Gijsje Koenderink - Overview of invited talks, seminars, teaching and outreach (June 2016)

Other invited presentations at international conferences

1. *Physical properties of fibrin*, 3rd Maastricht Thrombin Summer School, Maastricht, NL, 16-17 June 2016
2. *Cytoskeletal self-organization*, Lorentz Workshop Anisotropy and shape in biological materials: From structure to functionality, Leiden, NL, 23-26 may 2016
3. *A soft matter perspective on the living cell*, Institute of Physics Conference on the Physics of Soft and Biological Matter (SoftBio2016), Cambridge, UK, 6-8 april 2016
4. *Extracellular matrix mechanics across scales*, MechBio2016 Meeting "Mechanobiology: mechanisms of force sensation and transduction that control cell behavior in health & disease**",** Amsterdam, 22-24 march 2016
5. *Cell-free reconstitution to understand cytoskeletal coordination*, 80th Annual Meeting of the DPG and Spring Meeting, Regensburg, Germany, 6-11 march 2016
6. *Building minimal cells to understand cell shape control*, Workshop 'Towards a synthetic cell', Delft, Netherlands, 2-4 december 2015
7. *Extracellular matrix mechanics and implications for cellular mechanosensing*, Cell-Matrix Mechanobiology Workshop, Urbana IL, USA, 25-28 october 2015
8. *Four-way cytoskeletal coordination*, EMBO Conference "Physics of Cells: From Molecules to Systems", Bad Staffelstein, Germany, 30 aug – 4 Sept 2015
9. *Mechanics of fibrous protein networks: role of structural hierarchy*, Lorentz Workshop on "The future of multi-scale soft matter modeling", Leiden, Netherlands, Aug 31 – Sept 4, 2015
10. *Cytoskeletal crosstalk: microtubules, actin and more*, Jacques Monod Conference on "Actin and microtubule cytoskeleton in cell motility and morphogenesis: an integrated view", Roscoff, France, May 26-30, 2015
11. *Nonlinear mechanics and active dynamics in the life of a cell*, MPI-PKS Workshop "random walks and nonlinear dynamics in the life of cells", Dresden, Germany, May 18-23, 2015
12. *Mechanics of cellular and extracellular fibrous protein networks*, 6th European Cell Mechanics Meeting, Barcelona, Spain, May 13-15, 2015
13. *In vitro reconstitution of cytoskeletal coordination*, EMBO Workshop *A Systems-Level View of Cytoskeletal Function*, Weizmann Institute campus, Rehovot, Israel, October 27-31, 2014
14. *Cellular biophysics*, Symposium on *Modern Biophysical Techniques for the Life Sciences*, Belgian Biophysical Society and the National Committee for Biophysics, Royal Academy Building, Brussels, Belgium, 20-21 october 2014
15. *Cytoskeletal organization by polymerization forces, 9th Physics of Living Matter Symposium* (PLM9), Cambridge, United Kingdom, 18-19 september 2014
16. *Self-organization of the cytoskeleton by motor and polymerization forces,* CECAM workshop *The self-organised cytoplasm*,Lausanne, Switzerland, 16-18 July 2014
17. *Cytoskeletal self-organization by motor pulling forces,* Company of Biologists Workshop *Navigating the cell: how motors function in vivo*, Sussex, United Kingdom, 23-26 march 2014.
18. *Living soft matter: cytoskeletal self-organization by motor and polymerization forces, American Physical Society* (APS) March meeting 2014, Denver CO, United States of America, 3-7 March 2014.
19. *Active biopolymer networks*, Annual *Berkeley Mini Statistical Mechanics* meeting, Berkeley CA, United States of America, 10-12 january 2014
20. *Mechanobiology of Proteins and Cells* meeting, Biophysical Society, Salisbury Cove ME, United States of America, 29 september – 3 october 2013.
21. CTEAM13 "*Connecting theory and experiments in active matter*" workshop, Dresden, Germany, 5-7 June 2013.

