APPENDIX I

ERRATA IN PAPERS I , III, AND IV

Paper I:

- In Table 2 of Paper I the maximum power density of IS has been calculated (not the maximum power density of I as denoted in the heading).
- In nomenclature the mass average velocity and partial molar volume have the same symbol, υ. In the text, υ denotes only the partial molar volume, while the velocity is denoted by v.
- The unit of length in Fig. 10 is a metre.

Paper III:

- The external force perpendicular to the permeable wall need not be constant in the λ-direction (on page 5 it is wrongly stated that a constant external force term is included in the study).
- On page 18, the first two equations should be denoted as

$$p(x,\underline{\lambda = 1}) - p(x,\lambda = 0) = \Im_y h - \frac{1}{2} v_w^2 \rho$$

and

$$p(x,\underline{\lambda = 1}) - p(x,\lambda = 0) = \rho h v_w \left(\frac{g}{v_w} - \frac{1}{2} \frac{v_w}{h} \right)$$

Paper IV:

On page 285, it is incorrectly stated that both the porosity and tortuosity are estimated from SEM pictures by the Monte-Carlo method. Only the evaluation of the porosity of Sublayers 2 and 3 is based on this method.
The dry and wet weights of the membranes were measured, and from these measurements the overall porosities were determined. By using the measured overall porosities and the estimated porosities of Sublayers 2 and 3, the porosity of Sublayer 1 was determined.

The tortuosity estimation was based on visual inspection of the shape of the structure revealed by the SEM pictures: for instance, according to the SEM pictures taken from the back of the membranes, Sublayer 1 of all the membranes consists of horizontal, cylindrical fibres. The fluid seems to have enough space to move between the fibres. If the fibres were perfect cylinders, the path along the fibre surface from the other side of the fibre would be 3.1415.../2 (= about 1.57) times longer than the straight path (i.e. tortuosity = 1.57). The pressure applied to the membrane may compress the fibres, thus increasing the path. However, being composed of cellulose, the fibres should allow the fluids to permeate through. Therefore, the deviation of the path of the fluid molecules from a straight line decreases. It was assumed that these two effects cancel each other out and we used the value of 1.6 for the tortuosity of the first layers of all membranes.