CURRICULUM VITAE

Name: **Hovmöller, Sven**
Date of birth: 13 November 1947
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A. EDUCATION:

Post doc 1980 (6 months) EMBL, Heidelberg. Crystallization and 3D structure determination of membrane proteins by electron microscopy and crystallography. Made huge membrane protein crystals by dialysis, which were used by **Jaques Dubochet** (Nobel Prize in chemistry 2018) when he developed cryo-electron microscopy

Predoc 1978 July - February 1980, Laboratory of Molecular Biology, MRC, Cambridge, England, with Sir ***Aaron Klug***, awarded the Nobel Prize in Chemistry 1982. Studies of the 3D structure of Tobacco Mosaic Virus by X-ray crystallography. Derived the 80 layer groups for 3D crystals, one unit cell thick, for membrane protein crystals, with **Richard Henderson**, Nobel Prize in chemistry 2018.

Ph.D. in structural chemistry, May 1980, Stockholm University. *S*tructure determination by single crystal X-ray crystallography. Wrote the IUCr Educational Pamphlet Rotation matrices and translation vectors in crystallography.

B.Sc. in chemistry, mathematics and mathematical statistics, Stockholm University 1969.

B. APPOINTMENTS:

2018-present Professor emeritus
1997 – December 2017: Professor in Structural Chemistry, Stockholm University.
1992 - 1997: Lecturer at the Department of Structural Chemistry, Stockholm University.
1980-1991: Scientist, docent since 1981, at the Dept. of Structural Chemistry, Stockholm University.
1973 – 1978: Teaching assistant at the Department of Structural Chemistry, Stockholm University.
1971 - 1972: Teaching assistant at Department of Chemistry at the Royal Veterinary College and Karolinska Institute with Prof. **Bengt Samuelsson**, winner of the Nobel Prize in Medicine 1982.

C. GRADUATED STUDENTS AND POST-DOCTORAL FELLOWS

Graduated students: Supervising 13 Ph.D. students, 12 of them have finished their Ph.D exams:
Agneta Sjögren 1981-87. Da Neng Wang 1985-88 . Salam Al-Karadaghi 1984-93.
Xiaodong Zou 1988-1995. Klas Andersson 1994-1999. Magnus Boström 1997-2002.
PETER OLEYNIKOV 2001-2006. TOMAS OHLSON 2001-2006 JEPPE CHRISTENSEN LIC 2004. JONAS ALMQVIST 2001-2008 NANJIANG SHU 2005-2010. GUIDO TODDE 2009-2016, BIN WANG 2015-2019

Post doctoral fellows: Host for over 20 visiting post docs and scientists from Finland, Norway, Switzerland, Austria, Italy, France, Germany, UK, Morocco, Spain, Russia, China, USA etc. They have worked here from one month to several years. Among them are Haixing Sui from China, now in Berkeley, USA, who solved the atomic structure of aquaporin (Sui et al. Nature 414 (2001) 872-878), the discovery of which rendered Peter Agre the Nobel Prize in chemistry 2003.

D. FELLOWSHIPS, AWARDS AND PRIZES

150 invited lectures at different laboratories, international schools and conferences.

E. COMMISSIONS OF TRUST

Secretary of the **International Union of Crystallography (IUCr) commission on electron crystallography** 1999-2002.
Board member of the Scandinavian Society for Electron Microscopy 1982-1990

Organiser of and teacher at 21 international schools and conferences
Since 1994 I have taken the initiative to and been the main organiser or lecturer of **21 international schools on electron crystallography.** These have been in Stockholm (3 times), Krakow, Nantes, **Erice** (3 times), Aachen, Barcelona, Tampere, Moscow, Brussels, Los Angeles, San Francisco, Berlin, Jilin, Kuwait, KAUST, Daejong, Shenyang, Beijing (2019). In total over 800 students from 35 countries have participated. In 2007, I organised the first school in USA, at UC Irvine.
Member of Scientific Advisory Board at several European and International Congresses in Crystallography and Electron microscopy
Participation in scientific evaluation panels for research grants:

Swiss National Science Foundation;
Natural Sciences and Engineering Research Council of Canada;
NATO Collaborative Research Grants;
Comision Interminesterial de Ciencia y Tecnología Spain;
The Wellcome Trust.
Leiden University; National High Resolution Electron Microscopy facility

Participation in panels for scientific positions and Ph.D. exams

Karolinska Instititute in Stockholm;
Lund University
Osnabruck University
Stockholm University
University of Leiden
University of Stavanger

Referee scientific journals

Referee for at least 17 international journals, including

Nature,	J.Appl.Crystallography,	J. Molecular Biology,
Acta Crystallographica,	J. Structural Biology,	Biology of the Cell,
J. Solid State Chemistry,	Scanning Microscopy Int'nal,	J.Ultrastructure Research,
Ultramicroscopy,	Zeitschrift f. Kristallographie,	Micron,
Microscopy Research and Technique,	Biophysical Journal, J. Bacteriology,	Chemistry of Materials Protein Science.

Outside Academia: Member of the city council of my hometown Sollentuna 2007-2016, Board member of Norrvatten which provides 600.000 persons north of Stockholm with their drinking water 2014-2018,
Founder of Kemiklubben (Chemistry Club) giving advanced university lectures in chemistry to especially gifted children of 5-12 years; topics have included: The Periodic Table, Quasicrystals, Electron crystallography, protein structure 2016-present.
Teaching Swedish to adult analphabets and illiterate poor Roma from Romania 2014-present.