22. *8th Annual European Rheology Conference*, Leuven, Belgium, April 2-5, 2013.
23. International Symposium on *Self-organization and emergent dynamics in active matter*, Kyoto, Japan, February 18-20, 2013.
24. *57th Annual Biophysical Society Meeting*, Symposium "From molecules to cells: how forces are transduced in biology", Philadelphia PA, USA, 2-6 February 2013.
25. *Polypeptides: from molecular structure to mechanical properties*, MPI Polymer Research, Mainz, Germany, 15-16 november 2012.
26. *3rd Annual Symposium Physics of Cancer*, Leipzig, Germany, November 1-3, 2012. *Membrane/cytoskeleton crosstalk*
27. DGfB 2012, Annual Meeting of the German Biophysical Society, Göttingen, Germany, 23-26 September 2012 [Plenary] *Physics of cytoskeletal organization*
28. EU-SoftComp Annual meeting 2012, Heraklion, Greece, 29-31 may 2012 [plenary] *A soft matter perspective on the living cell*
29. Aspen Winter Conference on Growth and Form: Pattern Formation in Biology, Aspen CO, 2-7 January 2012 *Motor-driven patterning of the actin cytoskeleton*
30. 55th Biophysical Society meeting, Baltimore, MA, 9 march 2011. *Active patterning of the cytoskeleton by myosin II motors*
31. Non-equilibrium behaviour of suspensions of rod-like particles workshop, Luxembourg, 28 may 2010. *Self-organization in active cytoskeletal rod suspensions*
32. American Physical Society (APS) March Meeting 2009*,* Pittsburgh, PA, 16-20 march 2009. *Active soft matter: Physics from cells to tissues*
33. Workshop Self-Organization and dynamics of active matter, Paris, France, 26-30 january 2009. *Active biopolymer networks: from cells to tissues*
34. European Cytoskeleton Forum, Potsdam, Germany, 22-26 june 2008. *Active motor-driven dynamics in actin myosin-networks probed by Microtubules*
35. 9th International Bone Fluid Flow Workshop, VU University Amsterdam, Netherlands, 22-23 may 2008. *Physics of Soft Tissue Remodeling*
36. 39th IFF Spring School 2008 – Soft Matter, Forschungszentrum Jülich, Germany, 11 march 2008.
37. Deutsche Physikalische Gesellschaft Spring Meeting, Berlin, Germany, 26-27 february 2008. *Active networks of actin filaments driven by myosin motors*
38. 47th American Society for Cell Biology Annual Meeting, Washington, DC, 1-5 december 2007. *Myosin motors generate active random stress fluctuations in the actin cytoskeleton*
39. Argonne International Workshop Self-Organization in Active Biological Systems, Argonne National Laboratory, Chicago, IL, 28 april 2007. *Active self-organization and dynamics of reconstituted cytoskeletal protein networks driven by myosin motors*
40. Deutsche Rheologischen Gesellschaft Workshop Microrheology and Rheological Phenomena in Microfluidics, Karlsruhe, Germany, 4-5 October 2006. *Myosin motors generate active random stress fluctuations in the actin cytoskeleton*

Invited lectures at international schools

1. Workshop "Dynamcs and Information Processing : from Cells to Tissues", Les Houches, France, 1-4 march 2016,*Cell-free reconstitution to understand cytoskeletal self-organization*.
2. From Molecules to Systems Winterschool, St Catherine's College, Oxford UK, 5-8 january 2016. *Physics of life across length scales*.
3. 46th IFF Spring School 2015 – Functional Soft Matter, Forschungszentrum Jülich, Germany, 5 march 2015. *Mechanical properties of biological polymer networks*
4. EMBO Practical Course *Microscopy, Modeling and biophysical methods*, EMBL Heidelberg, Germany, 7 september 2012. *Reconstitution of biomimetic cellular systems*
5. *BuildMoNa* Graduate School, University of Leipzig, Germany, 29 september 2011. *Myosin motor control over cytoskeletal structure and mechanics*, and *Mechanics of hierarchical biopolymer networks*

6. Pierre-Gilles de Gennes Winter School 2010, Corsica, France, 22-26 february 2010. *Physics of the actin-myosin cytoskeleton. Self-organization and mechanical properties*
7. 39th IFF Spring School 2008 – Soft Matter, Forschungszentrum Jülich, Germany, 11 march 2008. *Active gels: structure and dynamics of actin-myosin networks*

