

Curriculum Vitae

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Personal:

Born: May 20 1974, Bergen, Norway
Nationality: Norwegian citizen
Marital Status: Single

Current position:

RD staff member at Oak Ridge National Laboratory, USA.

Education:

2001 Cand. Scient degree in theoretical nuclear physics,
University of Bergen, Norway
2005 Dr. Scient degree in theoretical nuclear physics,
University of Bergen, Norway
2005-2007 Post Doctorate in theoretical nuclear physics,
Oak Ridge National Laboratory, USA
2008- RD staff member in theoretical nuclear physics,
Oak Ridge National Laboratory, USA

Articles and proceedings.

1. *Contour deformation method in momentum space; applied to subatomic physics.*
G. Hagen, J.S.Vaagen and M.Hjorth-Jensen,
J. Phys. A: Math. Gen. 37 (2004) 8991-9021.
2. *Exotic Matter at the Low Density Limit: Exploring Bound and Continuum Structures of Borromean Halo Nuclei.*
J.S.Vaagen, G.Hagen, B.V.Danilin, S.N.Ershov and I.J.Thompson,
W.Greiner et al. (eds.), Structure and Dynamics of Elementary Matter,
463-477, 2004 Kluwer Academic Publishers, The Netherlands
3. *Effective Interaction Techniques for the Gamow shell model.*
G. Hagen, M. Hjorth-Jensen and J.S. Vaagen, Phys. Rev. C 71(2005) 044314.
4. *Nuclear Structure Calculations with Coupled Cluster Methods from Quantum Chemistry*
D.J. Dean J.R. Gour, G. Hagen, M. Hjorth-Jensen, K. Kowalski, T. Papenbrock, P. Piecuch and M. Wloch
Nucl. Phys. A 752 (2005) 299-308.
5. *State-dependent Interactions for the Gamow shell model.*
G. Hagen, M. Hjorth-Jensen and J.S. Vaagen,
J. Phys. G: Nucl. Part. Phys. 31 (2005) S1337-S1348.
6. *Study of resonant structures in a Deformed Mean-Field by the Contour Deformation Method in Momentum Space.*
G. Hagen and J.S. Vaagen,
Phys. Rev. C 73(2006) 034321.
7. *Gamow shell model and realistic nucleon-nucleon interactions.*
G. Hagen, M. Hjorth-Jensen and N. Michel,
Phys. Rev. C 73 (2006) 064307.
8. *Coupled cluster calculations of the $^3\text{-}^5\text{He}$ isotopes with Gamow-Hartree-Fock basis.*
G. Hagen, D. J. Dean, M. Hjorth-Jensen and T. Papenbrock,

Proceedings for Nuclei in Cosmos-IX. International symposium on Nuclear Astrophysics.

9. *Ab-Initio Coupled Cluster Theory for Open Quantum Systems*
G. Hagen, D. J. Dean, M. Hjorth-Jensen T. Papenbrock,
9th INTERNATIONAL SPRING SEMINAR ON NUCLEAR PHYSICS,
World Scientific (2007)
10. *Complex coupled cluster approach to an ab initio description of open quantum systems*
G. Hagen, D. J. Dean, M. Hjorth-Jensen and T. Papenbrock,
Phys. Lett. B 656, 169 (2007)
11. *Coupled cluster theory for three-body Hamiltonians*
G. Hagen, T. Papenbrock, D. J. Dean, A. Schwenk,
A. Nogga, M. Włoch and P. Piecuch
Phys. Rev. C 76, 034302 (2007)
12. *Benchmark calculations for ^4He and ^{16}O with ab-initio coupled-cluster theory*
G. Hagen, D. J. Dean, M. Hjorth-Jensen, T. Papenbrock and A. Schwenk
Phys. Rev. C 76, 044305 (2007)
13. *Comment on "Ab Initio study of ^{40}Ca with an importance-truncated no-core shell model"*
D. J. Dean, G. Hagen, M. Hjorth-Jensen, T. Papenbrock and A. Schwenk
Phys. Rev. Lett. (2008), in press.
14. *Computational Nuclear Physics*
D. J. Dean, G. Hagen, M. Hjorth-Jensen and T. Papenbrock
Comput. Sci. Disc. (2008), in press.
15. *Broyden's Method in Nuclear Structure Calculations*
Andrzej Baran, Aurel Bulgac, Michael McNeil Forbes, Gaute Hagen,
Witold Nazarewicz, Nicolas Schunck and Mario V. Stoitsov
Phys. Rev. C 78, 014318 (2008)
16. *Medium-mass nuclei from chiral nucleon-nucleon interactions*
G. Hagen, T. Papenbrock, D. J. Dean and M. Hjorth-Jensen
Phys. Rev. Lett. 101, 092502 (2008)

