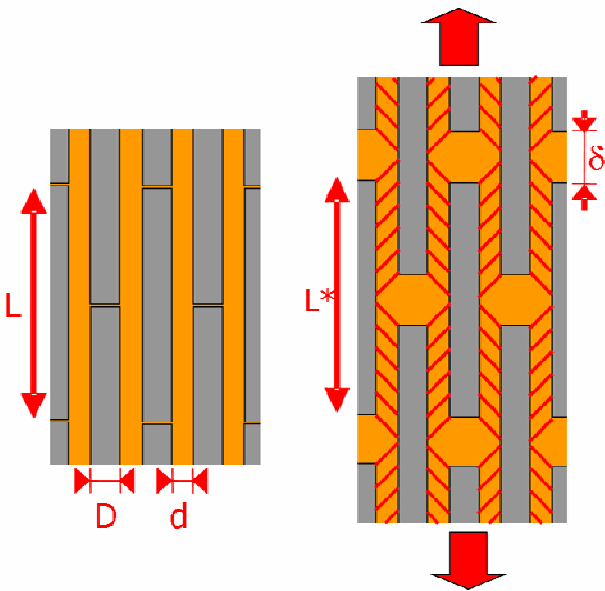


Staggered Composite Model

Jäger & Fratzl
Biophys J. 2000

Gao, Ji, Jäger, Arzt,
Fratzl, PNAS 2003



$$\frac{\epsilon^P}{\epsilon^C} = f$$

$$\frac{\eta^M}{\epsilon^C} = 2\rho \frac{E^P}{G^M} f$$

$$\frac{\sigma^C}{\epsilon^C} = (1 - \Phi) E^M + \Phi E^P f$$

$$\Phi = \frac{D}{D+d}$$

$$\rho = \frac{D}{L}$$

$$\frac{1}{f} = 1 + 4\rho^2 \frac{1 - \Phi}{\Phi} \frac{E^P}{G^M}$$