

ARCNL moves to new building

In the last week before the Christmas holidays, ARCNL moved its offices to the brand-new Matrix VII building and during the first few months of 2019 the labs followed. ARCNL occupies almost two complete floors in the new building. Because of the sensitive measuring instruments that ARCNL uses, the building has been equipped with special floors that shield the lab from vibrations.



ARCNL Atrium

During the official opening on March 21st, ARCNL performed the opening act by ‘testing’ the vibration free floors. Alderperson Udo Kock of the city of Amsterdam instructed a group of ARCNL researchers to jump simultaneously in the lab. Measuring equipment from the company Innoseis showed no vibrations on the special floors: the calmest place in Amsterdam was officially opened. ■



Joost Frenken, Marjan Fretz and André Dijkslag closing the entrance door to the old lab building



Getting ready for live test



*The difference is
in the details*

Scientific highlight

Molecular design for nanolithography

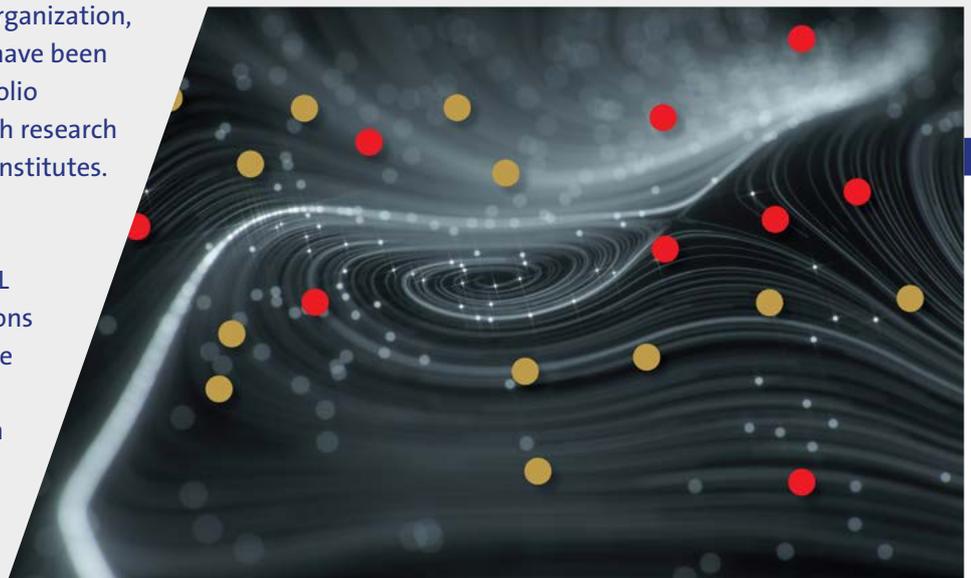
”For the first time, I feel I am doing research that has an impact. It is very rewarding. I am confident that we are developing materials that can be used in industry.” Sonia Castellanos, group leader of the EUV Photoresists group of ARCNL, unravels the working mechanisms of new classes of photoresists and develops these new materials that will make future chips for phones and computers much smaller. Recently, she published results from this research in the Journal of Materials Chemistry C. ■

[Read more](#)

Portfolio committee

As an institute within the NWO-I organization, ARCNL’s mission and national role have been under evaluation by a special Portfolio Committee that reviewed the Dutch research landscape of the NWO and KNAW institutes. In view of ARCNL’s relatively short existence, we are pleased with the committee’s judgement that ARCNL potentially fulfills the basic conditions for a national research institute. The committee advised to develop further into this direction for which suggestions were provided. ■

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Scientific Advisory Committee (SAC)

ARCNL is annually assessed by its Scientific Advisory Committee (SAC). This year, the SAC visited us on 28 and 29 March. In its report, the SAC gives a highly positive assessment of the strategic changes introduced by ARCNL last year and concludes that “... ARCNL is fast approaching the vision aimed for in the original proposal for its establishment, namely the creation of a research center with a unique role within the Dutch research landscape, combining the brilliance and creativity most often associated with “blue skies” research, with an awareness and commitment to contribute towards the solution of essential problems in industry, reminiscent of the model formerly underlying research centers such as the Bell Labs and the Philips Research Lab.” ■

