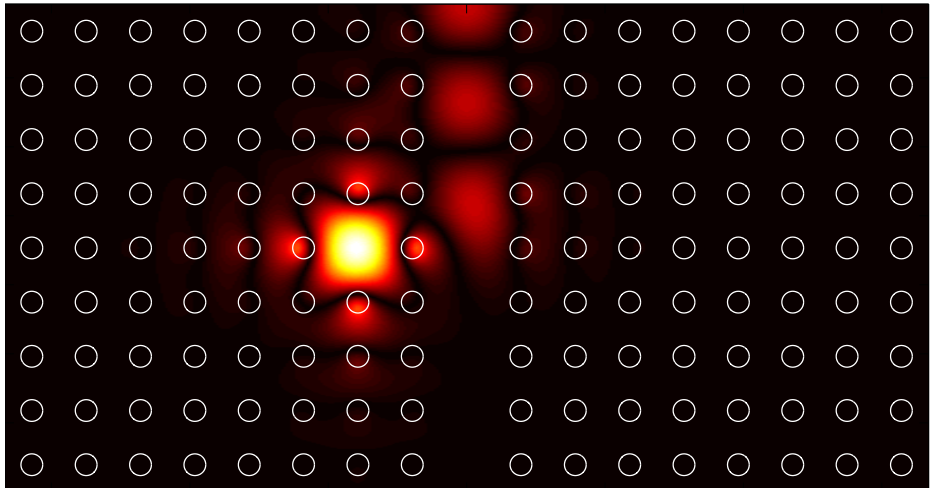
Physics and Nanotechnology

Probably the Best Education in the World

Jakob Rosenkrantz de Lasson

September 12 2013



DTU Fotonik
Department of Photonics Engineering

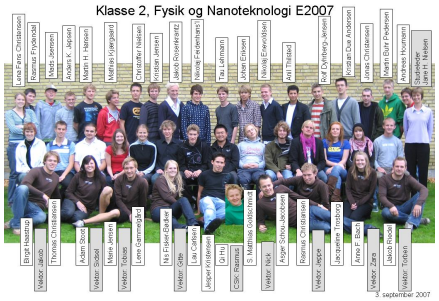
DTU

My Background

Grew up in Odense

My Background

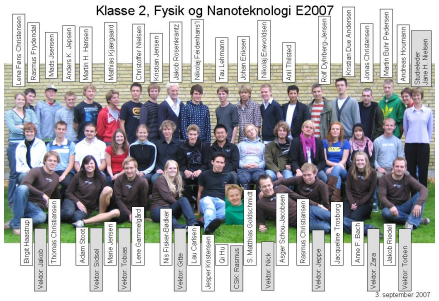
Grew up in Odense



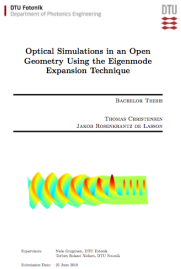
B.Sc. at DTU from 2007

My Background

Grew up in Odense



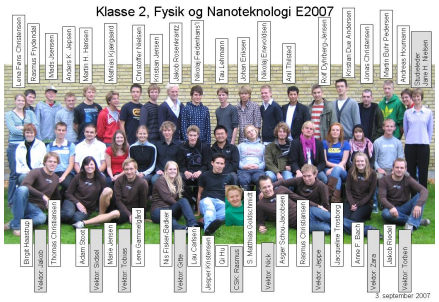
B.Sc. at DTU from 2007



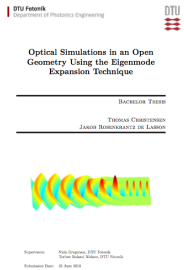
B.Sc. thesis in 2010

My Background

Grew up in Odense



B.Sc. at DTU from 2007

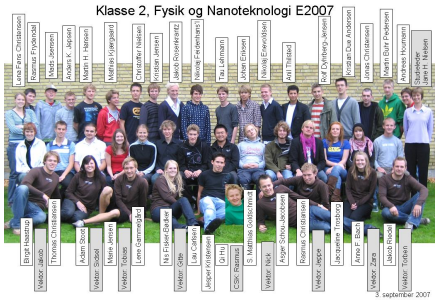


B.Sc. thesis in 2010

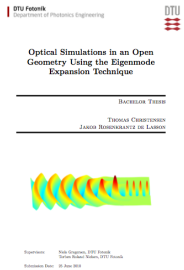
M.Sc. at DTU from 2010 (Honors Program)
Exchange at UMD

