# Mark H Stockett

Curriculum Vitae September 6, 2018


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## Education

**PhD in Physics** University of Wisconsin (Madison, Wisconsin, USA). December 24, 2011

**BA with High Honors in Physics** Oberlin College (Oberlin, Ohio, USA). May 29, 2006

## Research Experience

**Research Group Leader** Stockholm University Department of Physics. March 2017 – January 2021

Supported by a Starting Grant from the Swedish Research Council, I am establishing an independent research program for experimental studies of internally cold complex molecular ions using action spectroscopy for quantum biophysics and laboratory astrophysics applications.

**Postdoc** Aarhus University Department of Physics and Astronomy. December 2014 – January 2017

I conducted experimental studies of biochromophores and their micro-environmental interactions using action spectroscopy and led the development of apparatus for measuring laser-induced fluorescence of complex gas-phase molecular ions. Group leader: Steen Brøndsted Nielsen.

**Postdoc** Stockholm University Department of Physics. February 2012 – November 2014

I led investigations of high-energy collisions between atoms and complex hydrocarbon molecules (and their clusters) to understand the effect of supernova shocks on interstellar material. Group leader: Henrik Cederquist.

**PhD Thesis** University of Wisconsin Department of Physics. December 2006 – December 2011

*A Laboratory Search for the Carrier Molecules of the Diffuse Interstellar Bands; Rare Earths and the Neutron Capture Process*

I led the development of apparatus for synchrotron-based spectroscopic study of large hydrocarbon molecules and rare earth atoms for comparison to astronomical observations. Supervisor: James E Lawler.

**Undergraduate Honors Research** Oberlin College Department of Physics and Astronomy. 2004 – 2006

I fabricated and investigated the optical properties of thin films for photovoltaic applications. Supervisor: John H Scofield.

**NSF Research Experience for Undergraduates** Michigan State University. May – August 2005

I performed microscopy studies of graphite ad graphene films. Supervisor: Norman O Birge.

**NSF Research Experience for Undergraduates** University of Rochester. May – August 2004

I contributed to laser cooling and trapping experiments. Supervisor: Nicholas P Bigelow.

## Funding

### Major Grants

**Postdoctoral Transition Grant** *STINT* 594,000 SEK (60,000 EUR). 2018 – 2020

**Grant** *Carl Trygger Foundation* 388,500 SEK (39,000 EUR). 2018 – 2019

**Starting Grant** *Swedish Research Council* 3,200,000 SEK (320,000 EUR). 2017 – 2020

**Earth and Space Science Fellowship** *NASA* 84,000 USD (60,000 EUR). 2007 – 2010

### Additional Grants

**Equipment Support** *Stockholm University* 100,000 SEK (10,000 EUR). September 2017

**Travel Grant** *Wenner-Gren Foundation* 14,000 SEK (1,500 EUR). July 2017

**Short Term Scientific Mission** *COST Action XLIC* 1,000 EUR. April 2017

**Short Term Scientific Mission** *COST Action XLIC* 730 EUR. October 2015

**Short Term Scientific Mission** *COST Action XLIC* 1,200 EUR. February 2015

**Travel Grant** *Wenner-Gren Foundation* 14,000 SEK (1,500 EUR). July 2014

Does not include smaller travel secondments, fee reductions, honoraria, etc.

## Participation in Conferences and other Scientific Presentations

**Only most recent examples shown here, see publication list for more.**

**Invited Conference Talks** 8 (7 since 2012)
**International Workshop on Electrostatic Storage Devices** Lyon, France – June 19, 2017
*Luminescence Studies with Trapped Ions*

**Contributed and "Hot Topic" Conference Talks** 5 (3 since 2012)
**International Mass Spectrometry Conference** Florence, Italy – August 28, 2018
*The Threshold Displacement Energy of Buckminsterfullerene $C_{60}$ and Formation of the Endohedral Defect Fullerene He@$C_{59}$*

**Invited Seminars, Colloquia, etc.** 8 (7 since 2012)
**Physical Chemistry Seminar** University of Melbourne, Melbourne, Australia – July 2, 2018
*Action Spectroscopy of Flavin Ions in vacuo*

**Posters** 21 at 16 conferences (15 at 10 conferences since 2012)
**International Mass Spectrometry Conference** Florence, Italy – August 2018
*Action Spectroscopy of Flavins*

## Participation in International Networks

**STINT SUUM Collaboration** Coordinator, grant holder. 2018 – 2021

The SUUM Collaboration between Stockholm University (SU) Department of Physics and the University of Melbourne (UM) School of Chemistry was recently established with funding I received from the Swedish Foundation for International Cooperation in Research and Higher Education (STINT). This network also includes researchers based at Aarhus University and Durham University.