Invited presentations at major (>60 participants) national meetings

1. *A soft matter perspective on the living cell*, Chemistry Day 2015, Utrecht University, Utrecht, 26 june 2015
2. *Physics of biological polymer networks*, Outreach Symposium, ICMS (Institute for Complex Molecular Systems), TU Eindhoven, 22 january 2015
3. *Nature's designer matter*, Focus session Designer Matter, FOM Physics@FOM Veldhoven, Veldhoven, Netherlands, 21 January 2015.
4. *Amyloids : from molecular structure to mechanical properties,* FOM-DPI-TIRN Bio(-related) Materials Day, Utrecht, the Netherlands, 3 october 2014.
5. *Living soft matter*, Fysica 2014 meeting, Nederlandse Natuurkundige Vereniging (NNV), Leiden, the Netherlands, 1 april 2014
6. *Physics of protein nanofibrils: a breakup story with a twist*, Focus session, FOM Physics@FOM Veldhoven, Veldhoven, Netherlands, 21-22 January 2013.
7. IB Conference on Biomembranes 2012, Utrecht, The Netherlands, 25-26 october 2012. *Cytoskeleton-mediated remodeling of the cell membrane*
8. Bio(related) Materials Day 2012, Utrecht, 10 may 2012, *Multiscale mechanics of protein biopolymers*
9. G.H. Koenderink, *Body World: Designer materials from nature*, Focus Session "Geometry and Architecture of Designer Soft Materials", Physics@FOM 2011, Veldhoven, 20 january 2011.
10. G.H. Koenderink, *Active organization of the cytoskeleton by molecular motors*, Dutch meeting on Molecular and Cellular Biophysics, Veldhoven, 5 october 2010.
11. G.H. Koenderink, *Structural hierarchy of biopolymer networks probed by multi-scale rheology*, Bio-(related) Materials (BRM) Scientific Day, FOM office, Utrecht, 28 april 2010.

Popular lectures

1. *Building minimal cells to understand life*, TEDxAUCollege, Amsterdam, 4 march 2015, see Youtube: https://www.youtube.com/watch?v=stRRlME9jFI
2. *Physics of the living cell*, Rotary Club Amsterdam, 17 november 2014
3. *Fysica van de levende cel*, De Jonge Akademie Meeting, TU Twente, Enschede, 18 september 2009.
4. *Micron-confinement of actin filaments*, KNAW/DJA Scheikunde "Tandemlezing" with T. Odijk, Amsterdam, 25 may 2009.
5. *Fysica van de levende cel:hoe moleculaire motoren de mechanica van de cel sturen*, KNAW/DJA Physics, Amsterdam, 27 march 2009.
6. *Fysica van de levende cel,* Symposium "Leven(de) Moleculen", Chemistry students of Utrecht University "Proton", Utrecht University, Utrecht, Netherlands, 28 november 2007.

Invited Seminars (International)

1. *Biophysics of cytoskeletal form and function*, MPI-CBG Dresden, Germany, 2 june 2016
2. *Mechanical properties of the extracellular matrix across scales*, Imperial College London, Department of Bioengineering, London UK, 8 january 2016
3. *Cell and tissue biophysics*, London Centre for Nanotechnology, University College London, UK, 24 June 2015
4. *Cytoskeletal self-organization by motor and polymerization forces*, Laboratory of Theoretical Physics and Statistical Models, Universite Paris Sud, Paris, France, 11 april 2014
5. *Active cell shape control:force transduction from molecule to cell*, Seminar at LeHigh University, Bethlehem, USA, 7 February 2013.

