

WHEN SCIENCE MEETS ART ...

PROFESSOR HENK SCHENK (1939-2023) – IN MEMORIAM

The information about prof. Henk Schenk death, which appeared at the Dutch Crystallographic Society website was very sad news for crystallographers all over the world. Prof Schenk was an outstanding scientist, active not only in pure science but also in the application of scientific techniques in new fields. His role in the creation of CrysAC Commission is an example of his wide interests. Below we want to show his help and engagement in setting up a new IUCr Commission – the Commission on Crystallography in Art and Cultural Heritage.

To begin with, let us write a few words about prof. Henk Schenk scientific interests. He was educated, received his PhD and worked at the University of Amsterdam (UvA). In 1980 he was appointed professor of 'Direct Methods in Crystallography' at this university. His scientific career began with the study of the structures of organic compounds. These years were the pioneering years of research in this area. Professor Schenk was involved in the methodology development for this kind of studies. The value of prof. Schenk's scientific achievements was underlined by prof. Jerome Carle in his Nobel Lecture "RECOVERING PHASE INFORMATION FROM INTENSITY DATA" in which he mentioned Henk Schenk among scientists who "have been associated with the preparation and dissemination of computer programs for various aspects of automated, direct structure determination".

At the University of Amsterdam, prof. Schenk was the chair of the Chemical Crystallography group and dean of the faculty. For years he also held numerous other administrative positions in the Netherlands and all over the world. In 1999, during the 18 IUCr Congress in Glasgow he was elected as president of the International Union of Crystallography.

Some of us might remember that during many crystallographic conferences prof. Schenk, having some free time, enjoyed drawing the surrounding architecture or a picturesque landscape. His scientific interest in art, however, probably started when the art historian Joris Dik who, under his supervision, performed research that led to a PhD thesis entitled "Scientific analysis of historical paint and the implications for art history and art conservation. The case studies of Naples yellow and discoloured smalt" (2003).



Henk Schenk and Uri Schmueli during a wine party after the 20 ECM in Gaj near Krakow, 2001

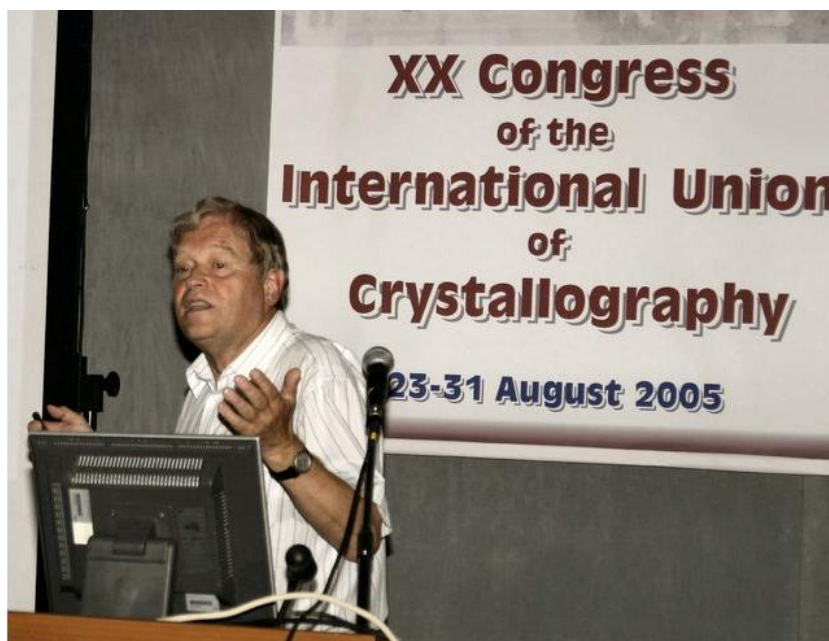
In 2005, when the 20 Congress and General Assembly of the IUCr was organized in Florence, in the scientific programme there were two microsymbiosia devoted to cultural heritage and Art: MS 30 – “Art and Crystallography” and MS 58 - “Crystallography and Understanding of Cultural Heritage”. MS 58 was chaired by Salvatore Siano and Henk Schenk. After MS 58, during an informal meeting in which Henk, as the past president



Chairs and lecturers of MS 58: Rossella Arletti, Eric Dooryh e, Salvatore Siano, Carlo Mealli, Giacomo Chiari, Henk Schenk, Veronika Simova, Florence, 2005

(https://www.iucr.org/gallery/2005/iucr-xx?result_27711_result_page=7)

of IUCr played a crucial role, it was decided that a request to create a new commission devoted to the mutual relations between crystallography and art should be prepared and sent to IUCr. Eric Doryh e from CNRS Grenoble, who in that MS delivered a lecture, was a leader of the initiative group that prepared the application.



