Journal of Materials Chemistry C

ROYAL SOCIETY OF CHEMISTRY

EDITORIAL

View Article Online
View Journal | View Issue

Cite this: J. Mater. Chem. C, 2024, 12, 16254

DOI: 10.1039/d4tc90157f

rsc.li/materials-c

A special collection honoring Professor Thom Palstra, an exceptional scientist, leader and mentor

Yoshihiro Iwasa,[a] Gabriela Maris,[c] Beatriz Noheda,[d] Harold J. W. Zandvliet [c] and Oana D. Jurchescu *[b]

It is with respect and admiration that we introduce this special collection published across the *Journal of Materials Chemistry C* and *Materials Advances* to honor Professor Thom Palstra on the occasion of his retirement. This virtual collection serves as a testament to Thom's exceptional contributions to the field of materials science and his profound impact as a mentor and colleague.

Thom's scientific journey has been remarkable, spanning prestigious institutions and consistently pushing the boundaries of materials research. In his career of over four decades, he explored a wide range of materials and phenomena, leaving an enduring mark on each area he has touched, from superconducting, magnetic, and ferroelectric materials to multiferroics, organic semiconductors, charge and spin transport, crystallography, and more. Thom's ability to bridge diverse disciplines in order to understand the interplay between structure, properties, and functionality has been a hallmark of his work.

Thom studied physics at the University of Leiden NL, where he earned his PhD in 1986 at the Kamerlingh Onnes Laboratory. From 1987 until 1996 he was a member of the technical staff at AT&T Bell Laboratories (later Lucent Technologies) in Murray Hill, NJ, USA. During this time, his work on high-temperature superconductors and superconductivity in doped C60, significantly advanced the fields of nanoscience and nanotechnology. In 1996, Thom returned to his home country to become a professor at the University of Groningen. His research there continued to break new ground in the fields of magnetism, superconductivity, electric conduction, and ferroelectricity, focusing on transition metal oxides, chalcogenides, organic–inorganic hybrid materials, and organic semiconductors.

Thom's scholarly influence is evident in his authorship of over 250 highly recognized publications and 3 patents. His influence is widely acknowledged, as evidenced by his membership in organizations such as the Royal Holland Society of Sciences and Humanities (KHMW), the Royal Netherlands Academy of Arts and Sciences (KNAW), and his Fellowship in the American Physical Society (APS).

Prof. Palstra's leadership extended beyond research, as he took on various management roles at the University of Groningen, including Education Director, Scientific Director of the Zernike institute for Advanced Materials, Vice-Dean, and Dean. In 2016, he was appointed Rector Magnificus and member of the executive board of the University of Twente, where he oversaw education and research programs. From 2020 until 2024 he remained actively engaged in research in Twente and at the Max Planck Institute for Solid State Research Stuttgart. After Prof. Palstra stepped down from his position as Rector Magnificus he kept on supporting and encouraging scientists in various stages of their careers. Prof. Palstra also holds influential positions in Dutch science foundations and innovation programs, including the Division of Applied and Engineering Sciences, TTW, of the Dutch National Science Foundation, NWO, the Knowledge and Innovation Covenant, PC-KIC, and on the supervisory board of the innovation program NextGen HighTech.

Throughout his career, Thom has not only been a prolific researcher but also an exceptional mentor and educator, guiding and inspiring numerous students and postdoctoral researchers. Possessing a remarkable ability to recognize the unique qualities in each individual working with him, Thom expertly guided them to build upon their strengths and reach their full potential. This mentorship, coupled with his creation of a collaborative and inclusive atmosphere, has empowered countless individuals to succeed while being members of his lab, and later make significant contributions to various research fields.

[a] Institute of Physical and Chemical Research, Riken, Japan
[b] Wake Forest University, USA. E-mail: jurchescu@wfu.edu
[c] University of Twente, The Netherlands
[d] University of Groningen, The Netherlands

This special collection showcases the breadth and depth of Prof. Palstra's scientific legacy. The contributions, authored by colleagues, collaborators and former students, highlight the profound impact of Thom's work on diverse areas of materials research. From fundamental discoveries to technological advancements, these articles exemplify the spirit of innovation and intellectual rigor that Thom has instilled in his students and collaborators.

As we celebrate Thom's retirement, we extend our deepest gratitude for his dedication to science, his inspiring mentorship, and his lasting contributions to the materials science community. This special collection stands as a tribute to his remarkable career and a source of inspiration for future generations of researchers. We wish Thom all the best in his well-deserved retirement and look forward to his continued engagement with the scientific community.

The Palstra group in 2003, pictured outside the laboratory building at the University of Groningen.