David Crighton Medal 2021
Citation for Caroline Series

Professor Caroline Series of the University of Warwick is awarded the 2021 David Crighton Medal by the Institute of Mathematics and its Applications and the London Mathematical Society. This is in recognition of her fundamental and beautiful results connecting geometry and dynamical systems, and her outstanding service to the mathematical community, including her pioneering work to support the careers of women in mathematics. Caroline's early work involved coding the dynamics of geodesic flows on surfaces, developing techniques of Rufus Bowen, and led to an invitation to speak at the ICM in 1986. There is now a substantial body of work, carried out by groups around the world, that can be traced back to the theory and connection between areas that was established by Caroline in this early work.

Subsequently, Caroline's interests moved to Kleinian groups, and she made major contributions to the study of spaces of certain parametrised families of groups, such as the Maskit slice, the Riley slice and other higher dimensional examples. She showed how the geometry of the group action, and in particular beautiful patterns in its limit set, vary as one moves through the parameter space. Her work has been recognised by numerous awards throughout her career and, in 2016, she was elected a Fellow of the Royal Society.

Caroline also has a real skill in making her research, and that of others, accessible to non-specialists. Most notably, along with David Mumford and David Wright, she wrote *Indra's Pearls,* a book explaining the mathematics behind the computer pictures that inspired Caroline's work on Kleinian groups. The book includes beautifully intricate pictures as well as cartoons and simple illustrations, making deep mathematics engaging and accessible.

Alongside her research, Caroline has provided outstanding service to the mathematical community on numerous committees and panels both nationally and internationally. She served as President of the LMS from 2017 to 2019, having earlier served the society in numerous ways, including as chair of the Nominations Committee. She has served on the Steering Committee and the Management Committee of the Isaac Newton Institute and on REF panels in 2008 and 2014, and has played an active role on committees of both the European Mathematical Society (EMS) and the International Mathematical Union (IMU).

Of particular note is the impact of Caroline's work to improve gender equality, where she has continually acted as an initiator of new activities at an international level. In 1986 she was a co-founder of European Women in Mathematics and has continued to play a leading role in the growing work of the organisation, organising conferences and acting as Convenor. She has served as Chair of the EMS Women in Mathematics Committee and as founding Vice Chair of the IMU Committee for Women in Mathematics, linking existing national and regional organisations and supporting the establishment of new networks to support women in mathematics in developing countries.

Caroline's work at the very highest level across such a range of activities is truly inspirational.