

The future looks bright!

It gives us great pride to present to you the tenth Newsletter of ARCNL. Much has happened since our previous update, in June 2020. There are successes to be reported, but there is also sad news. And, of course, many activities are colored by the corona crisis.

With respect to the corona crisis, ARCNL went with the flow. After June 2020, we initially could build up our presence at the institute, but we had to go back to less people in September and we even closed for two weeks during the Christmas and New Year period. Currently, we admit approximately one third of our personnel to work at ARCNL and, as before, we give full priority to work in the laboratories. Office work is all done from home and this has become second nature to all of us, as are the social distancing, the face masks – *with ARCNL logo!* – and the extra attention to health and hygiene. Even though all our work is affected in one way or another by the corona crisis, ARCNL has been able to establish an amazing productivity in 2020, including inventions (IDFs), a record number of publications and a continued wave of ARCNL researchers successfully defending their PhD thesis. Corona also did not stop us from maintaining intensive and successful interaction with our partners. And most importantly, ARCNL consistently displayed a solid team spirit plus the conviction that we will get through all this together and in good shape. We are proud that the ARCNL community is so motivated and flexible and that it operates like a real family!

Of course, we are eager to leave the present situation behind us and look forward to a return to more normal times, later this year. There are positive lessons to learn from this crazy epoch, for example introducing new ways to deal with working from home and participating remotely in meetings. And more than ever before we realize now, how important it is to actually meet and see each other in person and to enjoy each other's company. We cannot wait for this to happen.

Things can only get better and we have good hope that they will. This is one more reason for us to say: *The future looks bright!*

*Marjan Fretz (Manager of Operations)
and Joost Frenken (Director) ■*



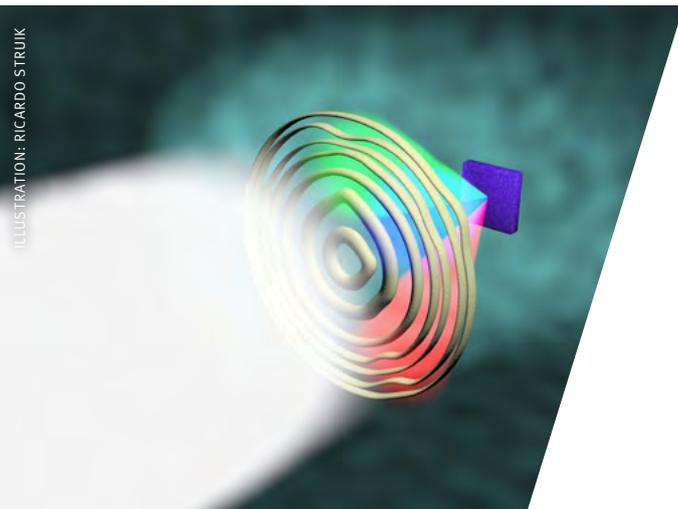
PHOTO: ALESSANDRO TROGLIA

In memoriam

On November 17th, we received the tragic news that our group technician **Reinout Jaarsma** had died in a traffic accident, on his way to ARCNL. Reinout was a group technician in the High-Harmonic Generation and EUV Science group of Peter Kraus and before that he supported the groups of Niklas Ottosson and Roland Bliem. For ARCNL, Reinout played a pivotal role, turning many of ARCNL's initially empty square meters into professional and fully operational labs and supporting junior researchers from many groups with XPS measurements and other help. To the people of ARCNL and to those of neighbor institute AMOLF, Reinout was much more than just a member of the technical support team. As a friendly, warm and extremely social person, he was liked by many. We miss him dearly. ■



Reinout Jaarsma



Scientific highlight

Extreme Ultraviolet (EUV) light in microscopy offers the advantage of obtaining high-resolution images, combined with spectral information about the object under study. However, because EUV microscopy uses diffraction instead of lenses, imaging with more than one wavelength is challenging. Researchers in the group of Stefan Witte (ARCNL/VU) have found a work-around by designing a new class of diffractive optical elements for EUV light. ■

[Read more](#)

Supporting a long-term relationship!

New ASML liaison at ARCNL

In December 2020, **Wim Symens** handed over his role as ASML liaison to **Maarten Voncken**. Together, they reflect on how important it proves to be to have an ASML contact person who all ARCNL researchers can easily approach, and the challenges that come with this role. ■

[Read more](#)



Maarten Voncken



Wim Symens

Hora est!