Henk Schenk, Florence, 2005

https://www.iucr.org/gallery/2005/iucr-xx?result_27711_result_page=7

Work on the proposal took three years. In that time, in cooperation with Henk, we started to organize in Krakow small international meetings “X-ray and other techniques in investigations of the objects of cultural Heritage”.

The first was held in 2006. Henk was very keen on it, came to Krakow and delivered a lecture – “The production history of Naples yellow and the discoloration of the blue pigment smalt. Two examples of scientific research applied to paintings”. Before and after the meeting we also worked on the proposal concerning the new IUCr Commission. We also had a wonderful trip to the Tatra Mountains.

In May 2008 the proposal was ready and was sent to IUCr. In August 2008, during the IUCr Congress in Osaka, a new IUCr Commission on “Crystallography in Art and Cultural Heritage” (CrysAC) was created and had its first meeting. Eric Doryh e was elected to be the first chair and hold this position till 2014. “Henk has been a very enthusiastic supporter of CrysAC and his network and influences as former president of the IUCr were instrumental in the creation of the new Commission” - as Eric recalled recently .

Henk was interested in all activities we planned. During the second meeting in Krakow (September 2008) in which Eric also took part, Henk had a lecture – “Diffraction techniques, powerful tools for investigations of art objects”. We discussed the plans for the future activities of CrysAC.



Henk Schenk at X-ray Meeting in Krakow, 2008

In 2010, after the Krakow meeting devoted to investigations of works of Rembrandt, Henk received from IUCr a request to write a report (a short article) about this conference to be posted at the IUCr front page. He was very fond of this idea. We did it together and this text is accessible now at http://crysac.visual-chemistry.net/activities/2010_krakow_report.html.

When the International Union of Crystallography decided in 2011 to publish a new volume of International Tables for Crystallography, devoted to powder diffraction, Henk Schenk was appointed as one of the editors. The volume was intended to be a practical one and cover all aspects of the subject; it was divided into three parts: A: Instrumentation and Methods; B: Defects, Texture, Microstructure and Fibers and C: Applications. Henk invited Gilberto Artioli to write about the application of powder diffraction in investigations of

cultural heritage artefacts. The paper was written in 2012 and the article [Powder diffraction in art and archaeology](#) by G. Artioli was published in the *International Tables for Crystallography* (Vol. H, ch. 7.4, pp. 759-766, 2019, [doi:10.1107/97809553602060000978](https://doi.org/10.1107/97809553602060000978)).



Henk Schenk and Gilberto Artioli. X-ray Meeting in Krakow, 2012

Henk came to Krakow and took part in the meetings “X-ray and other techniques in investigations of the objects of cultural Heritage” also in next years. He attended the meetings in 2012 and 2014.



Visit to the Wawel Castle From the left: Gilberto Artioli, Alicia Rafalska-Lasocha, Matthias Alfeld, Henk Schenk, Ina Reiche & Thomas Wroblewski, Krakow, 2012

For years he was the member of the scientific committee of these conferences, chaired the sessions and delivered lectures. His speech in 2012 – “From Röntgen and Laue to modern crystallography” – a lecture about the history and modern achievements reached in the field of crystallography thanks to Laue’s discovery was a wonderful journey through a century of X-ray diffraction.

During the Meeting in 2014 - the International Year of Crystallography - prof. Schenk was awarded by the Senate of the Jagiellonian University, one of the oldest (founded in 1364) Universities in Europe, with the prestigious medal *Plus Ratio Quam Vis*. The ceremony was led by the rector of the Jagiellonian University and attended by Polish crystallographers, chemistry students and participants of the meeting. Henk was very proud of this distinction, especially he was moved by the Latin sentence *Plus Ratio Quam Vis* engraved on the medal. The lecture he delivered in 2014 was entitled: “X-Ray Crystallography, 100 years of seeing atoms and molecules in three dimensions”.



Presenting the medal *Plus Ratio Quam Vis* to professor Henk Schenk, Jagiellonian University, Krakow, 2014

When Henk became retired, he still continued interest in the activities of CrysAC. I (Alicja) remember the visit in Amsterdam in 2010, when I took part in the “Synchrotron Radiation in Art and Archaeology” conference. I met Henk, told him about the scientific program of the conference and we had a wonderful visit to the Royal Picture Gallery Mauritshuis in Hague, where thanks to the kindness of Petria Noble, and under her perfect

and professional guidance, we admired Vermeer's and Rembrandt's masterpieces and discussed scientific issues concerning the conservation of old master paintings.