My Background

Grew up in Odense



B.Sc. at DTU from 2007



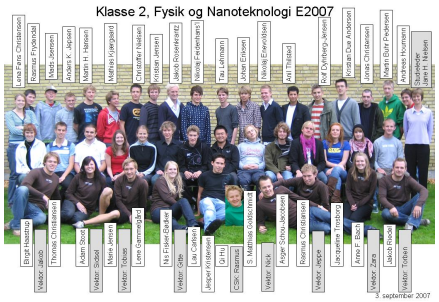
B.Sc. thesis in 2010

M.Sc. at DTU from 2010 (Honors Program)
Exchange at UMD

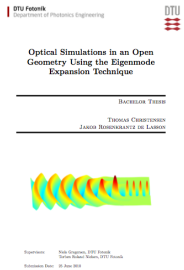
Summer school in Grenoble (2011)

My Background

Grew up in Odense



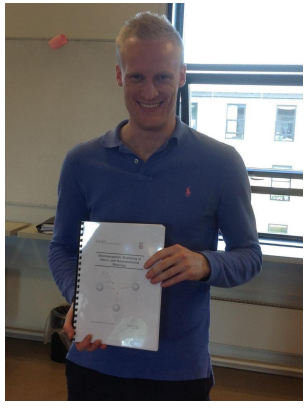
B.Sc. at DTU from 2007



B.Sc. thesis in 2010

M.Sc. at DTU from 2010 (Honors Program)
Exchange at UMD

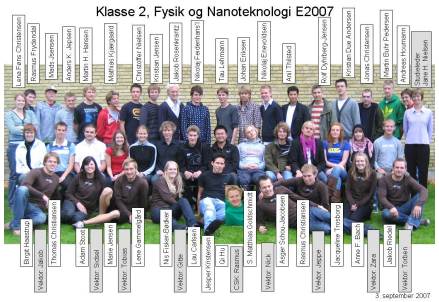
Summer school in Grenoble (2011)



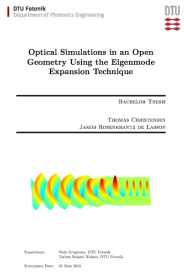
M.Sc. thesis in 2012

My Background

Grew up in Odense



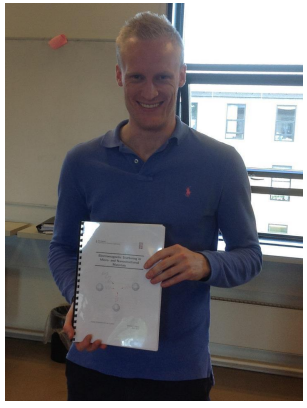
B.Sc. at DTU from 2007



B.Sc. thesis in 2010

M.Sc. at DTU from 2010 (Honors Program)
Exchange at UMD

Summer school in Grenoble (2011)

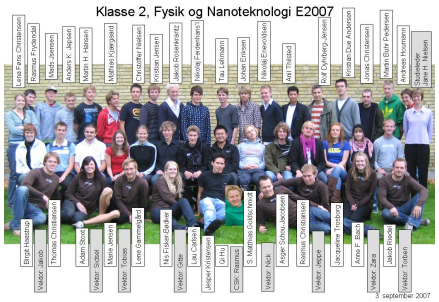


M.Sc. thesis in 2012

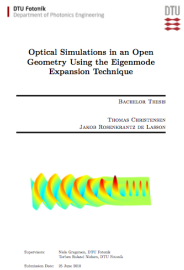
...Ph.D. student at DTU Fotonik from October 2012

My Background

Grew up in Odense



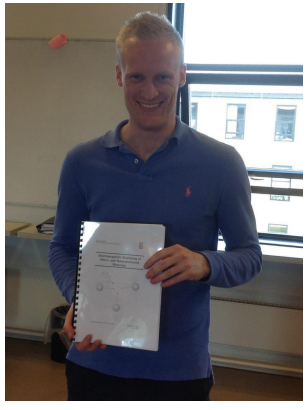
B.Sc. at DTU from 2007



B.Sc. thesis in 2010

M.Sc. at DTU from 2010 (Honors Program)
Exchange at UMD

Summer school in Grenoble (2011)



M.Sc. thesis in 2012

...Ph.D. student at DTU Fotonik from October 2012

Go abroad with your studies!