The past few months ARCNL continued its steady stream of PhD defenses. The following five PhD students finished their projects and successfully defended their thesis:

R. Röhrich (Ruslan) 'Unconventional metrology: Merging nanophotonics with computational imaging', University of Amsterdam, December 11th

L. Wu (Lianjia) 'Metal oxo clusters: molecular design for extreme ultraviolet lithography', University of Amsterdam, November 18th

J. Scheers (Joris) 'Charge-state-resolved spectroscopy of multiply-charged tin ions', VU University Amsterdam, November 10th

S. Edward (Stephen) 'Detection of hidden gratings using light and sound', University of Amsterdam, June 18th

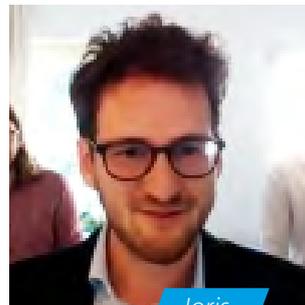
J. Haitjema (Jarich) 'Exciting tin-oxo cages: light-induced chemistry for nanopatterning', University of Amsterdam, June 3rd ■



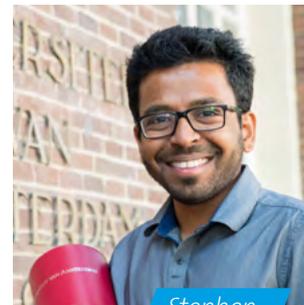
Ruslan



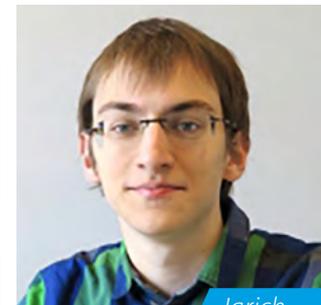
Lianjia



Joris



Stephen



Jarich



Peter Kraus

Peter Kraus 'Techniektalent' of 2020

Group leader Peter Kraus is one of the fifteen technical talents (Techniektalenten) of 2020 in the Netherlands that were identified by the Dutch technology journal De Ingenieur. ■

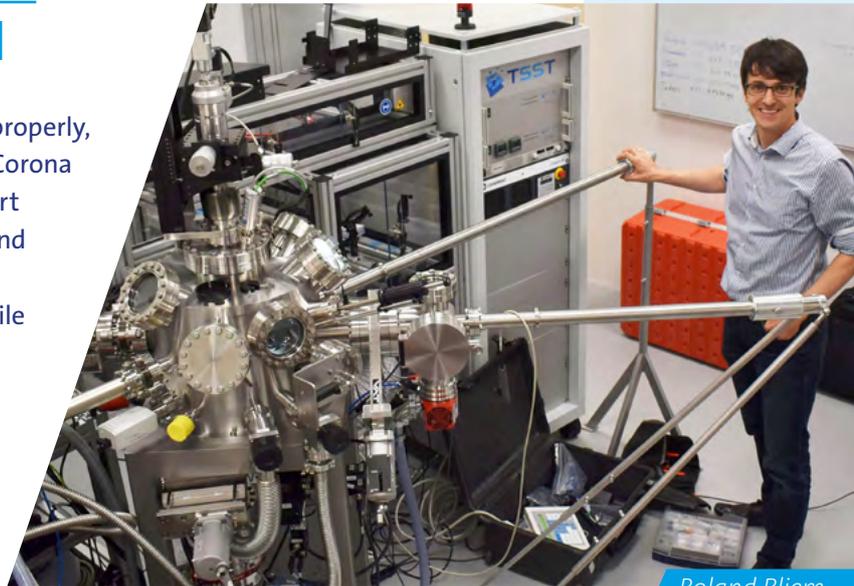
Read the complete article in De Ingenieur:
[Read more](#)

Major new set-ups installed

Getting a lab ready, with all new equipment installed properly, is a major undertaking – extra challenging during the Corona times. Tenure-track group leaders Roland Bliem and Bart Weber have recently achieved another milestone. Roland Bliem and his team finished installing a pulsed laser deposition (PLD) setup for the growth of thin films, while Bart Weber's group acquired a new atomic force microscopy system. ■

pulsed-laser-deposition-for-materials-and-surface-science [Read more](#)

new-atomic-force-microscopy-system [Read more](#)



Roland Bliem

ARCNL groups receive OTP grant

In December, the groups of Peter Kraus and Stefan Witte received an Open Technology Programme (OTP) grant for their project 'Ultrafast metrology of semiconductor nanostructures with a next-generation table-top soft-X-ray source.' The total project volume amounts to M€ 1.2. ■

[Read more](#)

Online Open Day

While many events were cancelled, including the Dutch national Science Week, ARCNL decided to go ahead with its Open Day and organize it on ZOOM. On Saturday, October 3rd, Joost Frenken (ARCNL) and Wim Symens (ASML) gave presentations, followed by video lab tours. In a separate session, Oscar Versolato assisted children and their parents to construct their own spectrometer. ■

See the open day zoom and you tube videos: [Read more](#)