Invited Talks and posters.

1. *Complex contour technique in momentum space for resonances and t-matrix.*
Halo' 03, International symposium on exotic nuclei.
St.-Petersburg, June 25-28, 2003.
2. *Generalized contour deformation method:
Two body spectral structures and scattering amplitudes.* 10th Nordic Meeting on Nuclear Physics
Oslo, Norway, May 12-16, 2003
3. *Basics of complex scaling and Berggren expansions.*
A CMA workshop on: Computational advances in nuclear many-body problem.
Department of Physics and Centre of Mathematics for Applications,
Oslo, Norway, March 11-13, 2004.
4. *Generalized contour deformation in momentum space; application of a Berggren basis in the study of many-body resonant structures.*
International nuclear physics conference (INPC) 2004,
Göteborg, Sweden June 27-July 2.
Book of abstracts (poster 148), p. 367
5. *Contour deformation method in momentum space, applied to subatomic physics.*
An internal CMA seminar / workshop Soria Moria conference hotel,
September 21-22, 2004.
6. *Expansion and perturbation methods for the Gamow shell model*
INT Workshop on Nuclear Forces and the Quantum Many-Body Problem, October 4 - 8, 2004 Institute for Nuclear Theory, University of Washington
7. *Effective interactions and perturbation techniques for the Gamow shell-model.*
An internal CMA seminar series on: Computational Quantum Mechanics, November 25, 2004. Centre of Mathematics for applications, University of Oslo.

8. *Building nuclei from the ground up.*
Nuclei in Cosmos-IX. International symposium on Nuclear Astrophysics.
25-30 June 2006. CERN, Geneva.
9. *Microscopic Coupled Cluster approach to Neutron Rich Nuclei*
The Annual Meeting of the Division of Nuclear Physics of the American
Physical Society, Oct. 25-28, 2006 Nashville.
10. *Coupled-Cluster approach to nuclear structure and many-body open quan-
tum systems*
Subatomic and Astrophysics Division Annual Meeting 2007,
January 4.-6. 2007, University of Oslo, Blindern
11. *Ab-initio Coupled-Cluster calculations for nuclei*
International Workshop, Joint JUSTIPEN-LACM Meeting 2007,
Joint Institute for Heavy Ion Research, Oak Ridge, Tennessee, USA
Oak Ridge National Laboratory March 5-8, 2007
12. *Structure of He isotopes and hints of missing physics due to 3N inter-
actions*
Three-Nucleon Interactions from Few- to Many-Body Systems
12 - 16 March, 2007, TRIUMF
13. *Coupled cluster theory for nuclear structure*
Experiment – Theory Intersections in Modern Nuclear Structure,
23 - 27 April, 2007, ECT*, Trento
14. *Coupled cluster approach for open quantum systems*
Many-body open quantum systems: From atomic nuclei to quantum
dots
14 - 18 May, 2007, ECT*, Trento
15. *Ab-Initio Coupled Cluster theory for nuclear structure*
9th INTERNATIONAL SPRING SEMINAR ON NUCLEAR PHYSICS
CHANGING FACETS OF NUCLEAR STRUCTURE
20 - 24 May, 2007, Vico Equense
16. *Ab-Initio Coupled cluster theory for nuclear structure*
Advanced Many-body Methods for Nuclear Physics
2 - 6 July, 2007, ECT*, Trento