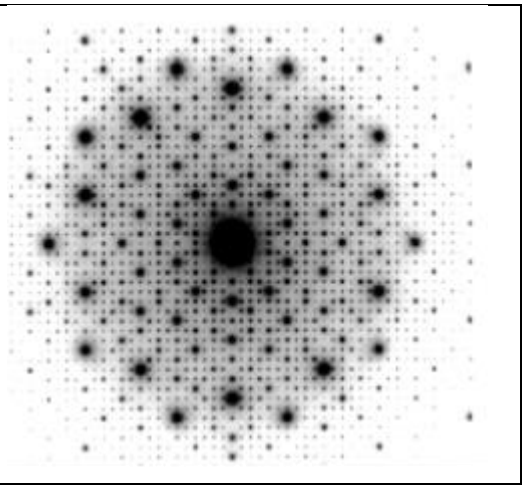
F. NETWORKS IN ACADEMIA AND INDUSTRY
Prof. Dan Shechtman, Nobel Prize in Chemistry 2011
Sir John Meurig Thomas, Royal Society London
Dr. Ute Kolb, Uni Mainz, Dr Thomas Weirich Uni Aachen, Dr Stavros Nicolopoulos NanoMegas, Prof. J.M. Gonzales Calbet Uni Complutense Madrid, Prof. John Helliwood, International Union of Crystallography (IUCr), Prof Stine Larsen President IUCr, Prof. Chris Gilmore, IUCr, Prof. Henk Schenk, former president IUCr, Professor Carmelo Giacovzzo, Bari, Professor Ray Withers, Canberra Australia and many many more on all continents.

RESEARCH GRANTS SINCE 2010

Source	Main grant holder	Project	Funding (kSEK)
VR-NT 2011-2013	S. Hovmöller (SU)	Electron crystallography	2 500

List of selected publications

1. X.D. Zou, S. Hovmöller and P. Oleynikov, **Textbook "Electron Crystallography", IUCr** texts on crystallography, Oxford University Press (2011).
2. Hovmöller,S, Sjögren,A, Farrants,G, Sundberg,M, Marinder,B.O. Accurate Atomic Positions from **Electron Microscopy. Nature (1984)** 311, 238-241.
3. D.L. Zhang, S. Hovmöller, P. Oleynikov and X.D. Zou, "Collecting **3D electron diffraction data** by the rotation method" *Z. Kristallogr.* 225 (2010) 94-102.

4.S. Hovmöller, L. Hovmöller Zou, X,D, Zou, B. Grushko, "Atomic structure of quasicrystal approximants in the Al-Co-Ni system", Philosophical Transactions of the Royal Society, London, 370 (2012) Invited Festschift on the occasion of Alan Mackay's 85 year birthday 2011. Second author Linus Hovmöller Zou was 10 years old when we submitted the manuscript in 2011. With this he became the **youngest boy in history** to co-author a scientific paper. It is all about **electron crystallography.** Google Linus Hovmöller Zou BBC for the full story on BBC TV**.** Electron diffraction pattern of one of the pseudo-decagonal approximants we solved by electron diffraction and electron microscopy	

5. X.D. Zou and S. Hovmöller "**Electron crystallography: imaging and single crystal diffraction on powders",** *Acta Cryst.* A64 (2008) 149-160. DOI:10.1107/S0108767307060084
6. C. Baerlocher, F. Gramm, L.Massüger, L.B. McCusker, Z.B. He, S. Hovmöller and X.D. Zou, "Structure of **polycrystalline zeolite** catalyst IM-5 solved by enhanced charge flipping", *Science* 315 (2007) 1113-1116.
7. X.D. Zou, Z.M. Mo, S. Hovmöller, X.-Z. Li and K.H. Kuo "Three dimensional reconstruction of the ν-AlCrFe phase by **electron crystallography**", *Acta Cryst.* A59 (2003) 526 - 539.
8. T.E. Weirich, R. Ramlau, A. Simon, S. Hovmöller and X.D. Zou, "A crystal structure determined to 0.02 Å accuracy by **electron crystallography**", *Nature* 382 (1996) 144-146.
9. Xu, H.; Lebrette, H.; Yang, T.; Srinivas, V.; Hovmöller, S.; Högbom, M.; Zou, X. A **Rare Lysozyme** Crystal Form Solved Using Highly Redundant Multiple **Electron Diffraction** Datasets from Micron-Sized Crystals. Structure 26, (2018) 667–675.
10. Wan, W.; Sun, J.; Su, J.; Hovmöller S.; Zou, X. Three-dimensional **rotation electron diffraction**: software RED for automated data collection and data processing. J. Appl. Crystallogr. 46 (2013) 1863–1873.
11. Yun, Y.; Wan, W.; Rabbani, F.; Su, J. Xu, H. Hovmöller, S.; Johnsson, M.; Zou, X. Phase identification and structure determination from **multiphase crystalline powder samples by rotation electron diffraction**. J. Appl. Crystallogr. 47 (2014) 2048–2054.
12. Singh, D.; Yun, Y.; Wan, W.; Grushko, B.; Zou, X.; Hovmöller, S. A complex pseudodecagonal **quasicrystal approximant**, Al37(Co,Ni)15.5, solved by **rotation electron diffraction**. J. Appl. Crystallogr. 47 (2014) 215–221.