**COST Action XLIC** Participant, Management Committee substitute member. 2013 – 2017

I was an enthusiastic participant in the European Cooperation in Science and Technology (COST) action X-ray/XUV Light and fast Ions for ultrafast Chemistry, serving as a (substitute) member of the Management Committee. This international network of over 200 researchers held several conferences, two of which I participated in. I also received funding for three Short Term Scientific Missions within this network for research visits.

**LIA DYNAMO** Participant. 2013 – 2016

I participated in several short research stays at the ARIBE facility in Caen, France which were financed by the International Associated Laboratory (*Laboratoires Internationaux Associés*, LIA) DYNAMO, a network comprised of researchers from Caen, Stockholm and Madrid.

## Publication Metrics

**Peer-reviewed journal articles** 44 total, 16 as lead author, 5 as Principal Investigator or sole author

**Articles in high-impact journals (Impact Factor <8)** 7 total, 2 as lead author

**Communications in lower-impact journals** 6 total, 3 as lead author, 2 as PI or sole author

**Published conference proceedings including abstracts** 16, 3 as lead author

**Citations** 1416; **h-index** 12 (Retrieved from Web of Science September 6, 2018)

# Teaching Experience

## Teaching

**Teacher** *Detector Physics* Stockholm University. Spring 2018, Fall 2018

Master-level, 7.5 ECTS, 7 participants (Spring 2018). Beside course-responsible Alfredo David Ferella, I deliver about half of the lectures, help conduct the seminar, develop tutorial activities, develop and oversee laboratory exercises, and conduct the final examinations. Assessment is based on a seminar presentation, a written literature review, a written lab report, and an oral examination. This is a new course which we continue to develop.

**Contact Person** *Bachelor Project* Stockholm University. Spring 2018, Spring 2019

Undergraduate level, 15 ECTS, $\sim$ 20 participants. As contact person, I am responsible for leading students and their supervisors through the process and evaluating the students' project work. Assessment is based on a written report, an oral presentation and defense, and the evaluation of the students' supervisors.

**Course Material Development** *Computational Physics* Stockholm University. Spring 2014

Master level, 15 ECTS, $\sim$ 5 participants. With course-responsible Eva Lindroth, I developed new materials for some of the computational exercises, and helped evaluate reports. Assessment was based on written and oral reports from computational exercises.

**Teaching Assistant** *Physics in the Arts* University of Wisconsin. Spring 2011

Undergraduate course for non-science students, 3 US credits (6 ECTS), 100+ participants. I supervised laboratory exercises, held "consultation hours" for students seeking help with problem sets, and graded laboratory journals and exams. Assessment was based on written examinations, problem sets, and laboratory journals.

**Teaching Assistant** *General Physics* University of Wisconsin. Fall 2006

Undergraduate course for engineering students, 5 US credits (10 ECTS), 200+ participants. I led tutorials, supervised laboratory exercises, held "consultation hours" for students seeking additional help with problem sets, led review sessions, and graded laboratory journals and exams. Assessment was based on written examinations, problem sets, and laboratory journals.

**Teaching Assistant** *Electronics* Oberlin College. Spring 2005

Undergraduate course, 3 US credits (6 ECTS), $\sim$ 16 participants. I supervised laboratory exercises.

**Tutor** *Mechanics and Relativity* Oberlin College. Fall 2003

Undergraduate course, 4 US credits (8 ECTS), $\sim$ 40 participants. I provided one-on-one assistance to students requesting support with completing homework assignments and developing concepts in this introductory course.

## Supervision

**Bachelor Students** 1 as main supervisor, 2 as assistant supervisor

**Doctoral Students** 2 as assistant supervisor

Does not include informal supervision during PhD or postdoctoral periods.

## Teaching and Learning Education

**Teaching and Learning for University Teachers** Stockholm University. Fall 2017

This 7.5 ECTS professional development course focused on introducing participants to the scholarship of teaching and learning, teaching methods, skills and strategies, curriculum development and assessment, quality assurance and management, internationalization and student diversity, and flexible modes of curriculum delivery. In connection with this course, I participated in three workshops held by Stockholm University's Center for the Advancement of University Teaching. These focused on practical aspects of teaching including curriculum design, interactive lecturing and flipped classroom techniques.