6. *Self-organization of active cytoskeletal networks*, Seminar at Forschungszentrum Juelich, Germany, 10 march 2013.
7. *Active cell shape control*, Seminar at Institut Curie, Paris, France, 11 september 2013.
8. *Motor-driven organization of the actin cytoskeleton*, MPI-CBG and MPI-PKS, Dresden, Germany, 5 march 2012
9. *Motor-driven organization of the actin cytoskeleton*, Institut Charles Sadron, Strasbourg, 2 april 2012
10. *Physics of cell architecture and mechanics*, MPI of Biochemistry, Martinsried, Germany, 4 july 2011
11. 3. *Myosin motor control over cytoskeletal structure and mechanics*, BioQuant Center for Quantitative Analysis of Molecular and Cellular Biosystems , University of Heidelberg, Germany, 17 november 2011
12. *Myosin motor control over cytoskeletal structure and mechanics*, Georg-August Universitat Gottingen, Germany, 9 november 2011
13. *Self-organization of actively contractile actin-myosin networks*, University of Cambridge, Department of Physics, Cavendish Laboratory, Cambridge UK, Biological and Soft Systems group seminar, 7 may 2010.
14. *Motor-driven self-organization of active gels*, Ecole Normale Supérieure of Lyon, Laboratoire Joliot-Curie, 8 april 2010.
15. *Self-organization of actively contractile actin-myosin networks*, Institute of Developmental Biology of Marseille-Luminy, Marseille, France, 7 april 2010.
16. *Active biopolymer gels: from cells to tissues*, University of Leeds, UK, 5 december 2008.
17. *Physics of biological soft matter: active gels*, Cornell University, Physics Department, Ithaca NY, USA, 2 april 2008.
18. *Physics of biological soft matter: active gels*, Syracuse University, Department of Physics, Syracuse NY, USA, 4 april 2008.
19. *Motor-driven activity in the actin cytoskeleton*, Ludwig-Maximilians-Universität München, Faculty of Physics, 24 january 2008.
20. *Motor-driven activity in the actin cytoskeleton*, Technische Universität München, Physics Department, Biophysics, 23 january 2008.
21. *Motor-driven activity in the actin cytoskeleton*, Université Montpellier II, Laboratoire des Colloïdes, Verres et Nanomatériaux (UMR 5587 CNRS/UM2), France, 10-11 january 2008.
22. *Active cytoskeletal protein networks*, Universität Bayreuth Physikalisches Institut, Bayreuth, Germany, 3 july 2007.
23. *Active cytoskeletal protein networks*, MPI für Kolloid- und Grenzflächenforschung, Golm, Germany, 2 july 2007.
24. *Active cytoskeletal protein networks*, Seminar series Weiche Materie, Forschungszentrum Jülich, Germany, 18 june 2007.
25. *Active cytoskeletal protein networks*, Institut Curie, Paris, France, 13 june 2007.
26. *Active cytoskeletal protein networks*, Soft Matter Physics, University of Leipzig, Germany, 11 may 2007.
27. *The Inner Life of Contractile Actin-Myosin Networks*, M.E.Müller Institute Biozentrum, University Basel, Switzerland, 29 january 2007.
28. *The Inner Life of Contractile Actin-Myosin Networks*, Deutsche Krebsforschungszentrum, Heidelberg, Germany, 31 january 2007.
29. *Physics of cytoskeletal networks*, Deutsches Krebsforschungszentrum, Heidelberg, Germany, October 2006.

Invited Seminars (National)

1. *Building minimal cells to understand cell shape control*, Systems Biology afternoon, Radboud University Nijmegen, 11 december 2015
2. *Biological soft matter physics*, Vrije Universiteit Amsterdam, 13 april 2015