My M.Sc. Education

Courses:

- Methods of Mathematical Physics (UMD)
- Introduction to Quantum Mechanics I (UMD)
- Continuum Mechanics (UMD)
- Nanophotonics (DTU)
- TEMO (DTU)
- Summer school (Grenoble)
- Statistical Physics (DTU)
- Transport in Nanostructures (DTU)

My M.Sc. Education

Courses:

- Methods of Mathematical Physics (UMD)
- Introduction to Quantum Mechanics I (UMD)
- Continuum Mechanics (UMD)
- Nanophotonics (DTU)
- TEMO (DTU)
- Summer school (Grenoble)
- Statistical Physics (DTU)
- Transport in Nanostructures (DTU)

Projects:

- "Modeling of Spontaneous Emission Rate in Micropillars Using an Open Geometry Formalism"
- "Volume Integral Equations and the Electromagnetic Green's Tensor"
- "Electromagnetic Scattering in Micro- and Nanostructured Materials"

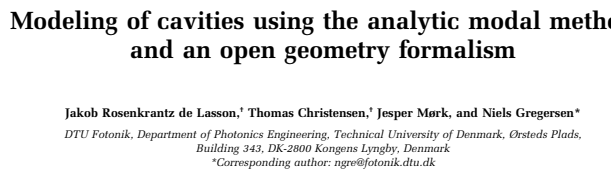
My M.Sc. Education

Courses:

- Methods of Mathematical Physics (UMD)
- Introduction to Quantum Mechanics I (UMD)
- Continuum Mechanics (UMD)
- Nanophotonics (DTU)
- TEMO (DTU)
- Summer school (Grenoble)
- Statistical Physics (DTU)
- Transport in Nanostructures (DTU)

Projects:

- "Modeling of Spontaneous Emission Rate in Micropillars Using an Open Geometry Formalism"

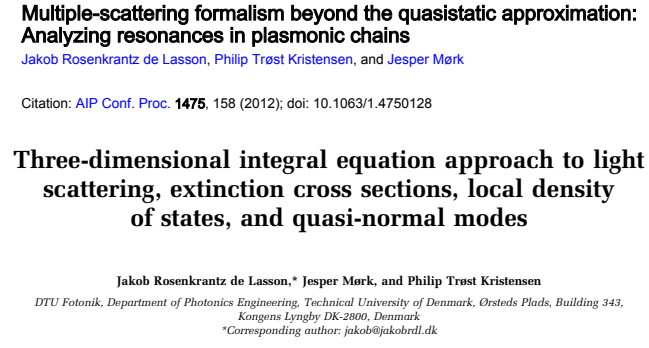


Modeling of cavities using the analytic modal method and an open geometry formalism

Jakob Rosenkrantz de Lasson,† Thomas Christensen,† Jesper Mørk, and Niels Gregersen*

DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark, Ørsteds Plads, Building 343, DK-2800 Kongens Lyngby, Denmark
**Corresponding author: ngre@fotonik.dtu.dk*

- "Volume Integral Equations and the Electromagnetic Green's Tensor"
- "Electromagnetic Scattering in Micro- and Nanostructured Materials"



Multiple-scattering formalism beyond the quasistatic approximation: Analyzing resonances in plasmonic chains

Jakob Rosenkrantz de Lasson, Philip Trøst Kristensen, and Jesper Mørk

Citation: AIP Conf. Proc. **1475**, 158 (2012); doi: 10.1063/1.4750128

Three-dimensional integral equation approach to light scattering, extinction cross sections, local density of states, and quasi-normal modes

Jakob Rosenkrantz de Lasson,* Jesper Mørk, and Philip Trøst Kristensen

DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark, Ørsteds Plads, Building 343, Kongens Lyngby DK-2800, Denmark
**Corresponding author: jakob@jakobrdl.dk*