## Leadership Experience

**Co-organizer** *ChemAtom Seminar* Stockholm University Department of Physics. 2018 – Present

I organize a weekly joint seminar series for the Atomic and Chemical Physics divisions at Stockholm University featuring local and external speakers.

**Group Leader** *Action Spectroscopy Heroes* Stockholm University Department of Physics. 2017 – Present

As group leader, I coordinate scientific activities and oversee budgeting and other administrative tasks.

**Member** *Management Committee* DESIREE Infrastructure. 2017 – Present

The Double ElectroStatic Ion Ring ExpEriment (DESIREE) Infrastructure is a major experimental facility housed at Stockholm University. The management committee oversees technical development and maintenance work in the facilities laboratories, schedules beam-time for local and external users, and reviews scientific results relevant to facility development.

**Substitute** *Public Relations Committee* Stockholm University Department of Physics. 2017 – Present

This committee handles major outreach activities such as Researcher's Nights and communications via the departmental website and social media channels.

**Substitute** *Management Committee* COST Action XLIC. 2015 – 2017

The European Cooperation in Science and Technology (COST) action X-ray/XUV Light and fast Ions for ultrafast Chemistry was a large international research network whose management committee approved the budget and planning of action activities such as working group meetings, general meetings, and summer schools.

**Student Representative** *Users' Advisory Committee* Synchrotron Radiation Center. 2009

The Users' Advisory Committee organized the annual Synchrotron Radiation Center Users' Meeting and oversaw user-related developments.

**Co-chairperson** *Physics Major's Committee* Oberlin College. 2005 – 2006

This committee handled issues related to the student environment at the Department of Physics.

# Scientific Publications and Presentations

## Peer-Reviewed Journal Articles

[44] N. de Ruette, A. Dochain, T. Launoy, R. F. Nascimento, M. Kaminska, **M. H. Stockett**, N. Vaeck, H. T. Schmidt, H. Cederquist & X. Urbain. *Mutual neutralization of $O^-$ with $O^+$ and $N^+$ at Subthermal Collision Energies.* Phys. Rev. Lett. **121**, 083401 (2018).

[43] **M. H. Stockett**, M. Wolf, M. Gatchell, H. T. Schmidt, H. Zettergen & H. Cederquist. *The threshold displacement energy of buckminsterfullerene $C_{60}$ and formation of the endohedral defect fullerene $He@C_{59}$.* Carbon **139**, 906–912 (2018).

[42] J. Bull, E. Carrascosa, L. Giacomozzi, E. Bieske & **M. H. Stockett**. *Ion mobility action spectroscopy of flavin dianions reveals deprotomer-dependent photochemistry.* Phys. Chem. Chem. Phys. **20**, 19672–19681 (2018).

[41] N. de Ruette, M. Wolf, L. Giacomozzi, J. D. Alexander, M. Gatchell, **M. H. Stockett**, N. Haag, H. Zettergren, H. T. Schmidt & H. Cederquist. *DESIREE electrospray ion source test bench and setup for collision induced dissociation experiments.* Rev. Sci. Instrum. **89**, 075102 (2018).

[40] L. Giacomozzi, C. Kjær, J. Langeland Knudsen, L. H. Andersen, S. Brøndsted Nielsen & **M. H. Stockett**. *Absorption and luminescence spectroscopy of mass-selected flavin adenine dinucleotide mono-anions.* J. Chem. Phys. **148**, 214309 (2018).

[39] K. C. Chartkunchand, **M. H. Stockett**, E. K. Anderson, G. Eklund, M. K. Kristiansson, M. Kamińska, N. de Ruette, M. Blom, M. Björkhage, A. Källberg, P. Löfgren, P. Reinhed, S. Rosén, A. Simonsson, H. Zettergren, H. T. Schmidt & H. Cederquist. *Dianion diagnostics in DESIREE: High-sensitivity detection of $C_n^{2-}$ from a sputter ion source.* Rev. Sci. Instrum. **89**, 033112 (2018).

