc. (Siv.ing.) 1979, University of Trondheim, The Norwegian Institute of Technology, Department of Metallurgy. PhD (Dr.ing.) 1983, University of Trondheim, The Norwegian Institute of Technology, Department of Metallurgy.
CURRENT POSITION	Scientific Advisor for HyBond AS and Leader of the HYB Development Project at NTNU.
EMPLOYER	Self-Employed through Professor Grong AS.

PROFESSIONAL EXPERIENCE

1980-1981: Conscripted Researcher at the Norwegian Defence Research Establishment, Kjeller, Norway.

1984-1985: Visiting Research Professor at Colorado School of Mines, Golden, Colorado (USA) and National Institute of Standards and Technology, Boulder, Colorado (USA).

1987-2018: Professor of Metallurgy at the Norwegian University of Science and Technology (NTNU). Appointed in February 1987 by the King of Norway and the Prime Minister.

MAIN RESEARCH FIELDS

Physical modelling of materials problems, with particular emphasis on welding, brazing, casting, industrial heat treatment, extrusion and high-temperature corrosion. **Research-based innovation** related to new process and product developments.

INTERNATIONAL TEXTBOOKS

Ø. Grong: "Metallurgical Modelling of Welding", The Institute of Materials, London, First Edition (1994), Second Edition (1997), 605 pp. This monograph was formerly ranked among the top ten books (best sellers) from the Institute of Materials.

PUBLICATIONS

Total number of publications (300), including textbooks & monographs (2), articles published in international journals with referee (109), chapters and articles published in international books (12), articles published in international conference proceedings (67), technical reports and notes (64), national publications (8), presentations and invited lectures (36), teaching materials (2).

Key figures from Scopus - Document Search: *h*-factor: 35, total number of registrations: 148, total number of citations: 5020.

INTERNATIONAL PATENTS & APPLICATIONS

10 (listed as inventor)

SPIN-OFF COMPANY

HyBond A/S - established in 2007 as a joint venture between Langset AS, NTNU Technology Transfer and SINVENT with the objective of commercialising the hybrid metal extrusion & bonding (HYB) process. From 2020 HyBond A/S has been a subsidiary company of Langset AS.

AWARDS

4 international awards for scientific merits within the fields of joining and thermomechanical processing of metals and alloys, including the prestigious Comfort A. Adams Awards from American Welding Society in 2012. In addition, 1 prestigious national award (NTNUs and SINTEFs Teknologipris 2009) for research-based innovation within the field of aluminium joining technology

CENTRE FOR RESEARCH-BASED INNOVATION (CRI)

2007 - 2013: Principal investigator and a founding member of the former CRI centre “Structural Impact Laboratory” at NTNU/SINTEF.

2015 - 2023: Partner (through HyBond AS) and a founding member of the CRI centre “Manufacturing” at SINTEF/NTNU.

GRADUATE STUDENTS SUPERVISED

MSc (siv.ing.) 74 (graduated)

PhD (dr.ing.) 26 (graduated)

INTERNATIONAL COLLABORATION

Colorado School of Mines, Golden (USA), National Institute of Standards and Technology, Boulder (USA), Oak Ridge National Laboratory (USA), University of Cambridge (UK), Universität der Bundeswehr, Hamburg (Germany), Graz University of Technology (Austria), Katholieke Universiteit Leuven (Belgium), University of Grenoble (France), The Royal Institute of Technology (Sweden), Montana Tech (USA), Los Alamos National Laboratory (USA), University of Padova (Italy).

Professor Ø. Grong: List of publications, research activities and academic merits.

Publications in refereed international journals and conference proceedings.

1. Ø. Grong and N. Christensen: "Factors controlling MIG weld metal chemistry", *Scandinavian Journal of Metallurgy*, vol. 12 (1983), 155-165.
2. Ø. Grong, N. H. Rørå and N. Christensen: "On the formation of CO in CO₂-shielded welding", *Scandinavian Journal of Metallurgy*, vol. 13 (1984), 154-156.
3. Ø. Grong, N. Christensen and D.L. Olson: "Carbon oxidation in hyperbaric MMA welding", *Metal Construction*, vol. 17 (1985), 810-814.
4. Ø. Grong and D. K. Matlock: "Microstructural development in mild and low-alloy steel weld metals", *International Metals Reviews*, vol. 31 (1986), 27-48.
5. N. Christensen and Ø. Grong: "Reactions of acid and weakly basic submerged arc fluxes", *Scandinavian Journal of Metallurgy*, vol. 15 (1986), 30-40.
6. O. M. Akselsen, Ø. Grong, N. Ryum and N. Christensen: "HAZ grain growth mechanisms in welding of low carbon microalloyed steels", *Acta Metallurgica*, vol. 34 (1986), 1807-1815.
7. M. Ramberg, Ø. Grong and O. M. Akselsen: "Embrittlement phenomena in the intercritical HAZ of boron containing low carbon steels", *Proc. Int. Confr. on Trends in Welding Research*, Gatlinburg, Tennessee (USA), 18-22 May 1986, Publ. ASM International (1987), pp. 679-684.
8. Ø. Grong and O. M. Akselsen: "HAZ toughness of microalloyed steels for offshore", *Metal Construction*, vol. 18 (1986), 557-562.
9. Ø. Grong, T. A. Siewert and G. R. Edwards: "Effects of deoxidation practice on the transformation behaviour and toughness of steel welds", *Welding Journal*, vol. 65 (1986), 279s-288s.
10. Ø. Grong, T. A. Siewert, G. P. Martins and D. L. Olson: "A model for the silicon-manganese deoxidation of steel weld metals", *Metallurgical Transactions A*, vol. 17A (1986), 1797-1807.
11. N. A. Fleck, Ø. Grong, G. R. Edwards and D. K. Matlock: "The role of filler metal wire and flux composition in submerged arc weld metal transformation kinetics", *Welding Journal*, vol. 65 (1986), 113s-121s.
12. O. M. Akselsen, Ø. Grong and P. E. Kvaale: "A comparative study of the HAZ properties of boron containing low carbon steels", *Metallurgical Transactions A*, vol. 17A (1986), 1529-1536.

