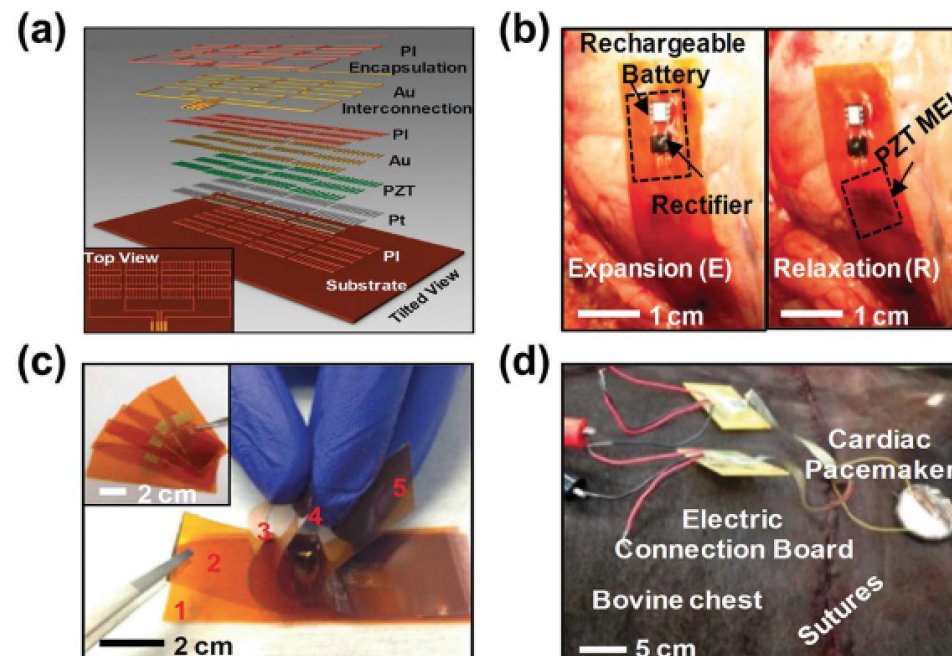
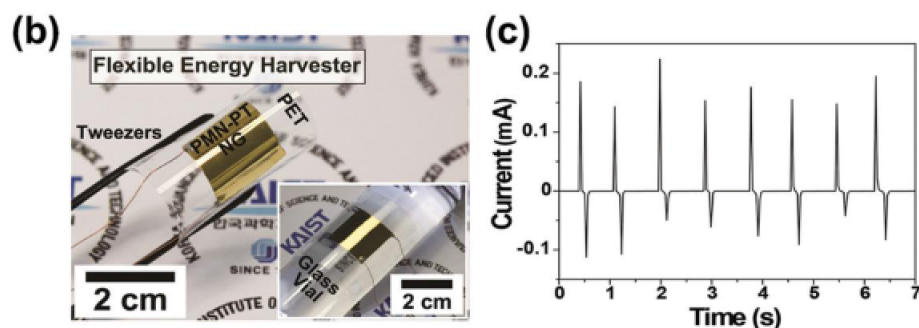