[38] C. Kjær, S. Brøndsted Nielsen & **M. H. Stockett**. *Hot paper: Communication: Sibling rivalry: intrinsic luminescence from two xanthene dye monoanions, resorufin and fluorescein, provides evidence for excited-state proton transfer in the latter.* Phys. Chem. Chem. Phys. **19**, 24440–24444 (2017).

[37] **M. H. Stockett**. *Communication: Photo-induced proton-coupled electron transfer and dissociation of isolated flavin adenine dinucleotide mono-anions.* Phys. Chem. Chem. Phys. **19**, 25829–25833 (2017).

[36] **M. H. Stockett**, C. Kjær, M. K. Linder, M. Detty & S. Brøndsted Nielsen. *Luminescence spectroscopy of chalcogen substituted rhodamine cations in vacuo.* Photochem. Photobiol. Sci. **16**, 779–784 (2017).

[35] K. Hansen, **M. H. Stockett**, M. Kaminska, R. F. Nascimento, E. K. Anderson, M. Gatchell, K. C. Chartkunchand, G. Eklund, H. Zettergren, H. T. Schmidt & H. Cederquist. *Spontaneous decay of small copper-cluster anions $Cu_n^-$ ($n = 3 - 6$), on long time scales.* Phys. Rev. A **95**, 022511 (2017).

[34] **M. H. Stockett**, M. Boesen, J. Houmøller & S. Brøndsted Nielsen. *Communication: Accessing the intrinsic nature of electronic transitions from gas-phase spectroscopy of molecular ion - zwitterion complexes.* Angew. Chem. Int. Ed. **56**, 3490–3495 (2017).

[33] C. Kjær, **M. H. Stockett**, B. M. Pedersen, & S. Brøndsted Nielsen. *Strong impact of an axial ligand on the absorption by chlorophyll a and b pigments determined by gas-phase ion spectroscopy experiments.* J. Phys. Chem. B **120**, 12105 (2016).

[32] M. Wolf, H. V. Kiefer, J. Langeland, L. H. Andersen, H. Zettergren, H. T. Schmidt, H. Cederquist & **M. H. Stockett**. *Photo-stability of super-hydrogenated PAHs determined by action spectroscopy experiments.* Astrophys. J. **832**, 24 (2016).

[31] **M. H. Stockett**, J. Houmøller & S. Brøndsted Nielsen. *Nile blue shows its true colors in gas-phase absorption and luminescence ion spectroscopy.* J. Chem. Phys. **145**, 104303 (2016).

[30] **M. H. Stockett**, J. Houmøller, K. Støchkel, A. Svendsen & S. Brøndsted Nielsen. *A cylindrical quadrupole ion trap in combination with an electrospray ion source for gas-phase luminescence and absorption spectroscopy.* Rev. Sci. Instrum. **87**, 053103 (2016).

[29] B. F. Milne, C. Kjær, J. Houmøller, **M. H. Stockett**, Y. Toker, A. Rubio & S. Brøndsted Nielsen. *Communication: On the exciton coupling between two chlorophyll pigments in the absence of a protein environment: Intrinsic effects revealed by theory and experiment.* Angew. Chem. Int. Ed. **55**, 6248 (2016).

[28] L. H. Andersen, A. V. Bochenkova, J. Houmøller, H. V. Kiefer, E. Lattouf & **M. H. Stockett**. *A PYP chromophore acts as a photoacid in an isolated hydrogen bonded complex.* Phys. Chem. Chem. Phys. **18**, 9909–9913 (2016).

[27] M. Wolf, L. Giacomozzi, M. Gatchell, N. de Ruette, **M. H. Stockett**, H. T. Schmidt, H. Cederquist & H. Zettergren. *Hydrogenated pyrene: Statistical single-carbon loss below the knockout threshold.* Euro. Phys. J. D **70**, 1–7 (2016).

[26] **M. H. Stockett** & S. Brøndsted Nielsen. *Communication: Transition energies of benzoquinone anions are immune to symmetry breaking by a single water molecule.* Phys. Chem. Chem. Phys. **18**, 6996–7000 (2016).

[25] **M. H. Stockett**, M. Gatchell, N. de Ruette, L. Giacomozzi, T. Chen, P. Rousseau, S. Maclot, J.-Y. Chesnel, L. Adoui, B. Huber, U. Bērziņš, H. Schmidt, H. Zettergren & H. Cederquist. *Short communication: Isomer effects in fragmentation of polycyclic aromatic hydrocarbons.* Int. J. Mass Spectrom. **392**, 58–62 (2015).