17. *Coupled cluster approach to nuclear structure*
 TRIUMF seminar series
 28 November, 2007, TRIUMF
18. *Coupled-Cluster approach to nuclear structure*
 Theory network for nuclear structure and reactions
 January 2008, ECT*, Trento
19. *Coupled-cluster Theory for Nuclei*
 The 2nd LACM-EFES-JUSTIPEN Workshop
 23 - 25 January, 2008, ORNL
20. *Ab-initio coupled-cluster theory for weakly bound and unbound nuclear states*
 Halo08
 March 2008, TRIUMF
21. *Ab-initio calculations of stable and weakly bound nuclei with coupled-cluster theory*
 From quarks to the nuclear many-body problem
 May 2008, UiO, Oslo/Norway
22. *Coupled cluster theory for nuclei*
 Symposium on "50 Years of Coupled Cluster Theory"
 Atomic, Chemical, and Nuclear Developments in Coupled Cluster Method
 June 30 - July 2, 2008, INT
23. *Nuclear Coupled-Cluster approach,*
 ENAM '08 on Exotic Nuclei and Atomic Masses,
 September 7-13 2008, Ryn, Poland.

Teaching

1. HUGS 2008, 23rd Annual Hampton University Graduate Studies Program, Five lectures on the Nuclear Many-Body problem, Jefferson Lab, Newport News, Virginia June 2 - 20, 2008

Conferences/Schools

1. Halo' 1999, Joint Study Weekend, Copenhagen, Denmark
2. Halo' 2000, Joint Study Weekend, 28-30 April, Brussels, Belgium
3. 5th Nordic Summer School in Nuclear Physics, 14-25 August 2000, Hillerød, Denmark
4. North-West Europe Nuclear Physics Conference and ENP weekend, 17-22 April 2001, Bergen Norway
5. Workshop on the Physics of Halo Nuclei, 4-12 October 2001, ECT*, Trento, Italy
6. Current theoretical and experimental investigations of the Nuclear Many-Body problem and applications, 24 September - 30 October, ECT*, Trento, Italy
7. Continuum Aspects of the Nuclear Shell Model, 3-7 June 2002, ECT*, Trento, Italy
8. Halo' 03, International symposium on exotic nuclei. June 25-28 2003, St.-Petersburg
9. 10th Nordic Meeting on Nuclear Physics , May 12-16 2003, Oslo, Norway
10. NATO advanced study institute on Structure and dynamics of elementary matter, Camyuva-Khmer (Antalya, Turkey), 22 September - 2 October, 2003.
11. A CMA workshop on: Computational advances in nuclear many-body problem. Department of Physics and Centre of Mathematics for Applications, Oslo, Norway, March 11-13, 2004.
12. An internal CMA seminar / workshop Soria Moria conference hotel, September 21-22, 2004.
13. INT Workshop on Nuclear Forces and the Quantum Many-Body Problem, October 4 - 8, 2004 Institute for Nuclear Theory, University of Washington

14. Nuclei in Cosmos-IX. International symposium on Nuclear Astrophysics.
25-30 June 2006. CERN, Geneva.
15. Subatomic and Astrophysics Division Annual Meeting 2007,
January 4.-6. 2007, University of Oslo, Blindern
16. International Workshop, Joint JUSTIPEN-LACM Meeting 2007,
Joint Institute for Heavy Ion Research, Oak Ridge, Tennessee, USA
Oak Ridge National Laboratory March 5-8, 2007
17. Experiment – Theory Intersections in Modern Nuclear Structure,
23 - 27 April, 2007, ECT*, Trento