My M.Sc. Education

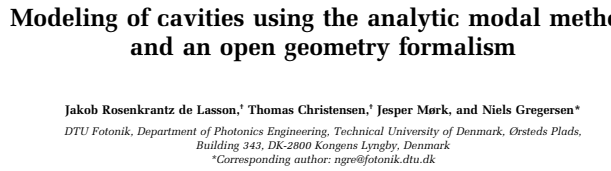
Courses:

- Methods of Mathematical Physics (UMD)
- Introduction to Quantum Mechanics I (UMD)
- Continuum Mechanics (UMD)
- Nanophotonics (DTU)
- TEMO (DTU)
- Summer school (Grenoble)
- Statistical Physics (DTU)
- Transport in Nanostructures (DTU)

Special courses and M.Sc. project: Chance to do research and possibly publish an article.

Projects:

- "Modeling of Spontaneous Emission Rate in Micropillars Using an Open Geometry Formalism"

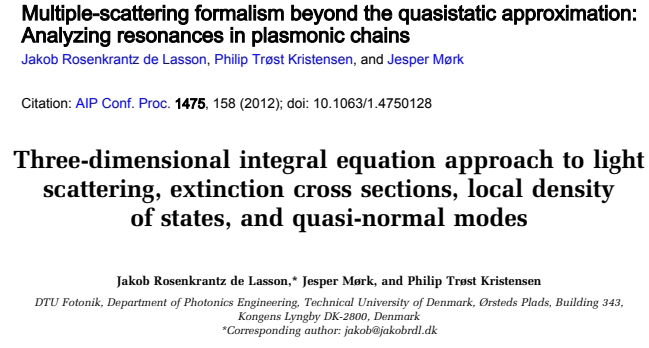


Modeling of cavities using the analytic modal method and an open geometry formalism

Jakob Rosenkrantz de Lasson,† Thomas Christensen,† Jesper Mørk, and Niels Gregersen*

DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark, Ørsteds Plads, Building 343, DK-2800 Kongens Lyngby, Denmark
**Corresponding author: ngre@fotonik.dtu.dk*

- "Volume Integral Equations and the Electromagnetic Green's Tensor"
- "Electromagnetic Scattering in Micro- and Nanostructured Materials"



Multiple-scattering formalism beyond the quasistatic approximation: Analyzing resonances in plasmonic chains

Jakob Rosenkrantz de Lasson, Philip Trøst Kristensen, and Jesper Mørk

Citation: AIP Conf. Proc. **1475**, 158 (2012); doi: 10.1063/1.4750128

Three-dimensional integral equation approach to light scattering, extinction cross sections, local density of states, and quasi-normal modes

Jakob Rosenkrantz de Lasson,* Jesper Mørk, and Philip Trøst Kristensen

DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark, Ørsteds Plads, Building 343, Kongens Lyngby DK-2800, Denmark
**Corresponding author: jakob@jakobrdl.dk*

My Teaching Assistant Jobs

Courses:

- Advanced Engineering Mathematics 1 (01005)
- Introduction to Numerical Algorithms (02601)
- Introductory Programming with Matlab (02631)
- Partial Differential Equations – Applied Mathematics (01246)
- Thermodynamics and Statistical Physics (10034)
- Nanophotonics (34051)

My Teaching Assistant Jobs

Courses:

- Advanced Engineering Mathematics 1 (01005)
- Introduction to Numerical Algorithms (02601)
- Introductory Programming with Matlab (02631)
- Partial Differential Equations – Applied Mathematics (01246)
- Thermodynamics and Statistical Physics (10034)
- Nanophotonics (34051)

Projects:

- "Semiconductor Quantum Dots"
- "Single-Photon Sources for Quantum Information Processing"
- "Optical Simulations of Structured Materials"

My Teaching Assistant Jobs

Courses:

- Advanced Engineering Mathematics 1 (01005)
- Introduction to Numerical Algorithms (02601)
- Introductory Programming with Matlab (02631)
- Partial Differential Equations – Applied Mathematics (01246)
- Thermodynamics and Statistical Physics (10034)
- Nanophotonics (34051)

Projects:

- "Semiconductor Quantum Dots"
- "Single-Photon Sources for Quantum Information Processing"
- "Optical Simulations of Structured Materials"

Teaching assistant jobs: Optimal way of reviewing courses and understanding curricula even better.