[24] **M. H. Stockett**, M. Gatchell, T. Chen, N. de Ruette, L. Giacomozzi, M. Wolf, H. T. Schmidt, H. Zettergren & H. Cederquist. *Threshold energies for single-carbon knockout from polycyclic aromatic hydrocarbons.* J. Phys. Chem. Lett. **6**, 4504–4509 (2015).

[23] M. Gatchell, **M. H. Stockett**, N. de Ruette, T. Chen, L. Giacomozzi, R. F. Nascimento, M. Wolf, E. K. Anderson, R. Delaunay, P. Vizcaino, V andand Rousseau, L. Adoui, B. A. Huber, H. T. Schmidt, H. Zettergren & H. Cederquist. *Rapid communication: Failure of hydrogenation in protecting polycyclic aromatic hydrocarbons from fragmentation.* Phys. Rev. A **92**, 050702 (2015).

[22] K. Kulyk, O. Rebrov, **M. H. Stockett**, J. D. Alexander, H. Zettergren, H. T. Schmidt, R. D. Thomas, H. Cederquist & M. Larsson. *High-energy collisions of protonated enantiopure amino acids with a chiral target gas.* Int. J. Mass Spectrom. **388**, 59 – 64 (2015).

[21] R. Delaunay, M. Gatchell, P. Rousseau, A. Domaracka, S. Maclot, Y. Wang, **M. H. Stockett**, T. Chen, L. Adoui, M. Alcamí, F. Martín, H. Zettergren, H. Cederquist & B. A. Huber. *Molecular growth inside of polycyclic aromatic hydrocarbon clusters induced by ion collisions.* J. Phys. Chem. Lett. **6**, 1536–1542 (2015).

[20] **M. H. Stockett** & S. Brøndsted Nielsen. *Communication: Does a single $CH_3CN$ molecule attached to $Ru(bipy)_3^{2+}$ affect its absorption spectrum?* J. Chem. Phys. **142**, 171102 (2015).

[19] T. Chen, M. Gatchell, **M. H. Stockett**, R. Delaunay, A. Domaracka, E. R. Micelotta, A. G. G. M. Tielens, P. Rousseau, L. Adoui, B. A. Huber, H. T. Schmidt, H. Cederquist & H. Zettergren. *Formation of $H_2$ from internally heated polycyclic aromatic hydrocarbons: Excitation energy dependence.* J. Chem. Phys. **142**, 144305 (2015).

[18] J. Elm, **M. H. Stockett**, J. Houmøller, M. Petersen, K. Mikkelsen, M. Brøndsted Nielsen & S. Brøndsted Nielsen. *Gas-phase spectroscopy of a vinylheptafulvene chromophore.* Eur. J. Mass Spectrom. **21**, 569–577 (2015).

[17] **M. H. Stockett**, L. Musbat, C. Kjær, J. Houmøller, Y. Toker, A. Rubio, B. F. Milne & S. Brøndsted Nielsen. *The soret absorption band of isolated chlorophyll a and b tagged with quaternary ammonium ions.* Phys. Chem. Chem. Phys. **17**, 25793 (2015).

[16] **M. H. Stockett**, M. Gatchell, J. D. Alexander, U. Berzins, T. Chen, K. Farid, A. Johansson, K. Kulyk, P. Rousseau, K. Støchkel, L. Adoui, P. Hvelplund, B. A. Huber, H. T. Schmidt, H. Zettergren & H. Cederquist. *Fragmentation of anthracene $C_{14}H_{10}$, acridine $C_{13}H_9N$ and phenazine $C_{12}H_8N_2$ ions in collisions with atoms.* Phys. Chem. Chem. Phys. **16**, 21980–21987 (2014).

[15] H. da Silva, J. Oller, M. Gatchell, **M. H. Stockett**, P.-A. Hervieux, L. Adoui, M. Alcamí, B. A. Huber, F. Martín, H. Cederquist, H. Zettergren, P. Rousseau & S. Díaz-Tendero. *Multiple electron capture, excitation, and fragmentation in $C^{6+} - C_{60}$ collisions.* Phys. Rev. A **90**, 032701 (2014).