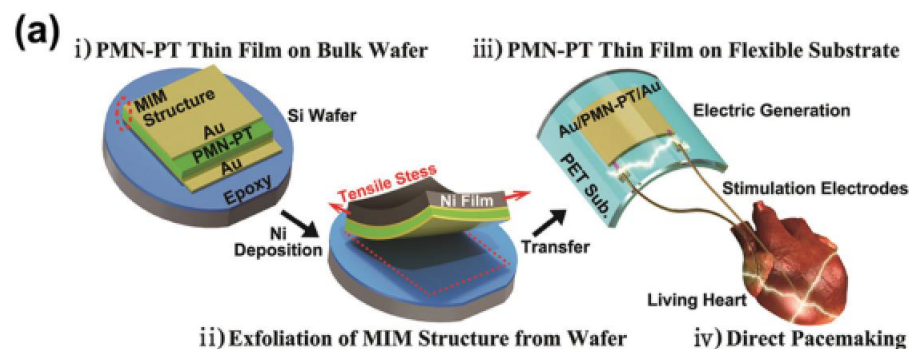
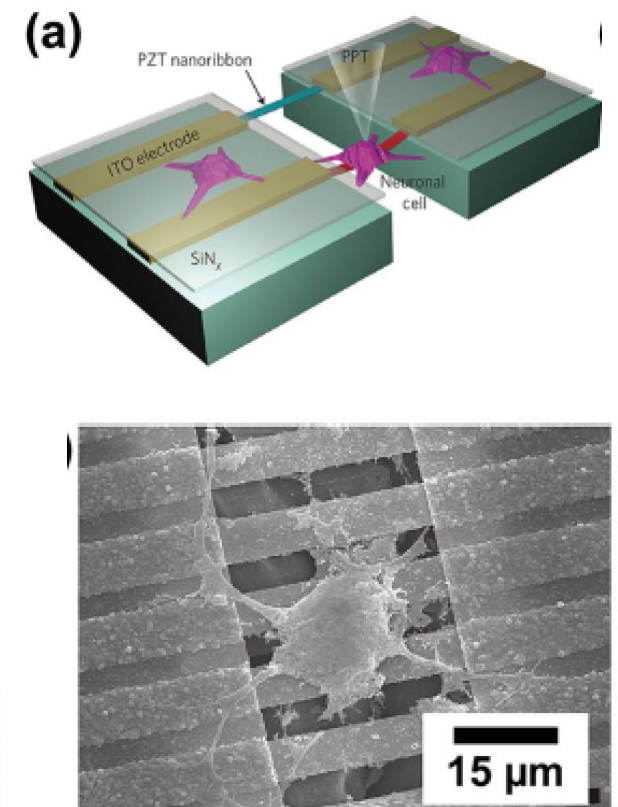
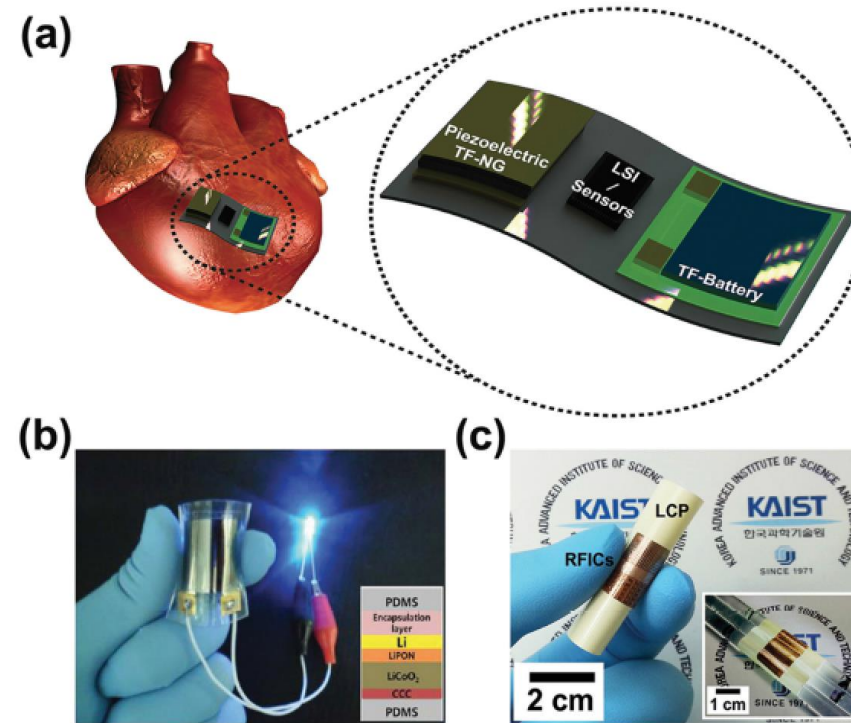
