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## SUPERHEAVY ELEMENTS

### Nielsbohrium, hassium and meitnerium

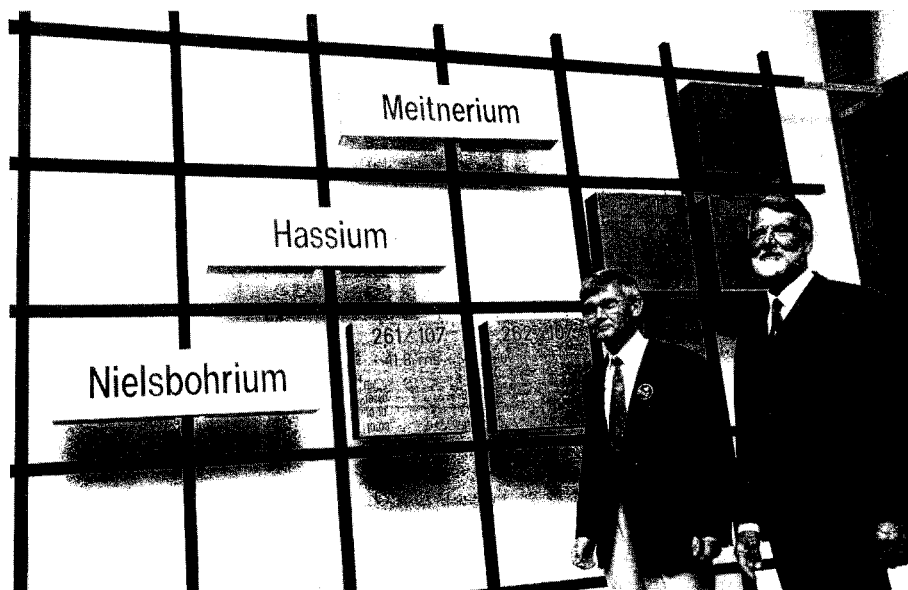
An international commission set up by IUPAP and IUPAC (International Union of Pure and Applied Physics/Chemistry) in 1987 and chaired by Sir Denys Wilkinson has published its findings on the status of the transfermium elements (beyond atomic number 100) and the credit for the various discoveries.

The discovery of the three heaviest elements, 107, 108 and 109, is attributed to Darmstadt's GSI heavy ion Laboratory, in work carried out between 1981 and 1984 by a group led by Peter Armbruster and Gottfried Münzenberg. After a proposal was submitted to IUPAC, the elements were formally named at a GSI ceremony on 7 September.

Following a proposal from the Russian Dubna Laboratory, element 107 was named nielsbohrium, 108 hassium (after the Latin name 'Hassia', for GSI's home state of Hesse) and 109 meitnerium in honour of nuclear fission pioneer Lise Meitner (1878-1968).

In the commission's findings, discovery of the element 101 (mendelevium) is attributed to Berkeley, 102 (nobelium) to Dubna, and 103 (lawrencium) to a decade of work at Berkeley and Dubna. The credit for element 104 (kurchatovium or rutherfordium) and 105 (provisionally called hahnium) is shared between Berkeley and Dubna. Element 106 (for which no name has yet been

proposed) was found by Dubna and by Berkeley/Livermore teams, with the Russian Laboratory given special credit.



*Peter Armbruster (right) and Gottfried Münzenberg, leaders of the group which discovered elements 107, 108 and 109 at Darmstadt's GSI heavy ion Laboratory from 1981-4. At a GSI ceremony on 7 September, these respective names for these elements were formally adopted as nielsbohrium, hassium (after the Latin name 'Hassia', for GSI's home German state of Hesse) and meitnerium in honour of nuclear fission pioneer Lise Meitner.  
(Photo Achim Zschau, GSI)*