13. Ø. Grong and N. Christensen: "Effects of weaving on temperature distribution in fusion welding", *Materials Science and Technology*, vol. 2. (1986), 967-973.
14. O. M. Akselsen, Ø. Grong and J. K. Solberg: "Structure property relationships in intercritical HAZ of low-carbon microalloyed steels", *Materials Science and Technology*, vol. 3 (1987), 649-655.
15. Ø. Grong, A. O. Kluken and B. Bjørnbakk: "Effect of nitrogen on weld metal toughness in self-shielded flux-cored arc welding", *Joining and Materials*, vol. 1 (1988), 164-169.
16. O. M. Akselsen, J. K. Solberg and Ø. Grong: "Effects of M-A islands on intercritical HAZ toughness of low carbon microalloyed steels", *Scandinavian Journal of Metallurgy*, vol. 17 (1988), 194-200.
17. A. O. Kluken, Ø. Grong and J. Hjelen: "SEM based automatic image analysis of non-metallic inclusions in steel weld metals", *Materials Science and Technology*, vol. 4 (1988), 649-654.
18. O. M. Akselsen, G. Rørvik, M. I. Onsøien and Ø. Grong: "Assessment and predictions of HAZ tensile properties of high-strength steels", *Welding Journal*, vol. 68 (1989), 356s-362s.
19. A. O. Kluken and Ø. Grong: "Mechanisms of inclusion formation in Al-Ti-Si-Mn deoxidized steel weld metals", *Metallurgical Transactions A*, vol. 20A (1989), 1335-1349.
20. A. O. Kluken and Ø. Grong: "Structure-property relationships in reheated SA steel weld metals", *Proc. Int. Confr. on Trends in Welding Research*, Gatlinburg Tennessee (USA), May 1989, Publ. ASM International (1990), 781-786.
21. M. I. Onsøien, O. M. Akselsen, Ø. Grong and P. E. Kvaale: "Prediction of cracking resistance in steel weldments", *Welding Journal*, vol. 69 (1990), No. 1, 45-51.
22. O. R. Myhr and Ø. Grong: "Dimensionless maps for heat flow analyses in fusion welding", *Acta Metallurgica et Materialia*, vol. 38 (1990), 449-460.
23. A. O. Kluken, Ø. Grong and G. Rørvik: "Solidification microstructures and phase transformations in Al-Ti-Si-Mn deoxidized steel weld metals", *Metallurgical Transactions A*, vol. 21A (1990), 2047-2058.
24. O. M. Akselsen, Ø. Grong and G. Rørvik: "Embrittlement phenomena in the grain coarsened HAZ of low carbon microalloyed steels", *Scandinavian Journal of Metallurgy*, vol. 19 (1990), 258-264.

25. A. O. Kluken, Ø. Grong and J. Hjelen: "The origin of transformation textures in steel weld metals containing acicular ferrite", *Metallurgical Transactions A*, vol. 22A (1991), 657-664.
26. O. R. Myhr and Ø. Grong: "Process modelling applied to 6082-T6 aluminium weldments - Part I: Reaction Kinetics", *Acta Metallurgica et Materialia*, vol. 39(1991), 2693-2702.
27. O. R. Myhr and Ø. Grong: "Process modelling applied to 6082-T6 aluminium weldments - Part II: Applications of model", *Acta Metallurgica et Materialia* vol. 39 (1991), 2703-2708.
28. T. Skaland and Ø. Grong: "Nodule distribution in ductile cast iron", *AFS Transactions*, vol. 99 (1991), 153-157.
29. O. T. Midling, Ø. Grong and M. Camping: "A first report on the microstructural integrity and mechanical performance of friction welded Al-SiC composites", *Proc. 12th Risø International Symposium on Metallurgy and Materials Science: Metal Matrix Composites*, 2-6 September 1991 (Roskilde, Denmark), pp. 529-534.
30. O. T. Midling, Ø. Grong and D. H. Bratland: "Modelling of the temperature distribution and microstructural evolution in the HAZ of friction welded 6082 aluminium alloys and Al-SiC metal matrix composites", *Proc. 3rd Int. Confr. on Aluminium Alloys-Their Physical and Mechanical Properties*, Trondheim, Norway, June 1992. Publ. The Norwegian Inst. of Techn. vol. II, pp. 99-105.
31. H. R. Shercliff, Ø. Grong, O. R. Myhr and M. F. Ashby: "Process modelling applied to age hardening aluminium alloys", *Proc. 3rd Int. Confr. on Aluminium Alloys - Their Physical and Mechanical Properties*, Trondheim, Norway, June 1992. Publ. The Norwegian Inst. of Techn., vol. III, pp. 357-369.
32. A. O. Kluken and Ø. Grong: "Temper embrittlement in steel weld metals containing titanium and boron", *Proc. 3rd Int. Confr. on Trends in Welding Research*, Gatlinburg, Tennessee, June 1992. Publ. ASM International, pp. 569-574.
33. O. T. Midling and Ø. Grong: "Continuous drive friction welding of SiC particulate reinforced aluminium composites ", *Proc. 3rd Int. Confr. on Trends in Welding Research*, Gatlinburg, Tennessee, June 1992, Publ. ASM International, pp. 1147-1151.
34. O. M. Akselsen and Ø. Grong: "Prediction of weld metal Charpy V-notch toughness", *Materials Science and Engineering*, vol. A159 (1992), 187-192.
35. O. T. Midling and Ø. Grong: "Structure-property relationships in the HAZ of friction welded Al-SiC metal matrix composites", *Proc. Int. Confr. Advanced Composites, Fabrication, Processing, Properties, Performance, Design &*

Application, Wollongon, Australia, February 1993, Publ. University of Wollongon, pp. 1221-1226.

36. T. Torvund, O. M. Akselsen, Ø. Grong and J. H. Ulvensøen: "Vacuum brazing of alumina to AISI 304 austenitic stainless steel", Proc. 4th Int. Confr. on Joining Ceramics, Glass and Metal, Köningswinter, Germany, May 1993, Publ. Verlag der Deutschen Glastechnischen Gesellschaft (Frankfurt), pp. 256-263.
37. T. A. Skaland, Ø. Grong and T. Grong: "A model for the graphite formation in ductile cast iron - Part I: Inoculation mechanisms", Metallurgical Transactions, vol. 24A (1993), 2321-2345.
38. T. A. Skaland, Ø. Grong and T. Grong: "A model for the graphite formation in ductile cast iron" - Part II: Solid state transformation reactions", Metallurgical Transactions, vol. 24A (1993), 2347-2353.
39. D.H. Bratland, Ø. Grong, O. R. Myhr and H. Shercliff: "Modelling of the quench sensitivity of aluminium alloy AA6082", Proc. Int. Conf. on Computer-Assisted Design and Process Simulation, Tokyo (Japan), September 1993. Publ. The Iron and Steel Institute of Japan, pp. 135-141.
40. O. T. Midling and Ø. Grong: "A process model for friction welding of Al-Mg-Si alloys and Al-SiC metal matrix composites" - Part I: "HAZ temperature and strain rate distribution", Acta Metallurgica et Materialia, vol. 42 (1994), 1595-1609.
41. O. T. Midling and Ø. Grong: "A process model for friction welding of Al-Mg-Si alloys and Al-SiC metal matrix composites - Part II: "HAZ microstructure and strength evolution", Acta Metallurgica et Materialia, vol. 42 (1994), 1611-1622.
42. I. Andersen, A. O. Kluken and Ø. Grong: "The origin of microstructure and hardness gradients within as-deposited steel weld metals", Welding Journal, vol. 72 (1993), No. 11, pp. 63-68.
43. I. Andersen and Ø. Grong: "Analytical modelling of grain growth in metals and alloys in the presence of growing and dissolving precipitates - Part I: Normal grain growth", Acta Metallurgica et Materialia, vol. 43 (1995), 2673-2688.
44. I. Andersen, Ø. Grong and N. Ryum: "Analytical modelling of grain growth in metals and alloys in the presence of growing and dissolving precipitates - Part II: Abnormal grain growth", Acta Metallurgica et Materialia, vol. 43 (1995) 2689-2700.
45. Ø. Grong, A. O. Kluken, H. K. Nylund, A. L. Dons and H. Hjelen: "Catalyst effects in heterogeneous nucleation of acicular ferrite", Metallurgical and Materials Transactions, vol. 26A (1995), 525-534.