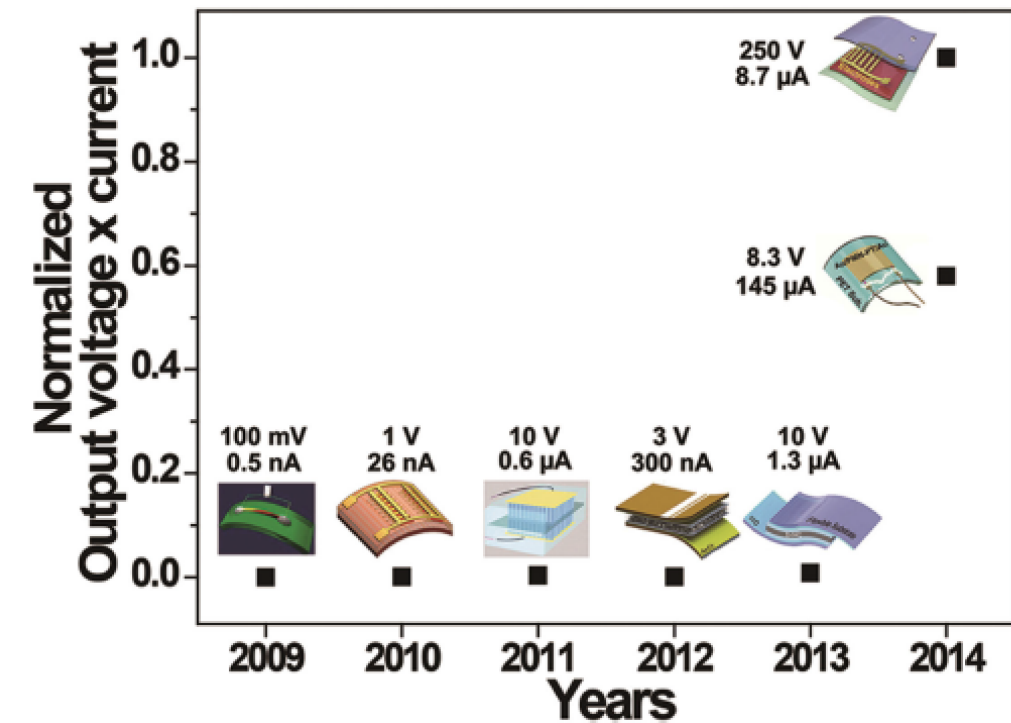
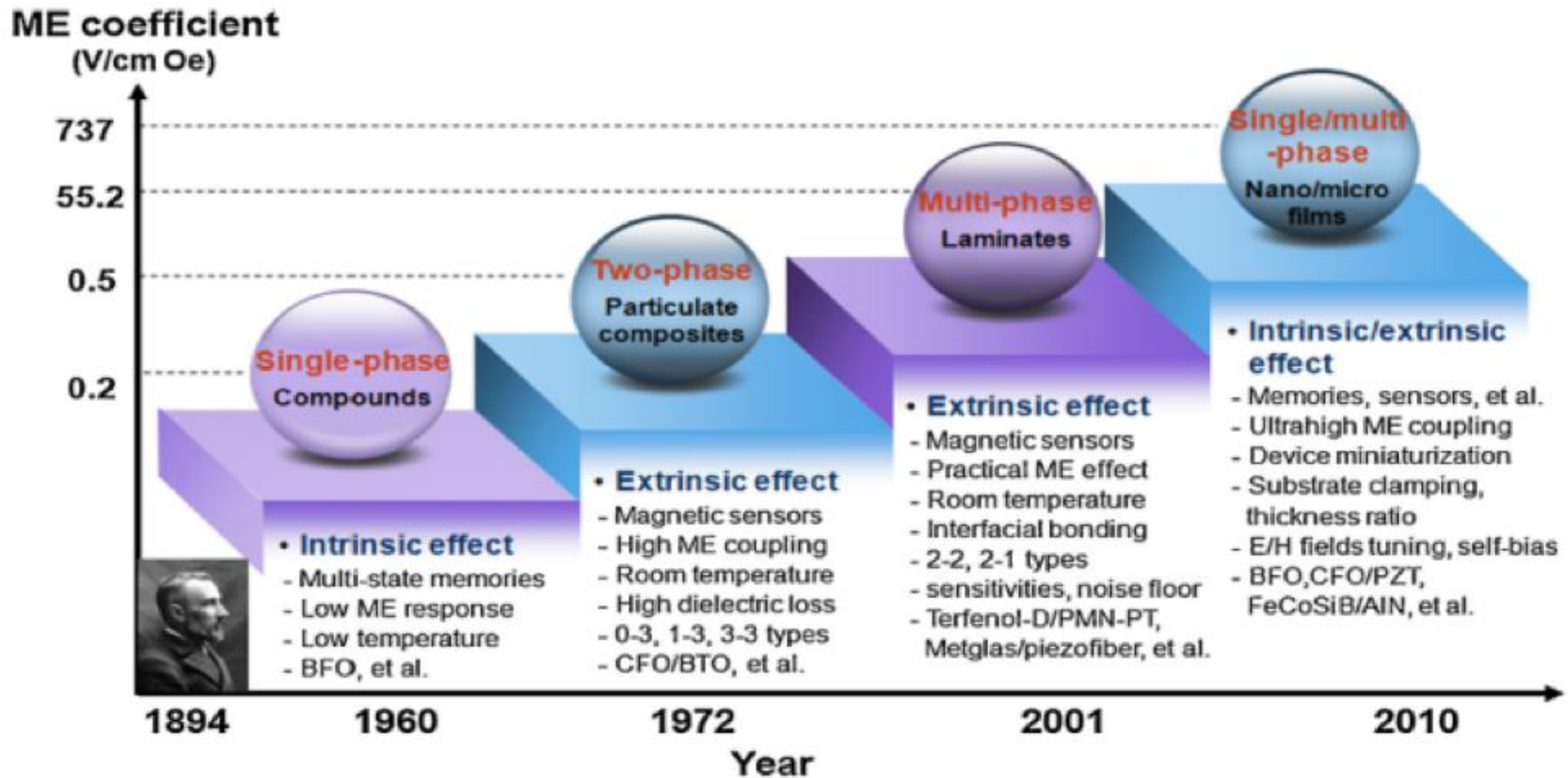