My Teaching Assistant Jobs

Courses:

- Advanced Engineering Mathematics 1 (01005)
- Introduction to Numerical Algorithms (02601)
- Introductory Programming with Matlab (02631)
- Partial Differential Equations – Applied Mathematics (01246)
- Thermodynamics and Statistical Physics (10034)
- Nanophotonics (34051)

Projects:

- "Semiconductor Quantum Dots"
- "Single-Photon Sources for Quantum Information Processing"
- "Optical Simulations of Structured Materials"

Teaching assistant jobs: Optimal way of reviewing courses and understanding curricula even better.
And to earn money ☺

What Does a Physicist Do?

What Does a Physicist Do?

Ingeniøren

Log ind | Opret bruger

Nyheder | Blogs | Debat | Ingeniør-job | Avisarkiv | Kursusguide | Ingeniøren+ Følg

Sektioner: Biotek Byggeri Elektronik Energi & miljø Forskning Fødevarer It Karriere Produktion Rumfart Transport

Da fysikerne gik på børsen

Enhver investeringsbank med respekt for sig selv har fysikere på lønningslisten – og nogle vil gerne give dem skylden for finanskrisen. Selv mener de, det handler om at kende modellernes begrænsninger.

Af Anne Stranne Petersen 16. aug 2013 kl. 02:00

I London, New York og Hong Kong arbejder hundreder, hvis ikke tusinder, af mennesker med en baggrund i fysik med at prissætte finansielle produkter såsom optioner, futures og swaps. De anvendte prissætningsmodeller har ofte deres udspring i statistisk fysik og i beskrivelsen af de finansielle markeder som et lukket system, hvor kurserne på aktier og obligationer opfører sig tilfældigt.

Typisk kaldes de finansielle fysikere for kvanter, eller quants, og de er i dag en uundværlig del af investeringsbankerne, hedgeforeningerne og i stigende grad de største pensionskasser.

Helt konkret arbejder kvanterne med at udvikle matematiske formler og algoritmer til at bestemme den bedste pris på f.eks en aktieoption, dvs. på en kontrakt, der tillader ejeren af

0 Anbefal

0 Tweet

Share

Relaterede job Jobfinder.dk

MAERSK DRILLING Head of Process Safety team

Jabra DSP Software Design Engineer

HALDOR TOPSOE Maskiningeniør

Arla Project Manager

What Does a Physicist Do?

Ingeniøren

Log ind | Opret bruger

Nyheder | Blogs | Debat | Ingeniør-job | Avisarkiv | Kursusguide | Ingeniøren+ | Følg

Sektioner: Biotek Byggeri Elektronik Energi & miljø Forskning Fødevarer It Karriere Produktion Rumfart Transport

Da fysikerne gik på børsen

Enhver investeringsbank med respekt for sig selv har fysikere på lønningslisten – og nogle vil gerne give dem skylden for finanskrisen. Selv mener de, det handler om at kende modellernes begrænsninger.

Af Anne Stranne Petersen 16. aug 2013 kl. 02:00

I London, New York og Hong Kong arbejder hundreder, hvis ikke tusinder, af mennesker med en baggrund i fysik med at prissætte finansielle produkter såsom optioner, futures og swaps. De anvendte prissætningsmodeller har ofte deres udspring i statistisk fysik og i beskrivelsen af de finansielle markeder som et lukket system, hvor kurserne på aktier og obligationer opfører sig tilfældigt.

Typisk kaldes de finansielle fysikere for kvanter, eller quants, og de er i dag en uundværlig del af investeringsbankerne, hedgeforeningerne og i stigende grad de største pensionskasser.

Helt konkret arbejder kvanterne med at udvikle matematiske formler og algoritmer til at bestemme den bedste pris på f.eks en aktieoption, dvs. på en kontrakt, der tillader ejeren af

0 Anbefal

0 Tweet

Share

Relaterede job Jobfinder.dk

MAERSK DRILLING Head of Process Safety team

Jabra DSP Software Design Engineer

HALDOR TOPSOE Maskiningeniør

Arla Project Manager

Physicists develop mathematical models to predict and analyze complex phenomena.