[14] M. Gatchell, P. Rousseau, A. Domaracka, **M. H. Stockett**, T. Chen, H. T. Schmidt, J. Y. Chesnel, A. Méry, S. Maclot, L. Adoui, B. A. Huber, H. Zettergren & H. Cederquist. *Ions colliding with mixed clusters of $C_{60}$ and coronene: Fragmentation and bond formation.* Phys. Rev. A **90**, 022713 (2014).

[13] T. Chen, M. Gatchell, **M. H. Stockett**, J. D. Alexander, Y. Zhang, P. Rousseau, A. Domaracka, S. Maclot, R. Delaunay, L. Adoui, B. A. Huber, T. Schlathölter, H. T. Schmidt, H. Cederquist & H. Zettergren. *Absolute fragmentation cross sections in atom-molecule collisions: Scaling laws for non-statistical fragmentation of polycyclic aromatic hydrocarbon molecules.* J. Chem. Phys. **140**, 224300 (2014).

[12] Y. Wang, H. Zettergren, P. Rousseau, T. Chen, M. Gatchell, **M. H. Stockett**, A. Domaracka, L. Adoui, B. A. Huber, H. Cederquist, M. Alcamí & F. Martín. *Formation dynamics of fullerene dimers $C_{118}^+$, $C_{119}^+$, and $C_{120}^+$.* Phys. Rev. A **89**, 062708 (2014).

[11] M. Gatchell, **M. H. Stockett**, P. Rousseau, T. Chen, K. Kulyk, H. T. Schmidt, J.-Y. Chesnel, A. Domaracka, A. Méry, S. Maclot, L. Adoui, K. Støchkel, P. Hvelplund, Y. Wang, M. Alcamí, B. A. Huber, F. Martín, H. Zettergren & H. Cederquist. *Non-statistical fragmentation of PAHs and fullerenes in collisions with atoms.* Int. J. Mass Spectrom. **365–366**, 260–265 (2014).

[10] **M. H. Stockett**, H. Zettergren, L. Adoui, J. D. Alexander, U. Bērziņš, T. Chen, M. Gatchell, N. Haag, B. A. Huber, P. Hvelplund, A. Johansson, H. A. B. Johansson, K. Kulyk, S. Rosén, P. Rousseau, K. Støchkel, H. T. Schmidt & H. Cederquist. *Nonstatistical fragmentation of large molecules.* Phys. Rev. A **89**, 032701 (2014).

[9] F. Seitz, H. Zettergren, P. Rousseau, Y. Wang, T. Chen, M. Gatchell, J. D. Alexander, **M. H. Stockett**, J. Rangama, J. Y. Chesnel, M. Capron, J. C. Poully, A. Domaracka, A. Mery, S. Maclot, V. Vizcaino, H. T. Schmidt, L. Adoui, M. Alcami, A. G. G. M. Tielens, F. Martin, B. A. Huber & H. Cederquist. *Ions colliding with clusters of fullerenes—Decay pathways and covalent bond formations.* J. Chem. Phys. **139**, 034309 (2013).

[8] H. T. Schmidt, R. D. Thomas, M. Gatchell, S. Rosén, P. Reinhed, P. Löfgren, L. Brännholm, M. Blom, M. Björkhage, E. Bäckström, J. D. Alexander, S. Leontein, D. Hanstorp, H. Zettergren, L. Liljeby, A. Källberg, A. Simonsson, F. Hellberg, S. Mannervik, M. Larsson, W. D. Geppert, K. G. Rensfelt, H. Danared, A. Paál, M. Masuda, P. Halldén, G. Andler, **M. H. Stockett**, T. Chen, G. Källersjö, J. Weimer, K. Hansen, H. Hartman & H. Cederquist. *First storage of ion beams in the Double Electrostatic Ion-Ring ExpEriment: DESIREE.* Rev. Sci. Instrum. **84**, 055115 (2013).

[7] H. Zettergren, P. Rousseau, Y. Wang, F. Seitz, T. Chen, M. Gatchell, J. D. Alexander, **M. H. Stockett**, J. Rangama, J. Y. Chesnel, M. Capron, J. C. Poully, A. Domaracka, A. Méry, S. Maclot, H. T. Schmidt, L. Adoui, M. Alcamí, A. G. G. M. Tielens, F. Martín, B. A. Huber & H. Cederquist. *Formations of Dumbbell $C_{118}$ and $C_{119}$ inside Clusters of $C_{60}$ Molecules by Collision with $\alpha$ Particles.* Phys. Rev. Lett. **110**, 185501 (2013).