Autonomie : Éléments piezoélectriques

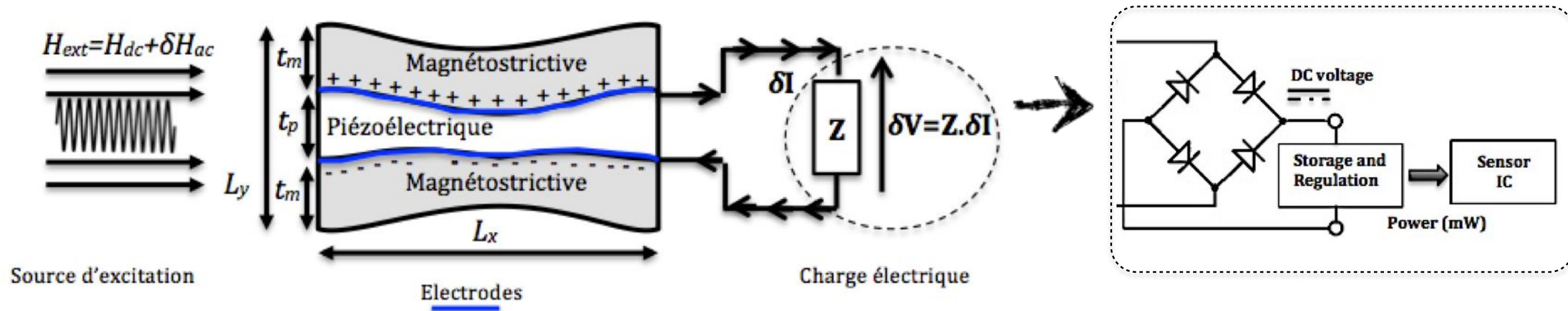
Geon-Tae Hwang , Myunghwan Byun , Chang Kyu Jeong , and Keon Jae Lee, « Flexible Piezoelectric Thin-Film Energy Harvesters and Nanosensors for Biomedical Applications », Advanced Healthcare materials, 2014, 4.