What Does a Physicist Do?

Ingeniøren

Log ind | Opret bruger

Nyheder | Blogs | Debat | Ingeniør-job | Avisarkiv | Kursusguide | Ingeniøren+ | Følg

Sektioner: Biotek Byggeri Elektronik Energi & miljø Forskning Fødevarer It Karriere Produktion Rumfart Transport

Da fysikerne gik på børsen

Enhver investeringsbank med respekt for sig selv har fysikere på lønningslisten – og nogle vil gerne give dem skylden for finanskrisen. Selv mener de, det handler om at kende modellernes begrænsninger.

Af Anne Stranne Petersen 16. aug 2013 kl. 02:00

I London, New York og Hong Kong arbejder hundreder, hvis ikke tusinder, af mennesker med en baggrund i fysik med at prissætte finansielle produkter såsom optioner, futures og swaps. De anvendte prissætningsmodeller har ofte deres udspring i statistisk fysik og i beskrivelsen af de finansielle markeder som et lukket system, hvor kurserne på aktier og obligationer opfører sig tilfældigt.

Typisk kaldes de finansielle fysikere for kvanter, eller quants, og de er i dag en uundværlig del af investeringsbankerne, hedgeforeningerne og i stigende grad de største pensionskasser.

Helt konkret arbejder kvanterne med at udvikle matematiske formler og algoritmer til at bestemme den bedste pris på f.eks en aktieoption, dvs. på en kontrakt, der tillader ejeren af

0 Anbefal

0 Tweet

Share

Relaterede job Jobfinder.dk

MAERSK DRILLING Head of Process Safety team

Jabra DSP Software Design Engineer

HALDOR TOPSOE Maskiningeniør

Arla Project Manager

Physicists develop mathematical models to predict and analyze complex phenomena. And understand the limitations of the models.

More Information

- Visit my homepage at www.jakobrdl.dk

More Information

- Visit my homepage at www.jakobrdl.dk

- Visit my blog at www.ing.dk/blogs/dtu-indefra

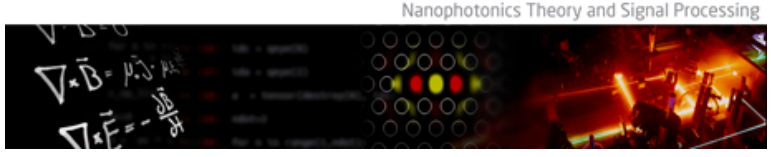
DTU Indefra

More Information

- Visit my homepage at www.jakobrdl.dk

- Visit my blog at www.ing.dk/blogs/dtu-indefra

- Visit www.fotonik.dtu.dk/nanotheory

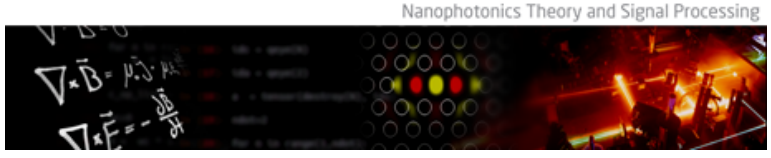


More Information

- Visit my homepage at www.jakobrdl.dk

- Visit my blog at www.ing.dk/blogs/dtu-indefra

- Visit www.fotonik.dtu.dk/nanotheory



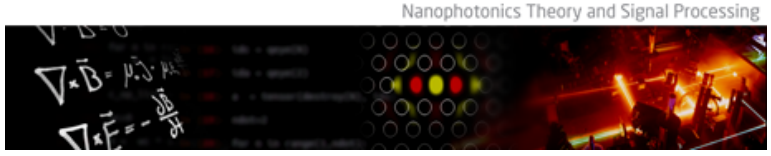
- Send me an e-mail at jrdl@fotonik.dtu.dk

More Information

- Visit my homepage at www.jakobrdl.dk

- Visit my blog at www.ing.dk/blogs/dtu-indefra

- Visit www.fotonik.dtu.dk/nanotheory



- Send me an e-mail at jrdl@fotonik.dtu.dk

...Thank you for your attention! Any questions?