46. D. H. Bratland, Ø. Grong, H. R. Shercliff, S. Tjøtta and O. R. Myhr: "Process model based optimisation of cooling schedules for AA6082 extrusions", Proc. 4th Int. Conf. on Aluminium Alloys - Their Physical and Mechanical Properties, Vol. I, Atlanta (USA), September 1994, Publ. Georgia Inst. of Techn., pp. 418-425.
47. T. Torvund, O. M. Akselsen, Ø. Grong and J. H. Ulvensøen: "Wettability of boron carbide", Proc. In Conf. Advanced Joining Techn. for New Materials II, Cocoa Beach, Florida (USA), March 1994, Publ. American Welding Society.
48. T. Torvund, O. M. Akselsen, Ø. Grong and J. H. Ulvensøen: "TEM-examination of ceramic-metal interfaces", Proc. First Int. Conf. on High Temperature Capillarity, Bratislava (Slovakia), May 1994, Publ. Slovak Academy of Sciences, pp. 155-159.
49. Ø. Grong, T. Grong and T. Skaland: "Principal guidelines for new ferroalloy product developments", Proc. 7th Int. Ferroalloy Congress(INFACON 7), Trondheim (Norway), June 1995. Publ. The Norwegian Ferroalloy Research Organization (FFF) and SINTEF Materials Technology, Trondheim, Norway, pp. 697-707.
50. H. Hoffmeister, L. Volden and Ø. Grong: "Hydrogen induced weld cracking of duplex stainless steels as affected by shielding gas composition with TIG welding", Proc. Int. Confr. on Duplex Stainless Steels, Glasgow (Scotland), November 1994, Paper 54, Publ. The Welding Institute (1994).
51. T. Torvund, Ø. Grong, O. M. Akselsen and J. H. Ulvensøen: "Wetting and joining of Al_2O_3 and ZrO_2 - toughened Al_2O_3 by pure Al and Ag-4wt% Ti filler metals", Proc. 4th Int. Confr. on Brazing, High Temperature Brazing and Diffusion Bonding (LÖT 95), Aachen (Germany), June 1995, Publ. Deutsche Verband für Schweisstechnik (1995), pp. 114-119.
52. B. Bjørneklett, L. Anisdal and Ø. Grong: Guidelines for designing shielding gas systems for laser welding of titanium", Proc. 5th Nordic Laser Materials Processing Conference (NOLAMP), Oslo (Norway), September 1995, Publ. SINTEF-SI (1995).
53. B. Bjørneklett, Ø. Grong, L. Anisdal, E. Hellum and V. Sande: "Wetting of dispersion strengthened aluminium by some Al-Si based braze alloys", Welding Journal, vol. 75, No. 3, pp. 57-62.
54. Ø. Grong: "An internal state variable approach to the modelling of solid state transformations in welds", Proc. 4th Int. Confr. on Trends in Welding Research, Gatlinburg (Tennessee), June 1995, Publ. ASM International (1995), pp.175-187.
55. D. H. Bratland, Ø. Grong, H. R. Shercliff, O.R. Myhr and S. Tjøtta: "Modelling of precipitation reactions in industrial processing-Overview No. 124", Acta Metallurgica et Materialia, vol. 45 (1997), 1-22.

56. Ø. Grong: "Modelling as a tool in alloy design for weldability", Proc. 5th Int. Confr. on Aluminium Alloys (ICAA-5)-Their physical and Mechanical Properties, Grenoble (France), July 1-5, 1996, Materials Science Forum, Vols. 217-222 (1996), pp. 107-120, Publ. Trans Tech Publications (Switzerland).
57. B. Bjørneklett, Ø. Grong, A. O. Kluken and O. Jensrud: "Embrittlement phenomena in the HAZ of Al-Zn-Mg weldments", Proc. 5th Int. Confr. on Aluminium Alloys (ICAA-5)-Their physical and Mechanical Properties, Grenoble (France), July 1-5, 1996, Materials Science Forum, vols. 217-222 (1996), pp. 1527-1532, Publ. Trans Tech Publications (Switzerland).
58. T. Torvund, Ø. Grong, O. M. Akselsen and J. H. Ulvensøen: "Brazing of ZrO₂ toughened Al₂O₃ to stainless steel", Materials Science and Technology, vol. 13 (1997), 156-162.
59. T. Torvund, Ø. Grong, O. M. Akselsen and J. H. Ulvensøen: "A process model for active brazing of ceramics- Part I: Growth of reaction layers", Journal of Materials Science, vol. 31 (1996), 6215-6222.
60. T. Torvund, Ø. Grong, O. M. Akselsen and J. H. Ulvensøen: "A model for coupled growth of reaction layers in reactive brazing of ZrO₂-toughened Al₂O₃", Metallurgical and Materials Transactions, vol. 27A (1996), 3630-3638.
61. D. Haaland, C. van der Eijk and Ø. Grong: "The role of interactive particles in steel", Proc. Int. Symposium on Safety in Application of High Strength Steel, Trondheim (Norway), 1-2 July 1997. Publ. Statoil Research Centre (1997).
62. B. Schmid, R. Ødegård and Ø. Grong: "Corrosion of alloys under low oxygen partial pressure at moderate high temperatures", Proc. The European Corrosion Congress (EUROCORR'97), Trondheim (Norway), 22-25 September 1997, Publ. Tapir (1997), pp. 17-22.
63. L. Volden, Ø. Grong and C. Thaulow: "Residual stress distribution after welding of high strength low alloy quenched and tempered steels", Proc. The 2nd Int. Symposium on Thermal Stresses and Related Topics, Rochester, New York (USA), June 8-11, 1997, Editors: R. B. Hetnarski and N. Noda. Publ. Lastran Corporation Publishing Division (1997), pp. 399-402.
64. T. Torvund, Ø. Grong, O. M. Akselsen and J. H. Ulvensøen: "A process model for active brazing of ceramics- Part II: Optimisation of brazing conditions and joint properties", Journal of Materials Science, vol. 32 (1997), 4437-4442.
65. M. I. Onsøien, Ø. Grong, G. Rørvik, A. Nordmark and T. Skaland: "Design and development of treatment alloys for ductile cast iron", Int. J. Cast Metals Res., vol. 10 (1997), 17-26.
66. M. I. Onsøien, Ø. Grong, T. Skaland and S. E. Olsen: "Effects of rare earth metals on the microstructure evolution in ductile cast iron", AFS Transactions, vol. 105 (1997), pp. 147-152.