[6] **M. H. Stockett** & J. E. Lawler. *A cryogenic circulating advective multi-pass absorption cell.* Rev. Sci. Instrum. **83**, 035104 (2012).

[5] **M. H. Stockett**, M. P. Wood, E. A. D. Hartog & J. E. Lawler. *Atomic transition probabilities of Nd I.* J. Phys. B: At., Mol. Opt. Phys. **44**, 235003 (2011).

[4] D. J. Eisenstein *et al. SDSS-III: massive spectroscopic surveys of the distant universe, the milky way, and extra-solar planetary systems.* Astron. J. **142**, 72 (2011).

[3] **M. H. Stockett**, M. P. Wood, S. Nagarajan & J. E. Lawler. *Echelle spectrograph optimized for a diffuse interstellar band carrier search using synchrotron radiation.* Appl. Opt. **47**, 5390–5393 (2008).

[2] J. E. Lawler, C. Sneden, J. J. Cowan, J.-F. Wyart, I. I. Ivans, J. S. Sobeck, **M. H. Stockett** & E. A. D. Hartog. *Improved laboratory transition probabilities for Er II and application to the erbium abundances of the sun and five r-process-rich, metal-poor stars.* Astrophys. J. Suppl. Ser. **178**, 71 (2008).

[1] **M. H. Stockett**, E. A. D. Hartog & J. E. Lawler. *Radiative lifetimes for 80 levels of singly ionized erbium.* J. Phys. B: At., Mol. Opt. Phys. **40**, 4529 (2007).

## Other Publications

### Cover Pieces

**M. H. Stockett**. *Back Cover.* Phys. Chem. Chem. Phys. **19**, 26444 (2016).

**M. H. Stockett**, M. Boesen, Jørgen Houmøller & S. Brøndsted Nielsen. *Frontispiece: Accessing the Intrinsic Nature of Electronic Transitions from Gas-Phase Spectroscopy of Molecular Ion/Zwitterion Complexes.* Angew. Chem. Int. Ed. **56**, 3490 (2017).

**M. H. Stockett** & S. Brøndsted Nielsen. *Back Cover.* Phys. Chem. Chem. Phys. **18**, 7540 (2016).

**Selected Conference Proceedings**

**M. H. Stockett**, L. Adoui, E. K. Anderson, T. Chen, J.-Y. Chesnel, N. de Ruette, M. Gatchell, L. Giacomozzi, B. A. Huber, K. Kulyk, S. Maclot, P. Rousseau, M. Wolf, H. Zettergen, H. T. Schmidt & H. Cederquist. *Non-statistical fragmentation of large molecules in collisions with atoms.* J. Phys. Conf. Ser. **635**, 012036 (2015).

**M. H. Stockett**, M. Kaminska, R. F. Nascimento, E. K. Anderson, M. Gatchell, K. Hansen, H. Zettergen, H. T. Schmidt & H. Cederquist. *Spontaneous decay of small copper cluster anions, $Cu_N^-$ N=3-6.* J. Phys. Conf. Ser. **635**, 072090 (2015).

**M. H. Stockett**, J. Houmøller, C. Kjær, B. F. Milne, L. Musbat, A. Rubio, Y. Toker & S. Brøndsted Nielsen. *Action spectroscopy of chlorophyll and other coordination complexes.* J. Phys. Conf. Ser. **635**, 112015 (2015).

## Invited Conference Talks

**International Workshop on Electrostatic Storage Devices** Lyon, France – June 19, 2017
*Luminescence Studies with Trapped Ions*

**COST XLIC Working Group 2 Meeting** Stockholm, Sweden – April 15, 2016
*LUNA: A new apparatus for luminescence spectroscopy of photo-excited gas-phase molecular ions*

**COST XLIC General Meeting** Debrecen, Hungary – November 3, 2015
*Action Spectroscopy of Chlorophyll and Other Building Blocks of Photosynthesis*

**Laboratory Astrophysics Workshop** Heidelberg, Germany – October 2, 2015
*Non-statistical Fragmentation of Large Molecules*

**Int'l Conference on Photonic, Electronic and Atomic Collisions** Toledo, Spain – July 22, 2015
*Non-statistical Fragmentation of Large Molecules*

**International Workshop on Electrostatic Storage Devices** Tokyo, Japan – June 4, 2015
*Photosynthesis from the ground up: action spectroscopy of chlorophylls and a new setup for fluorescence experiments*