Matériaux magnétoélectriques



Transducteurs magnétoélectriques



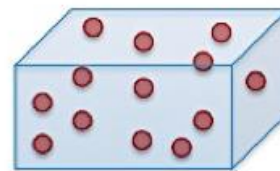
Coefficient magnétoélectrique

$$\alpha_V = \delta V / \delta H_{ac}$$



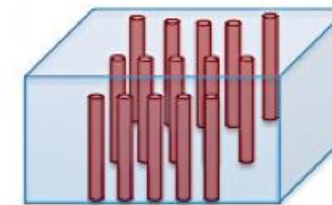
Type 2-2

Laminate composite



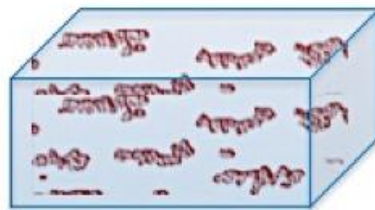
Type 0-3

Particulate composite



Type 1-3

Fiber composite



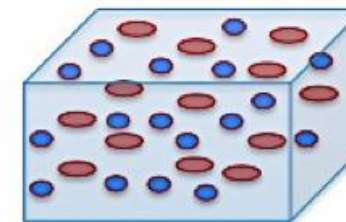
Type 3-2

Particulate composite



Type 2-2 granular

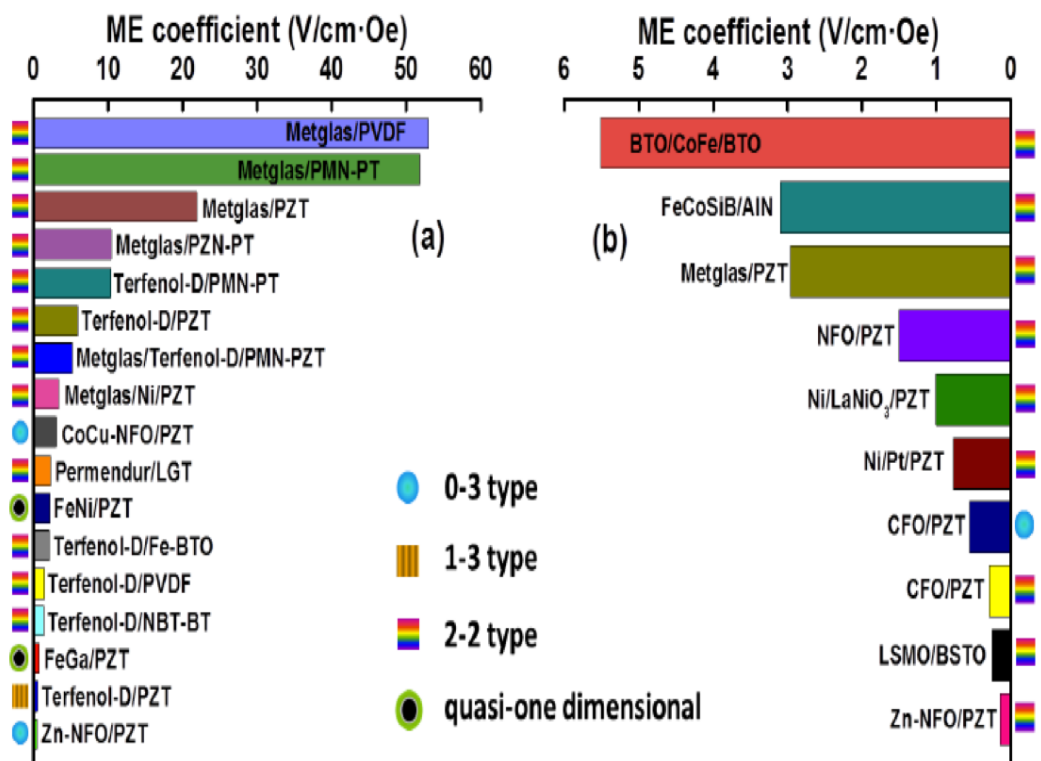
Particulate composite



Type 0-0-3

Particulate composite

Transducteurs magnétoélectriques



H. Palneedi, V. Annapureddy, S.Priya and Jungho Ryu, “Status and Perspectives of Multiferroic Magnetolectric Composite Materials and Applications”, Actuators 2016, 5, 9; doi:10.3390 act5010009.