67. M. I. Onsøyen, Ø. Grong, T. Skaland and K. Jørgensen: "Mechanisms of graphite formation in ductile cast iron containing rare earth metals", *Materials Science and Technology*, vol. 15 (1999), 253-259.
68. M. I. Onsøyen, Ø. Grong, A. K. Dahle and L. Arnberg: "An internal state variable approach to the modelling of microstructure evolution during solidification", *Proc. 4th Decennial Int. Conf. on Solidification Processing*, Sheffield (UK), 7-10 July 1997. Publ. The University of Sheffield (1997), pp. 358-361.
69. M. I. Onsøyen, Ø. Grong, Ø. Gundersen and T. Skaland: "A process model for the microstructure evolution in ductile cast iron- Part I: The model", *Metallurgical and Materials Transactions*, vol. 30A (1999), 1053-1068.
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71. Ø. Grong, A. K. Dahle, M. I. Onsøyen and L. Arnberg: "Analytical modelling of equiaxed solidification", *Acta Materialia*, vol. 46 (1998), 5045-5052.
72. M. G. Mousavi, C. E. Cross, Ø. Grong and M. Hval: "Controlling weld metal dilution for optimised weld performance in aluminium", *Science and Technology of Welding and Joining*, vol. 2 (1997), 275-278.
73. H. Hemmer, Ø. Grong and S. Klokkehaug: "A process model for electron beam welding of duplex stainless steels", *Proc. 6th Int. Confr. on Welding and Melting by Electron and Laser Beams*, Toulon (France), 15-19 June 1998. Publ. Institut de Soudure, Paris (1998), pp. 31-38.
74. O. R. Myhr, Ø. Grong, S. Klokkehaug, H. G. Fjær and A. O. Kluku: "A process model for welding of Al-Mg-Si extrusions- Part I: Precipitate stability", *Science and Technology of Welding and Joining*, vol. 2 (1997), 245-253.
75. O. R. Myhr, S. Klokkehaug, Ø. Grong, H. G. Fjær and A. O. Kluku: "Modelling of microstructure evolution, residual stresses and distortions in 6082-T6 aluminium weldments", *Welding Journal*, vol. 77 (1998), 286s-292s.
76. B. I. Bjørneklett, Ø. Grong, O. R. Myhr and A. O. Kluku: "Additivity and isokinetic behaviour in relation to particle dissolution", *Acta Materialia*, vol. 46 (1998), 6257-6266.
77. Ø. Frigaard, Ø. Grong and O. T. Midling: "Modelling of heat flow phenomena in friction stir welding of aluminium alloys", *Proc. Int. Confr. on Joints in Aluminium (INALCO'98)*, Abington, Cambridge (UK), 15-17 April 1998. Publ. The Welding Institute (1998), vol. 2, pp.197-207.

78. C. E. Cross and Ø. Grong: "Microstructure and mechanical properties of simulated Al-Mg-Zn weld metal modified with Sc and Zr", Proc. 6th Int. Confr. on Aluminium Alloys (ICAA-6)-Their physical and Mechanical Properties, Toyohashi (Japan), Vol. 3, Editors: T. Sato, S. Kumai, T. Kobayashi, and Y. Murakami, Publ. The Japan Institute of Light Metals (1998), pp. 1441-1446.
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81. O. R. Myhr O. R. Myhr, S. Klokkehaug, H. G. Fjær, Ø. Grong and A. O. Kluku: "Modelling of microstructure evolution and residual stresses in processing and welding of 6082 and 7108 aluminium alloys", Proc. 5th Int. Confr. on Trends in Welding Research, Pine Mountain (Georgia), June 1-5, 1998, Publ. ASM International (1999), pp. 233-238.
82. C. van der Eijk, Ø. Grong, S. S. Babu and S. A. David: "Effects of interactive particles on steel weldability", Proc. 5th Int. Confr. on Trends in Welding Research, Pine Mountain (Georgia), June 1-5, 1998, Publ. ASM International (1999), pp. 729-734.
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86. H. Hemmer and Ø. Grong: "A process model for the microstructure evolution in duplex stainless steel weldments- Part I: The model", Metallurgical and Materials Transactions, vol. 30A (1999), 2915-2929.
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- Application to EB welding”, *Metallurgical and Materials Transactions*, vol. 31A (2000), 1035-1048.
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 90. Ø. Frigaard, Ø. Grong, B. I. Bjørneklett and O. T. Midling: “Modelling of the thermal and microstructure fields during friction stir welding of aluminium alloys”, *Proc. First International Symposium on Friction Stir Welding*, Thousand Oaks, California, USA, 14-16 June 1999. Publ. The Welding Institute (1999).
 91. Ø. Frigaard, Ø. Grong, J. Hjelen, S. Gulbrandsen-Dahl and O. T. Midling: “Characterisation of the subgrain structure in friction stir welded aluminium alloys using the SEM-EBSD technique”, *Proc. First International Symposium on Friction Stir Welding*, Thousand Oaks, California, USA, 14-16 June 1999. Publ. The Welding Institute (1999).
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215. A. O. Kluken, G. Rørvik and Ø. Grong: "Metallographic examination of multipass flux-cored arc (FCA) steel weld metals", Sintef Report STF34 F88071, 1988 (12p. + 1 app.).
216. A. O. Kluken, Ø. Grong and H. Hemmer: "Effects of deoxidation practice on the microstructure and properties of microalloyed steel weld metals for offshore applications - Fifth progress report", Sintef Report STF34 F88040, 1988 (63 p.).
217. Ø. Grong and A. O. Kluken: "Microstructure and properties of steel weld metals", Sintef Report STF34 A88133, 1988 (26 p.).

218. A. O. Kluken and Ø. Grong: "Mechanisms of inclusion formation in Al-Ti-Si-Mn deoxidized steel weld metals", Sintef Report STF34 A88098, 1988 (47 p.).
219. G. Rørvik og Ø. Grong: "Metallografiske undersøkelser av metallpulver for rørtrådsveising", Sintef Rapport STF34 F88135, 1988 (20 p.).
220. O. R. Myhr and Ø. Grong: "Dimensionless maps for heat flow analyses in fusion welding", Sintef Report STF34 A89033, 1989 (21 p.).
221. A. O. Kluken og Ø. Grong: "Forsprødning i sveismetall etter avspenningsgløding" Sintef Rapport STF34 F89132, 1989 (18s).
222. G. Rørvik and Ø. Grong: "Metallographic examination of a wire-fed iron powder for submerged arc welding (Oerlikon PD3 NiMo)", Sintef Report STF34 F89023, 1989 (12 p.).
223. G. Rørvik and Ø. Grong: "A first report on the weld characteristics of metal cored wires containing pre-alloyed water atomized iron powders", Sintef Report STF34 F89081, 1989 (20 p.).
224. G. Rørvik og Ø. Grong: "Markedspotensialer for atomisert metallpulver innen sveiseindustrien", Sintef Rapport STF34 F89115 (13s. + 2v.).
225. G. Rørvik og Ø. Grong: "A second report on the weld characteristics of metal cored wires containing pre-alloyed water atomized iron powders", Sintef Report STF34 F89152, 1989 (19 p.).
226. O. M. Akselsen, Ø. Grong, C. Thaulow og O. Ørjasæter: "Høyfaste stål i bærende konstruksjoner for offshore", Sintef Rapport STF20 F89019, 1989 (60s.).
227. I. Andersen, G. Rørvik and Ø. Grong: "A first report on the microstructural integrity and mechanical performance of Ti-B containing steel weld metals", Sintef Report STF34 F91140, 1991 (26p. + 5app.).
228. A. O. Kluken, O. R. Myhr og Ø. Grong: "Modell for beregning av fasthet i HAZ ved sveising av utherdbare aluminiumlegeringer", Sintef Rapport STF34 A91126, 1991 (18 s.).
229. T. Torvund, O. M. Akselsen og Ø. Grong: "Lodding av aluminiumoksyd til AISI 304 rustbestandige stål", Sintef Rapport STF34 A92184, 1992 (20s. + 1v.).
230. I. Andersen and Ø. Grong: "A second report on the microstructural integrity and mechanical performance of Ti-B containing steel weld metals", Sintef-Report STF34 F92153, 1992 (16p. + 2app.).