The last time we met was in 2016 in Basel where during the European Crystallographic Meeting one of Microsymposia was entitled "Crystallography in Art and Cultural Heritage". Henk came to listen to the presented lectures.



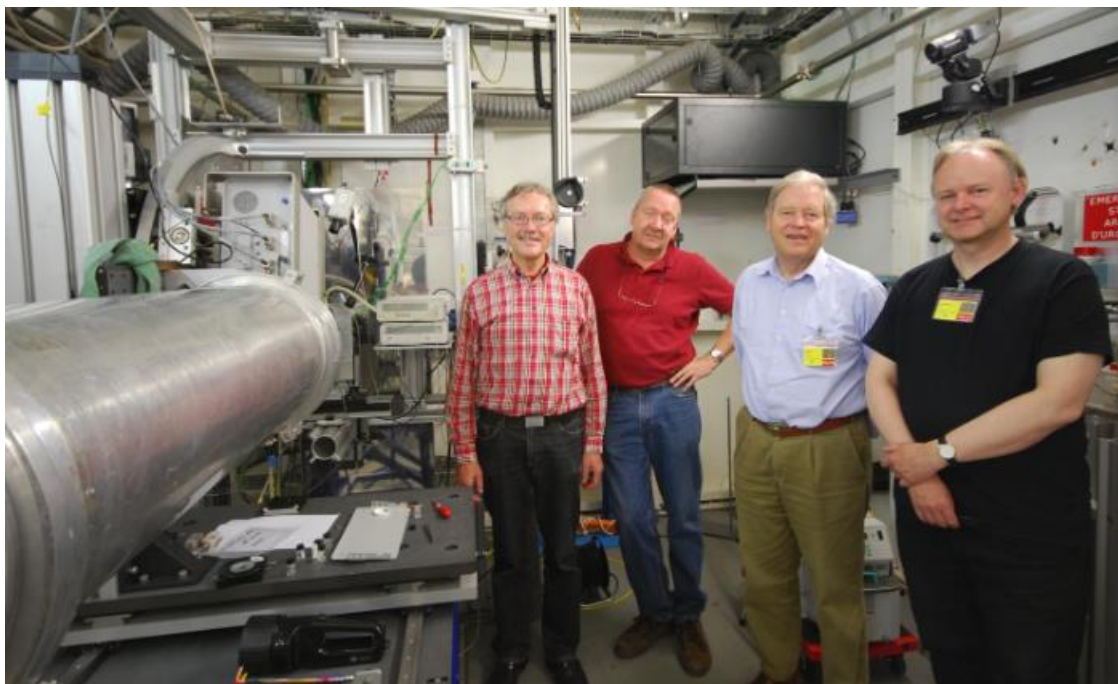
After the ECM 30 in Basel: Koen Janssens, Wieslaw Lasocha and Henk Schenk, 2016

Koen Janssens was one of the lecturers in Basel and recalls that he met Henk Schenk several times during the preparatory meetings of the BENESYNC consortium which unites the Dutch and Belgian funding agencies NWO and BELSPO. For a long time, Henk was one of the scientific members of the ESRF Council (Board of Trustees) as part of the BENESYNC delegation. During these BENESYNC meetings (sometimes in The Hague, sometimes in Brussels, occasionally in Grenoble), Henk usually was the person making the most effort to create an agreeable atmosphere and kept the Dutch-Belgian relations well-aligned.

Koen remembers that Henk on these occasions was always full of stories about the local (Dutch) and global development of crystallography, with a certain fondness for anecdotes about what some of his (famous) crystallography colleagues had exactly said or done at past IUCr meetings (often in exotic places) e.g. two months before they were awarded the Nobel prize.

Henk was also very proud of his and René Peschar's discovery of the phase transformation that turns chocolate from a pleasing (but metastable) solid food into a more-

crystallized but not-so-tasty equivalent. This topic received not only scientific but also worldwide attention in the popular press. A number of (SAXS) experiments for this investigation (involving *in operando* chocolate melting and freezing) were conducted at the DUBBLE beamline (BM26B) of ESRF.



Henk Schenk and René Peschar (third and fourth from left) at the DUBBLE beamline

Professor Henk Schenk was an outstanding scientist, with recognized international scientific reputation. He will be remembered as a demanding, but very approachable person, whose lab had been always open for scientists from different parts of the world, especially from south-east Europe. He will be remembered also as an excellent story teller, a wine lover and a good, long distance skater. Even though we still can read his wise words in “Letters from the President” in the *IUCr Newsletters* (starting from 1999, Vol. 7, No 4 and ending at Vol. 10, No 3, 2002; available at <https://www.iucr.org/news/newsletter/archive>), he will be sorely missed by the Dutch and international crystallographic community.

Alicja & Wieslaw Łasocho