Strategy Day

On 29 May 2019, ARCNL organized its second Strategy Day, at which the institute presented itself via a general presentation and three separate presentations from our departments *Source*, *Metrology* and *Materials* to its stakeholders/partners. We summarized our research plans for next year, which were derived from an alignment process that took place for all ARCNL research groups during spring. With ample representation from partners ASML, UvA, VU and NWO, this was a very constructive meeting in a highly positive spirit. The plans and acquired feedback form the basis for the ARCNL Year Plan 2019-2020. ■

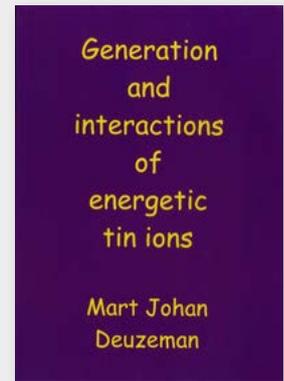
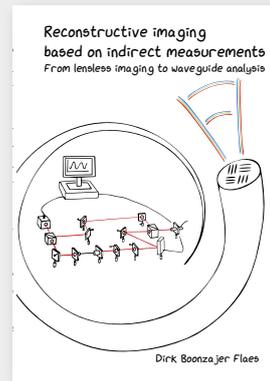
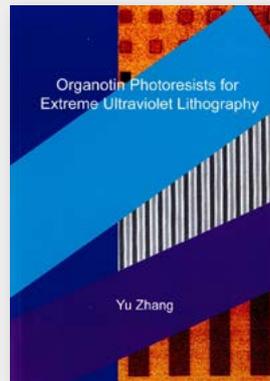
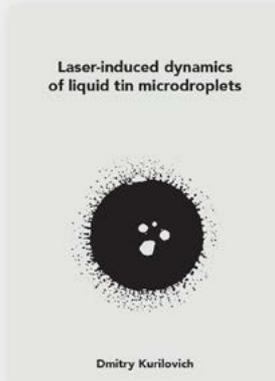
Roland Bliem starts new group on Materials and Surface Science for Extreme Ultraviolet Lithography

On February 15, Roland Bliem started as tenure-track group leader at ARCNL, through an appointment as assistant professor at the Institute of Physics of the University of Amsterdam. His Materials and Surface Science for EUV Lithography group will focus on understanding the elementary physical and chemical processes occurring at surfaces relevant to nanolithography and will explore new materials and compounds promising superior long-term performance and stability under the challenging conditions of EUV lithography. ■

[Read more](#)

Roland Bliem





Number of PhD defenses on the rise

ARCNL started in 2014 and therefore it does not come as a surprise that the 5th anniversary coincides with several PhD defenses.

Name: Dmitry Kurilovich

Date: April 4th

Location: Vrije Universiteit Amsterdam

Thesis: Laser-induced dynamics of liquid tin microdroplets

Promotors: prof. dr. W.M.G. Ubachs, prof. dr. ir. R.A. Hoekstra and dr. O.O. Versolato (co-promotor)

Name: Yu Zhang

Date: April 11th

Location: University of Amsterdam

Thesis: Organotin Photoresists for Extreme Ultraviolet Lithography

Promotors: prof. dr. A.M. Brouwer, prof. dr. P.C.M. Planken (co-promotor) and dr. S. Castellanos-Ortega (co-promotor)

Name: Dirk Boonzajer Flaes

Date: June 11th

Location: Vrije Universiteit

Thesis: Reconstructive imaging based on indirect measurements

Promotor: prof. dr. J.F. de Boer and dr. S.M. Witte (co-promotor)

Name: Mart Johan Deuzeman

Date: June 21st

Location: University of Groningen

Thesis: Generation and interactions of energetic tin ions

Promotors: prof. dr. ir. R.A. Hoekstra, prof. dr. W.M.G. Ubachs and dr. O.O. Versolato (co-promotor) ■

Meetup@ARCNL

During the annual Meetup@ARCNL event, 14 students visited ARCNL to learn more about ARCNL and the possibilities for internships and PhD openings. The event on May 8th started with a presentation by Wim Symens (Senior Manager Research at ASML) and ended with a poster session and drinks. ■



Meetup poster session and drinks