231. Ø. Grong, A. O. Kluken, H. K. Nylund, J. Hjelen and I. Andersen: "Mechanisms of acicular ferrite formation in low-alloy steel weld metals", Sintef Report STF34 A92014, 1992.
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233. A. O. Kluken and Ø. Grong: "New inoculants for ductile cast iron - First progress report", Sintef Report STF34 A93136, 1993 (35p.).
234. I. Andersen og Ø. Grong: "Pulverbaserte ferrolegeringer for sveising - en samlet vurdering av forskningsresultater oppnådd i perioden fra 1988 til 1993", Sintef Rapport STF34 F93210, 1993 (12s.).
235. P. O. Grøntvedt og Ø. Grong: "Slitasjebestandig jernkompositt", Sintef Rapport STF24 F94638, 1994 (26s + 3app.).
236. O. R. Myhr og Ø. Grong: "Mikrostrukturmodell for HAZ- Matematisk beskrivelse av oppløsningskinetikk", Hydro Aluminium FSU Rapport, RDS.96-020/ER, 1996 (18s.).
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238. O. R. Myhr and Ø. Grong: "Precipitation reactions and strength evolution during industrial heat treatment of age hardening aluminium alloys-Part I: A numerical precipitation model", Technical Report Hydro Raufoss Automotive Research Centre ARC-98189, 1998 (17 p.).
239. C. E. Cross and Ø. Grong: "Weld metal alloy development for improved mechanical properties in aluminium weldments-Part I: Broad alloy survey", Sintef Report STF24 F98246, 1998.
240. O. M. Akselsen, C. van der Eijk and Ø. Grong: "Grain refinement of steel castings", Sintef Report STF24 F99247, 1999 (29p. + 1 app.).
241. O. R. Myhr and Ø. Grong: "Precipitation reactions and strength evolution during industrial heat treatment of age hardening aluminium alloys-Part II: Verification of numerical precipitation model", Technical Report Hydro Raufoss Automotive Technical Centre No. 00061, Sept. 6, 2000, (14 p.).
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243. O. R. Myhr, Ø. Grong, H. G. Fjær, S. Klokkehaug and C. D. Marioria: "Precipitation reactions and strength evolution during industrial heat treatment

- of age hardening aluminium alloys-Part IV: Modification of numerical precipitation model”, Technical Report Hydro Automotive Structures, No. 02022, July 8, 2002, (20 p.).
244. T. L. Erlien, Ø. Grong and N. I. Nilsen: “HYMEN BONDING-Experiments, testing and running-in of equipment”, Sintef Report STF24 F02346, 2002 (58p).
 245. T. E. Erlien and Ø. Grong: “HYMEN BONDING-The search for the optimal design”, Sintef Report STF24 F03299, 2003 (67p).
 246. O. R. Myhr and Ø. Grong: “ALFLOW/NaMo Project, Technical Report Hydro Automotive Structures, May 2004, (15p.).
 247. A. Lilleby, T. L. Erlien og Ø. Grong: “Materialflyt og deformasjoner ved ekstrudering og sammenføyning av aluminium basert på HYMEN Bonding metoden”, Sintef Rapport STF80MK F05197, 2005 (62p).
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 249. O. A. Hermstad, Ø. Grong, A. Lilleby og Tomas Erlien: “HYMEN Bonding metoden –Forslag til nytt design av sledeekstruder basert på resultater oppnådd i test av prototype”, Sintef Rapport STF80MK F070022, 2007 (38p).
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 252. Ø. Grong og O. R. Myhr: “Combined precipitation, yield strength and work hardening models for Al-Mg-Si alloys. CRI-SimLab Report M42007-5-1, 2007.
 253. O. R. Myhr and Ø. Grong: “A Multiscale Modelling Approach to the Optimisation of Welding Conditions and Heat Treatment Schedules for Age Hardening Aluminium Alloys”, CRI-SimLab Report M42007-5-2, 2007.
 254. J. Friis, J. Walmsley, K. Tang and Ø. Grong: “Final technical report from the metal dusting subproject of the ThermoTech KMB, Sintef Report No. F8926, 2008, (22pp).

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255. Ø. Grong, K. Gjermundsen og U. Mathisen: "Metallurgiske forhold ved hyperbarisk sveising (tørr undervannssveising)", Sveiseteknikk, vol. 36 (1981), 6s.
256. Ø. Grong: "Opptreden og virkninger av hydrogen ved sveising av stål", Sveiseteknikk, vol. 38 (1983), 6s.
257. O. M. Akselsen og Ø. Grong: «Karakterisering av mikrostrukturer som opptrer i HAZ og sveismetall", Sveiseteknikk, vol. 40 (1985), 49-55.
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261. N. Aas, B. Schmid, Ø. Grong and R. Ødegård: "Høytemperatur reaksjoner studert med in-situ ESEM", Kjemi, vol. 61 (2001), 13-15.
262. Ø. Grong og T. Laugsand Erlien: "Atomer utfører spleisen", GEMINI, Nr. 6 (2004), p. 7.

Teaching materials.

263. Ø. Grong: "Kompendium i Sveisemetallurgi", Metallurgisk institutt (NTH), februar 1990 (229 sider).
264. Ø. Grong: "Process modelling applied to age hardening aluminium alloys", COMETT II Pilot Project TALAT-Training for Advanced Aluminium Application Technology, Module 1700 (24p. + 1 app.).

Presentations and invited lectures.

265. Ø. Grong: "Melt spinning for rapid solidification - A new experimental technique for studies of high temperature chemical reactions in arc welding", The 9th Annual Rocky Mountain Welding Symposium, Colorado School of Mines, March 1984.
266. Ø. Grong: "Slag/metal and gas/metal reactions in arc welding", Idaho National Engineering Laboratory, Idaho Falls., April 1984.
267. Ø. Grong: "Factors controlling MIG weld metal chemistry", Study group 212 of the International Institute of Welding, June 1983.