3. *The cell as a material*, Radboud University Nijmegen, 23 january 2015
4. *Hierarchical mechanics of biological polymers*, Soft Matter Symposium, UvA, Amsterdam, 27 november 2014
5. *Flow properties of biological polymer fluids*, Physics of Fluids Group, University of Twente, Enschede, Netherlands (12 june 2014)
6. *Actin and microtubules: bridging the divide*, Life Simplified symposium, FOM Institute AMOLF, Amsterdam, Netherlands (4 april 2014)
7. *Living Soft Matter*, Debye Institute Nanoseminar series, Utrecht University, Netherlands (21 february 2014)
8. *Cellular biophysics: self-organization of the cytoskeleton*, Natuurkundig Gezelschap, Utrecht University (3 december 2013)
9. *Physics of cell architecture and mechanics*, Institute for Theoretical Physics Amsterdam, University of Amsterdam, 12 may 2012
10. *Physics of cytoskeletal organization*, Laboratory of Physical Chemistry and Colloid Science, Wageningen University, 2 march 2012
11. *Experimental physics of biological soft matter*, Developmental Mechanobiology symposium, VU University, 15 June 2011
12. G.H. Koenderink, *Soft matter physics of the living cell*, Van der Waals-Zeeman colloquium, University of Amsterdam, 23 march 2010.
13. J. Alvarado, J. Nguyen, M. Soares e Silva, N. Georgoulia, G.H. Koenderink, *Hard Constraints on Cellular Organization*, Wageningen Plant Cell Biology group seminar, 23 october 2009.
14. G.H. Koenderink, *Physical mechanisms controlling the mechanics of cells and tissues*, Skeletal Tissue Engineering Group Amsterdam (STEGA)/MOVE seminar, Vrije Universiteit Amsterdam, 11 may 2009.
15. G.H. Koenderink, *Active biopolymer gels: from cells to tissues*, Seminar at Fuji Photofilm, Tilburg, 6 march 2009.
16. G.H. Koenderink, *Active biopolymer gels: from cells to tissues*, Department of Physics, Utrecht University, 8 january 2009.
17. G.H. Koenderink, *Biophysics of the cytoskeleton*, Netherlands Institute for Neurosciences, 17 december 2008.
18. G.H. Koenderink, *Physics of biological soft matter: active gels*, TU Eindhoven, Department of Physics, 28 april 2008.
19. G.H. Koenderink, *Physics of biological soft matter: active gels*, TU Twente, Department of Physics, BioSoftMatter Mechanics colloquium series, Enschede, Netherlands, 19 march 2008.
20. G.H. Koenderink, *Physics of biological soft matter: cells and tissues*, University of Groningen, Department of Applied Physics, 28 february 2008.
21. G.H. Koenderink, *Physics of active cytoskeletal protein networks*, Food Physics Group, Wageningen University, Netherlands, 23 may 2007.
22. G.H. Koenderink, *Active stiffening and contractility of reconstituted cytoskeletal protein networks driven by myosin motors*, Plant Cell Biology, Wageningen University, Netherlands, 30 march 2007.
23. G.H. Koenderink, *The Inner Life of Contractile Actin-Myosin Networks*, Physics Colloquium series, Leiden Institute of Physics, Leiden University, Netherlands, 16 february 2007.

Teaching (national)

1. *Physics of the cellular cytoskeleton*, Guest lecture, Amsterdam University College (10 may 2016)
2. *Mechanical properties of biological polymer networks*, Guest lecture, Amsterdam University College (12 may 2015)
3. Bi-annual course *Biophysical properties of amyloid fibrils*, ONWAR course on neurodegeneration, Graduate School Neurosciences Amsterdam Rotterdam, (12 may 2014, 8 may 2012, 20 may 2010)

4. Annual Master course *Soft Condensed Matter and Biological Physics*, VU University/University of Amsterdam (2012, 2013, 2014)
5. *Cellular biophysics*, Guest lecture, Amsterdam University College (5 december 2013)
6. *Interdisciplinary research*, Honours students, Radboud Universiteit Nijmegen, 6 april 2012
4. *Zelf-organisatie van de levende cel*, Highlight lecture, Physics and chemistry bachelor students, Utrecht University, 1 april 2010.
5. *Cell and tissue biophysics*, Highlights college UvA Physics 2nd year, 11 march 2009.
6. *Active cell behavior*, Extracurricular Honours program 2nd year physics students, Utrecht University, 23 january and 9 february 2009.
7. *Research Practicum UvA Physics*, january 2009 and january 2008.
8. *Mechanics of soft tissues*, Master students "Medische Natuurwetenschappen", Vrije Universiteit, 23 november 2008.
9. *Physics and physical chemistry of cellular processes*, Capita selecta, Wageningen University, 23 november 2007.

Teaching (Dutch high schools)

1. *Biofysica: natuurkunde van de levende cel*, guest lecture, Jan van Egmond Lyceum, Purmerend, 22 april 2014
2. Supervision of Profielwerkstuk '*De artificiele cel*', S. Pruijssers and C. Doelman, Atheneum College Hageveld, Haarlem (january 2014)
3. *Biofysica: natuurkunde van de levende cel*, guest lecture, Atheneum College Hageveld, Haarlem (31 may 2013)
4. Lecture for 'LAPP-top scholieren'(female highschool students) from Leiden (21 march 2013)
5. DJA on Wheels, Campus Winschoten (VMBO), 30 march 2012
6. DJA on Wheels, Openbare Scholengemeenschap Sevenwolden, Grou, 13 may 2011
7. DJA on Wheels, Stedelijk Gymnasium Johan van Oldenbarnevelt, Amersfoort, 25 may 2011