**International Workshop on Electrostatic Storage Devices** Heidelberg, Germany – June 21, 2013
*Low center-of-mass energy collisions between PAH ions and noble gases*

**Laboratory Astrochemistry External Retreat** Heidelberg, Germany – October 21, 2011
*A Laboratory Search for the Carrier Molecules of the Diffuse Interstellar Bands*

## Contributed and "Hot Topic" Conference Talks

**International Mass Spectrometry Conference** Florence, Italy – August 28, 2018
*The Threshold Displacement Energy of Buckminsterfullerene $C_{60}$ and Formation of the Endohedral Defect Fullerene $He@C_{59}$*

**European Conference on Atoms, Molecules and Photons** Frankfurt, Germany – September 5, 2016
*Why are leaves green? Action spectroscopy of chlorophyll molecules and dimers in vacuo*

**Int'l Meeting on Atomic and Molecular Physics and Chemistry** Le Havre, France – June 28, 2016
*Why are leaves green? Action spectroscopy of chlorophyll complexes*

**Synchrotron Radiation Center User Meeting** Stoughton, Wisconsin, USA – September 17, 2011
*Assessing the Impact of Unobserved Branches on Transition Probabilities in Neutral Neodymium*

**Synchrotron Radiation Center User Meeting** Stoughton, Wisconsin, USA – September 27, 2008
*A Laboratory Search for the Carrier Molecules of the Diffuse Interstellar Bands*

## Invited Seminars, Colloquia, etc.

**Physical Chemistry Seminar** University of Melbourne, Melbourne, Australia – July 2, 2018
*Action Spectroscopy of Flavin Ions in vacuo*

**ChemAtom Seminar** Stockholm University, Stockholm, Sweden – February 23, 2018
*Action Spectroscopy of Flavin Ions in vacuo*

**Special Seminar** Max Planck Institute for Nuclear Physics, Heidelberg, Germany – July 19, 2016
*Action spectroscopy of complex organic molecules in the gas phase*

**Institute for Physics and Astronomy Residential Retreat** Vejle, Denmark – March 15, 2016
*Luminescence in Aarhus (LUNA): a new instrument for experimental quantum biophysics*

**General Research Colloquium** Portland State University, Portland, Oregon, USA – January 27, 2016
*Photosynthesis from the ground up: action spectroscopy of chlorophyll and other molecular building blocks*

**Scientific Conference of the University of Latvia** Riga, Latvia – February 7, 2014
*Experimental evidence of non-statistical fragmentation of large molecules*

**Molecular Physics Seminar** Stockholm University, Stockholm, Sweden – October 7, 2013
*Non-statistical fragmentation of large molecules*

**NIST Atomic Physics Group Colloquium** Gaithersburg, Maryland, USA – January 8, 2010
*A Laboratory Search for the Carrier Molecules of the Diffuse Interstellar Bands*

## Posters

**International Mass Spectrometry Conference** Florence, Italy – August 2018

**Int'l Conference on Photonic, Electronic and Atomic Collisions** Cairns, Australia – July 2017

**European Conference on Atoms, Molecules and Photons** Frankfurt, Germany – September 2016

**Energetic Processing of Large Molecules** Stockholm, Sweden – April 2016

**Int'l Conference on Photonic, Electronic and Atomic Collisions** Toledo, Spain – July 2015

**Int'l Workshop on Electrostatic Storage Devices** Tokyo, Japan – June 2015

**Int'l Conference on the Physics of Highly Charged Ions** Bariloche, Argentina – September 2014

**European Conference of the Dynamics of Molecular Systems** Gothenburg, Sweden – August 2014

**Int'l Conference on Photonic, Electronic and Atomic Collisions** Lanzhou, China – July 2013

**Int'l Workshop on Electrostatic Storage Devices** Heidelberg, Germany – June 2013

**American Astronomical Society** Washington DC, USA – January 2010

**Midwest Astrochemistry Meeting** Champaign, Illinois, USA – November 2010

**Midwest Astrochemistry Meeting** Champaign, Illinois, USA – November 2009

**Synchrotron Radiation Center User Meeting** Stoughton, Wisconsin, USA – October 2009

**Midwest Astrochemistry Consortium** Champaign, Illinois, USA – November 2008

**American Physical Society - Ohio Section** Dayton, Ohio, USA – April 2005