268. Ø. Grong: "The chemistry of the GMA welding process", North Pasific Mineral and Metals Conference, Portland, Oregon, May 1984.
269. Ø. Grong: "Structure-property relationships in low-alloy steel weld metals", Universität der Bundeswehr Hamburg, January 1988.
270. Ø. Grong: "Advances in welding of steel and aluminium alloys", Nordic conference on Joining of Materials, Uddevalla, Sweden, April 1990.
271. Ø. Grong: "Weldability of aluminium alloys", Int. Seminar on Numerical Analysis of Weldability, Graz, Austria, April 1991.
272. D. H. Bratland, F. Tøndel og Ø. Grong: "Prosess-modellering anvendt på utherdbare aluminiumlegeringer", Metallurgisk Sommermøte, Trondheim, mai 1992.
273. Ø. Grong: "Bruksområder og markeder for pulverbaserte ferrolegeringer for sveising", Foredrag hos ESAB, Göteborg, Sverige, april 1994.
274. D. H. Bratland, Ø. Grong, H.R. Shercliff, S. Tjøtta and O.R. Myhr: "Process model based optimisation of cooling schedules for AA6082 extrusions", Foredrag ved Norsk Metallurgisk Sommermøte, Oslo, Mai 1994.
275. Ø. Grong: "The future role of ferroalloys in iron and steel", Seminar Fra Forskning til Industrielle Resultater, Ringve (Trondheim), November 1994, Arr. Sintef Materialteknologi/Metallurgisk institutt (NTH).
276. Ø. Grong: "Solid state transformations in metals and alloys", Elkem University-From Furnace Taphole to Final Product", Rica Hell Hotel, Stjørdal (Norway), October 25, 1995.
277. Ø. Grong: "Oksyddispergerte stål-Nye muligheter for norsk ferrolegerings-industri?" Elkem-Seminar Ferrolegeringers innvirkning på slaggrenhet i stål, Bårdshaug Herregård, Orkanger (Norge), 20-21 August, 1997.
278. Ø. Grong: "Sammenføyningsteknologi-Kriterier for valg av metode", Lettmetallkonferansen 1998, Radisson SAS Royal Garden Hotel, Trondheim (Norge), 22. September, 1998. Arrangør. Teknologisk Institutt (TI).
279. Ø. Grong: "Grain refining of castings and welds", Seminar on Modelling of Grain Nucleation and Growth in Equiaxed Structures and Micro-Macro Properties, Oslo, Norway, January 12-13, 1999, Organiser: SINTEF Oslo (Dr. Asbjørn Mo).
280. Ø. Grong: "Microstructural modelling in metals processing", Foredrag hos Hydro Aluminium, Forskningscenteret, Sunndalsøra, torsdag 2. desember, 1999.

281. S. Gråberg, D. H. Bratland, Ø. Grong og O. Reiso: "Virkninger av lokal smelting på slagseigheten til ekstruderte Al-Mg-Si legeringer som inneholder Cu", Metallurgisk Sommermøte, Oslo, mai 2002.
282. E. Hoff, D. H. Bratland, O. Reiso og Ø. Grong: "Maskinerbarhet til aluminiumlegeringer", Metallurgisk Sommermøte, Oslo, mai 2002.
283. W. van Beek, J. Zahl Albertsen, Ø. Grong, R. Mathiesen, J. Walmsley and B. Schmid: "Metal dusting corrosion in nickel-based Cr/Al-containing super alloys Nicrofer 6025HT and Inconel 693". Poster presented at 4th conference on Synchrotron Radiation in Material Science (SRMS-4), Grenoble, France 2004.
284. T. Laugsand Erlien, J. C. Werenskiold, A. Lilleby, Ø. Grong and H. J. Roven: "Continuous Severe Plastic Deformation of Al-Mg-Si Alloys, NanoSPD3- Nanomaterials by Severe Plastic Deformation", 22-26 September, Japan, 2005.
285. J. Friis and Ø. Grong: "Development of a precipitation model for liquid metal refining and its coupling to computational fluid dynamics (CFD)", TermoTech meeting, NTNU, Trondheim, Norway, 25 January 2005.
286. J. Friis, Ø. Ryen, B. Holmedal, Ø. Grong and K. Marthinsen: "Modelling of precipitation and work hardening in age-hardenable Al-alloy", Seminar on Atomistic Modelling in Aluminium Alloys; NTNU, Trondheim, Norway, 23-24 June 2005.
287. O. R. Myhr and Ø. Grong: "A multiscale modelling approach to the optimisation of welding conditions and heat treatment schedules for age hardening aluminium alloys", Invited lecture at the 8th International Conf. on Numerical Analysis of Weldability, Graz, Austria, 25. – 27. September 2006.
288. J. Safarian, L. Kolbeinsen and Ø. Grong: "Kinetic modelling of MnO reduction from slags by dissolved carbon in liquid iron", Sohn International Symposium on Advanced Processing of Metals and Materials, San Diego, California, 2006-08-27 - 2006-08-31.
289. Ø. Grong and O. R. Myhr: "Combined precipitation, yield strength and work hardening models for Al-Mg-Si alloys", Technical Seminar in Honour of Professor Dave Embury following his promotion as Doctor Technicae Honoris Causa at NTNU, Trondheim, Norway, 31 May 2007.
290. M. Karlsen, J. Hjelen, Ø. Grong, G. Rørvik, R. Chiron and U. Schubert: "In situ thermo-mechanical SEM/EBSD investigations of steels", Statoil/Hydro International Student Conference, October 9th, 2007, Trondheim, Norway.