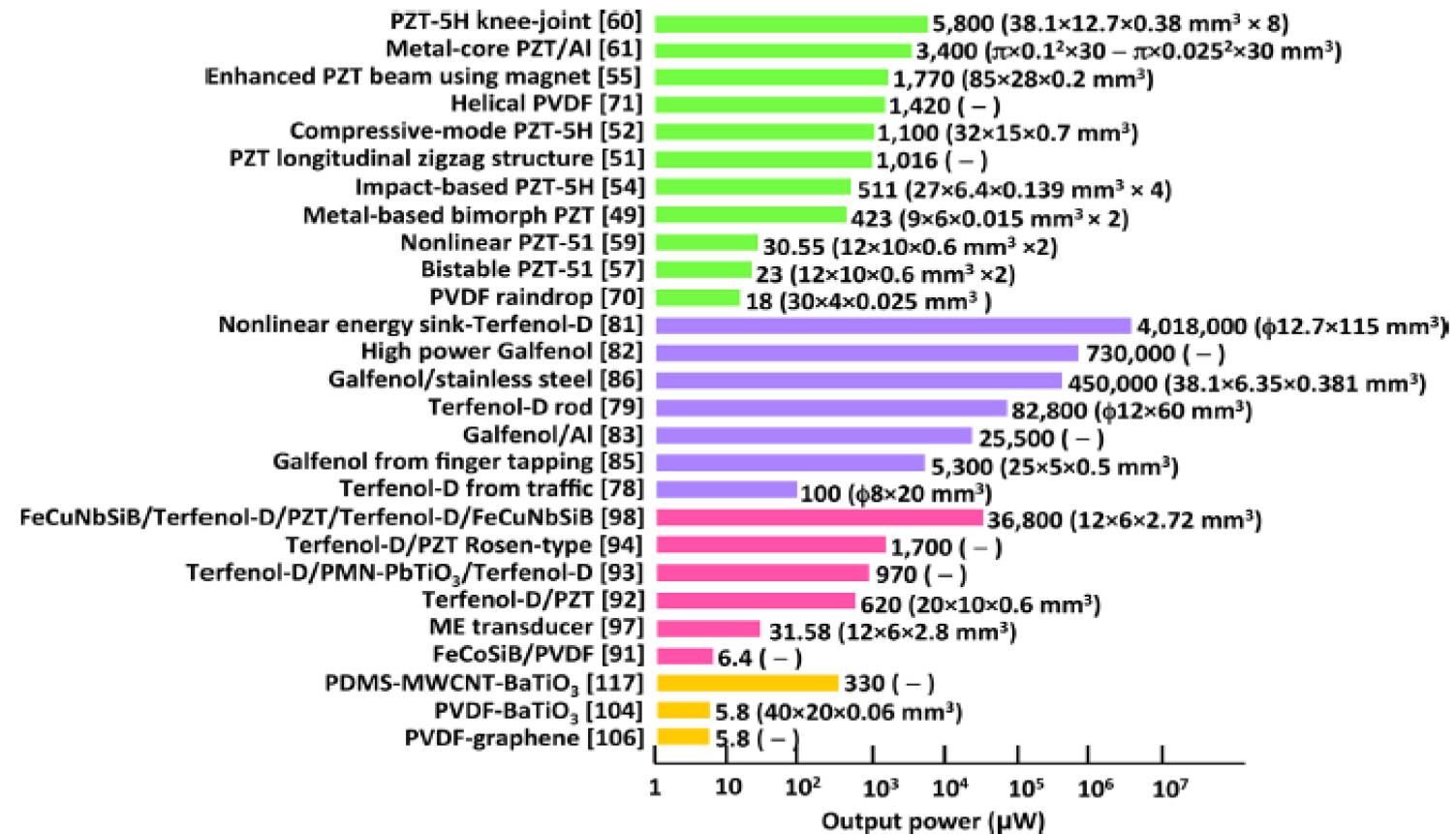
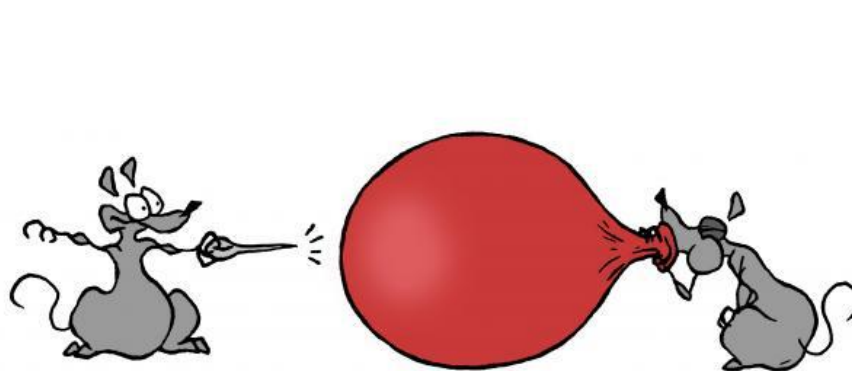


Figure 23. Progress of energy harvesters from 2015–2017.

« Energie »

Fumio Narita* and Marina Fox, A Review on Piezoelectric, Magnetostrictive, and, Magnetolectric Materials and Device Technologies for Energy Harvesting Applications, Adv. Eng. Mater. 2017, 1700743



Puissance = Energie/temps

3D=> Evolution des matériaux

