

Margaret Stedman (died February 2021)





Margaret with REMS member Neil Griffin at the European Space Research and Technology Centre (ESTEC) Space Museum at Noordwijk, 19<sup>th</sup> April 2012 – one of the visits on the REMS Holland trip organised by David Pick.





Lunch time on the Capital Ring Walk 14 (West Ham to Woolwich Arsenal), 25th May 2013,  
organised by Reinalt Vaughan-Williams (in white shirt near window)  
Margaret is sitting at the far left.

Dear Colleagues

I am sorry to say that we lost a long-term active member of REMS last February. Margaret was suffering from Parkinson's disease and, following a fall, was admitted to hospital where she contracted a fatal covid infection.

Many of her friends and colleagues will remember Margaret for her work in the field of x-ray optics undertaken under Albert Franks at the National Physical Laboratory. To process x-ray beams one typically employs reflecting components with surfaces smooth on a scale which is small compared to the minute wavelength of x-rays – some 10s or 100s nanometre. (1 nm is 1 thousand millionth of a metre). The manufacture of such components calls for demanding measurement and testing techniques and this was Margaret's special strength. Traditionally one thinks of drawing a fine probe across a surface to measure its rise and fall as a function of distance so producing a profile of the surface irregularities. If these are sinusoidal, one may talk of Amplitude A and Wavelength W.

But in the field of nanotechnology, the interaction between probe and surface is typically complicated and limits the range of A and W values which can be covered by a given technique. Margaret developed a useful approach for looking at this issue using an "amplitude-wavelength space" where the range of usefulness of any particular technique could be represented as an area in the A-W plane. This enabled one to see what methods were appropriate for any given problem. Margaret's achievements were recognised by a special merit promotion for her work.

*Tony Colclough*