291. Ø. Grong: “Kornforfining av stål – magi eller vitenskap?”, Invitert foredrag ved Støperikongressen i Bergen, 23. – 24. mai, 2008, Arr. Norges Støperitekniske Forening.
292. S. Tomovic-Petrovic, O. Jensrud and Ø. Grong: “Phase transformations during deformation of complex light alloys”, Nasjonal konferanse for Materialteknologi 2010, Norsk materialteknisk selskap, Polyteknisk Forening, Oslo, 2010-06-03 - 2010-06-04.
293. L. Sandnes, Ø. Grong and F. Berto: “Current status of the hybrid metal extrusion & bonding (HYB) process”, 2nd International Conference on Structural Integrity and Durability, ESIS (European Structural Integrity Society), Dubrovnik, Croatia, 2018-10-02 - 2018-10-05.
294. L. Sandnes, Ø. Grong, F. Berto, F. Abbatali and M. Matteo: “Exploring the hybrid metal extrusion & bonding (HYB) process for dissimilar joining of aluminium alloy 6082-T6 and structural steel 355”, 2nd International Conference on Structural Integrity and Durability, ESIS (European Structural Integrity Society), Dubrovnik, Croatia, 2018-10-02 - 2018-10-05.
295. L. Sandnes, F. Berto, Ø. Grong and J. Torgersen: “Using the hybrid metal extrusion & bonding (HYB) process for butt welding of 4 mm plates of AA6082-T6, 5th International Conference of Engineering Against Failure (ICEAF V), 2018-06-20 - 2018-06-22.
296. T. Bergh, L. Sandnes, M. Mathiasson, D. Johnstone, P. A. Midgley, F. Berto, R. Holmestad, Ø. Grong and P. E. Vullum: “Interface microstructural characterization of hybrid metal extrusion & bonding aluminium-steel joints” EMAG MMC, 2019-07-01 - 2019-07-04.
297. Ø. Grong, L. Sandnes and F. Berto: “Hybrid metal extrusion & bonding (HYB) – mechanical integrity of some similar and dissimilar butt joints produced by HYB”, TC18, TC15 and annual DIVK conference (online), European Structural Integrity Society, Beograd, Yugoslavia, 2021-11-09 - 2021-11-09.
298. A. Celotto, Ø. Grong, R. Holmestad, J. A. Sørhaug, J. Torgersen, P.E. Vullum and F. Berto: “Iterative development of a novel technique for in-situ cold welding of aluminium inside the Focused Ion Beam microscope”, 2nd International Conference of Advanced Joining Processes, Universidade do Porto, Sintra, Portugal, 2021-10-21 - 2021-10-22.
299. T. Bergh, H. Fyhn, L. Sandnes, J. Blindheim, Ø. Grong, R. Holmestad, F. Berto and P. E. Vullum: “Hybrid metal extrusion & bonding for multi-material welding of aluminium alloys to copper, steel and titanium”, ICAA 18, Toyama, Japan, 2022-09-04 - 2022-09-08.
300. A. Celotto, Ø. Grong, R. Holmestad, J. A. Sørhaug, P. E. Vullum, D. Wan and F. Berto: “Unconventional use of Ga⁺ FIB and Xe⁺ Plasma-FIB for performing and investigating microscale cold-welding of dissimilar aluminium

alloys”, 1st National Junior Scientist Research Conference in Nanoscience and Nanotechnology, Research School TNNN, Trondheim, Norway, 2022-11-30 - 2022-12-02.

Examination committees.

301. Promotion and tenure process at the Colorado School of Mines, Golden, Colorado, USA, November 1989 (Professor S. Liu).
302. Doctoral thesis committee member (dr. techn.), December 1992, The Norwegian Inst. of Technology, Norway (O. Reiso).
303. Doctoral thesis committee member (dr. techn.), September 1994, Luleå University of Technology, Sweden (R. Vishnu).
304. Doctoral thesis committee member (dr.ing.), March 1995, The Norwegian Inst. of Technology, Norway (L. Øvreås).
305. Appointment and tenure process at the University of Adelaide, Adelaide, Australia, January 1996 (CRC Chair in Materials Welding and Joining).
306. Promotion and tenure process at Høgskolen i Agder, Grimstad, Norway, 1996 (Dr. ing. T. O. Sætre).
307. Appointment and tenure process at Massachusetts Institute of Technology, USA, November 1996 (Dr. T. Koseki).
308. Doctoral thesis committee member (dr.ing.), September 1997, Norwegian University of Science and Technology, Norway (J. A. Sæter).
309. Doctoral thesis committee member (dr. techn.), November 1997, The Royal Institute of Technology, Sweden (Pall Olafsson).
310. Evaluation of applicants for a Professorship in Metallurgy at NTNU (mathematical and numerical modelling of metallurgical reactions and processes), 1997.
311. Promotion and tenure process at The University of Waterloo, Canada, November 1997 (Professor D. C. Weckman).
312. Doctoral thesis committee member (dr.ing.), February 1998, Norwegian University of Science and Technology, Norway (R. Karlsen).
313. Promotion and tenure process at CSIRO, Australia, July 1998 (Dr. O. Schumann).
314. Doctoral thesis committee member (dr.ing.), January 1999, Norwegian University of Science and Technology, Norway (E. G. Hoel).

315. Doctoral thesis committee member (dr.ing.), January 2000, Norwegian University of Science and Technology, Norway (T. A. Fjeldly)
316. Doctoral thesis committee member (dr. ing.), June 2000, Norwegian University of Science and Technology, Norway (Ø. Nielsen).
317. Evaluation of candidates for the Chair in Joining Technology at the Department of Materials Science, Faculty of Applied Sciences, Delft University of Technology, The Netherlands, May 2000 (Professor Carl Cross).
318. Doctoral thesis committee member (Ph.D.), October 2000, University of Cambridge, UK, Department of Engineering (M. J. Russell).
319. Chairman of doctoral thesis committee (Ph.D.), December 2002, University of Grenoble, France, Department of Thermodynamics and Physical Metallurgy (M. Nicolas).
320. Doctoral thesis committee member (dr. ing.), September 2003, Norwegian University of Science and Technology, Norway (E. Ladanova).
321. Doctoral thesis committee member (dr. ing.), October 2003, Norwegian University of Science and Technology, Norway (K. Sjølstad).
322. Doctoral thesis committee member (dr. techn.), February 2004, The Royal Institute of Technology, Sweden (Esa Kivineva).
323. Doctoral thesis committee member (dr. ing.), March 2004, Norwegian University of Science and Technology, Norway (R. Valle).
324. Doctoral thesis committee member (dr. ing.), June 2004, Norwegian University of Science and Technology, Norway (H. I. Laukli).
325. Doctoral thesis committee member (PhD), June 2005, The University of Queensland, Australia (I. Bainbridge).
326. Doctoral thesis committee member (PhD), November 2005, Norwegian University of Science and Technology, Norway (M. D. Sabatino).
327. Evaluation of applicants for Assistant Professorship in Materials Engineering at HiST, Trondheim, Norway, 2007.
328. Evaluation of applicants for Assistant Professorship in Materials Engineering at HiBU, Kongsberg, Norway, 2007.
329. Evaluation of applicants for Associate Professorship in Materials Engineering at DTU, Lyngby, Denmark, 2007.
330. Doctoral thesis committee member (PhD), August 2007, Norwegian University of Science and Technology, Norway (H. Bjerkås).

- 331. Doctoral thesis committee member (PhD), September 2008, Norwegian University of Science and Technology, Norway (S. Fjeldbo).
- 332. Doctoral thesis committee member (PhD), November 2008, Norwegian University of Science and Technology, Norway (P. M. Eidem).
- 333. Doctoral thesis committee member (dr. techn.), April 2009, The Royal Institute of Technology, Sweden (Niklas Kojola).
- 334. Doctoral thesis committee member (PhD), November 2009, Norwegian University of Science and Technology, Norway (M. C. Srivastava).
- 335. Doctoral thesis committee member (PhD), April 2010, DTU, Lyngby, Denmark (T. Hummelshøj).
- 336. Doctoral thesis committee member (PhD), November 2012, Norwegian University of Science and Technology, Norway (K. G. Solheim).
- 337. Doctoral thesis committee member (PhD), November 2013, Norwegian University of Science and Technology, Norway (N. V. Govindaraj).
- 338. Doctoral thesis committee member (PhD), November 2013, Norwegian University of Science and Technology, Norway (N. Wang).
- 339. Doctoral thesis committee member (PhD), November 2013, Norwegian University of Science and Technology, Norway (T. H. Ludwig).
- 340. Doctoral thesis committee member (PhD), November 2014, Norwegian University of Science and Technology, Norway (T. Saito).

International awards.

- 341. Professor Masubuchi-Shinsho Corporation Award -1996, American Welding Society.
- 342. Warren F. Savage Memorial Award -1999, American Welding Society.
- 343. Cook/Ablett Award -2009, The Institute of Materials, Minerals & Mining.
- 344. Comfort A. Adams Award - 2012, American Welding Society.

National awards.

- 345. NTNUs and SINTEFs Teknologipris 2009 for research based innovation within the field of aluminium joining technology.

National and international patents.

- 346. O. T. Midling, A. O. Klucken and Ø. Grong (inventors): "Modified friction stir welding", Norsk Hydro ASA, August 12, 1999, WO 1999/039861.

347. Ø. Grong and O. S. Klevan (inventors): “Method for grain refining of steel, grain refining alloy for steel and method for producing grain refining alloy, Elkem ASA, August 9, 2001, WO 2001/057280.
348. Ø. Grong (inventor): “Method and device for joining of metal components, particularly light metal components”, SINTEF- Materials Technology, May 30, 2003, WO 2003043775 A1.
349. Ø. Grong, C. van der Eijk, G. M. Tranell and L. O. Kolbeinsen (inventors): “Grain refiners for steel - manufacturing methods and use”. SINVENT December 6, 2007, EP2035586.
350. A. Lilleby, T. L. Erlien, and Ø. Grong (inventors): “Apparatus and method for extrusion”, NTNU Technology Transfer, December 6, 2007, WO 2007/139387.
351. U. R. Aakenes, Ø. Grong and T. Austigard (inventors): “Device for solid state joining of light metals”. HyBond AS, June 27, 2013, WO 2013095160.
352. Ø. Grong, U.R. Aakenes and T. Bjering (inventors): “A method of joining two components, a joint formed from the method and a method of bonding an extrudate to a component”, HyBond AS, May 2015, EP3294490.
353. U. R. Aakenes, Ø. Grong, and T. Austigard (inventors): “Solid state extrusion and bonding tool”, HyBond AS, May 2016, EP3455024
354. U. R. Aakenes, Ø. Grong, and T. Austigard (inventors): “ Solid state extrusion and bonding method”, HyBond AS, May 2016, EP3455025.
355. Ø. Grong, U. R. Aakenes and T. Austigard (inventors): “Backing plate”, HyBond AS, May 2018, WO2019229194.

Former referee commissions.

*Science and Technology of Welding and Joining (member of the editorial board)

*Acta Materialia

*Scripta Materialia

*Materials Science and Engineering

*Journal of Materials Science

Membership in Academic and Professional Societies.

*Former member of Norges tekniske vitenskapsakademi (NTVA)

*Lifetime member of American Welding Society

Graduate thesis supervision.

*Candidates for the degree of siv.ing. (MSc):

Thesis supervised: 74

*Candidates for the degree of dr.ing. (PhD):

Theses supervised: 26

O.M. Akselsen (1988)

A.O. Klucken (1990)

O.R. Myhr (1991)

T. Skaland (1992)

O.T. Midling (1993)

I. Andersen (1994)

D. Bratland (1995)

T. Torvund (1996)

M. I. Onsjøen (1997)

B. Bjørneklett (1998)

L. Volden (1999)

H. Hemmer (1999)

C. van der Eijk (1999)

Ø. Frigaard (1999)

M. G. Mousavi (1999)

B. Schmid (2000)

J. Enerhaug (2002)

J. Zahl Albertsen (2007)

M. Karlsen (2009)

E. Nordstrand (2009)

A. Lilleby (2009)

U. R Aakenes (2013)

J. Blindheim (2019)

T. Bergh (2021)

L. Sandnes (2021)

F. Leoni (2022)

Record of international academic collaboration.

Colorado School of Mines (USA):	Student and post doc. exchange programmes and joint publications.
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National Institute of Standards: and Technology (USA)	Post doc. exchange programmes and joint publications.
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University of Cambridge (England):	Student and post doc. exchange programmes and joint publications.
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Universität der Bundeswehr: Hamburg (Germany)	Student exchange programmes and joint publications.
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Graz University of Technology: (Austria)	Student exchange programmes.
Katholieke Universiteit Leuven: (Belgium)	Student exchange programmes.
The Royal Institute of Technology: (Sweden)	Student exchange programmes and joint publications.
University of Grenoble: (France)	Student exchange programmes.
Oak Ridge National Laboratory: (USA)	Student exchange programmes and joint publications.
BAM (Germany)	Joint publications.
Los Alamos National Laboratory: (USA)	Joint publications.
University of Padova: (Italy)	Student exchange programmes and joint publications

Record of industrial collaborating partners.

Norsk Hydro (Norway), Hydro Aluminium (Norway), Raufoss Technology (Norway), Elkem (Norway), Aker Engineering (Norway), Kværner (Norway), Aker Verdal (Norway), Phillips Petroleum Company (Norway), Equinor (Norway), Norweld (Norway), Metaloc (Norway), Hafslund Metall (Norway), Fundia (Norway), Frekhaug Stål (Norway), ESAB (Sweden), Dillinger Hüttenwerke (Germany), Smitweld (Holland), Oerlikon (Switzerland), Nippon Steel (Japan), Alloy Rods (USA), Nexans (Norway), Benteler (Norway), Marine Aluminium (Norway).

Research experience.

***Processes:**

Fusion welding
Friction welding
Brazing
Liquid metal refining
Casting and rapid solidification
Materials processing and industrial heat treatment
Extrusion

***Materials:**

Low-alloy steels
High-alloy steels
Supermartensitic stainless steels
Aluminium alloys
Solar cell silicon

Cast iron
 Metal matrix composites
 Ceramics and intermetallic compounds
 Titanium alloys
 Ferroalloys
 Nickel-based superalloys

***Subjects:**

Heat conduction in solids
 Gas/metal and slag/metal reactions
 Deoxidation reactions
 Solidification phenomena
 Precipitate stability
 Grain growth phenomena
 Diffusion problems
 Phase transformations
 Texture analyses
 Structure-property relationships
 Work hardening behaviour
 Residual stress analyses
 Failure analyses
 General corrosion
 Pitting corrosion
 High temperature corrosion and metal dusting
 Metal forming and deformation behaviour
 Aluminium extrusion
 Cold welding

Speciality: Physical modelling of materials problems, with particular emphasis on welding, brazing, casting, industrial heat treatment, extrusion and high-temperature corrosion.

Teaching experience.

Welding metallurgy, general physical metallurgy, mechanical metallurgy, iron and steel metallurgy, aluminium metallurgy & technology, extractive metallurgy, general materials science.