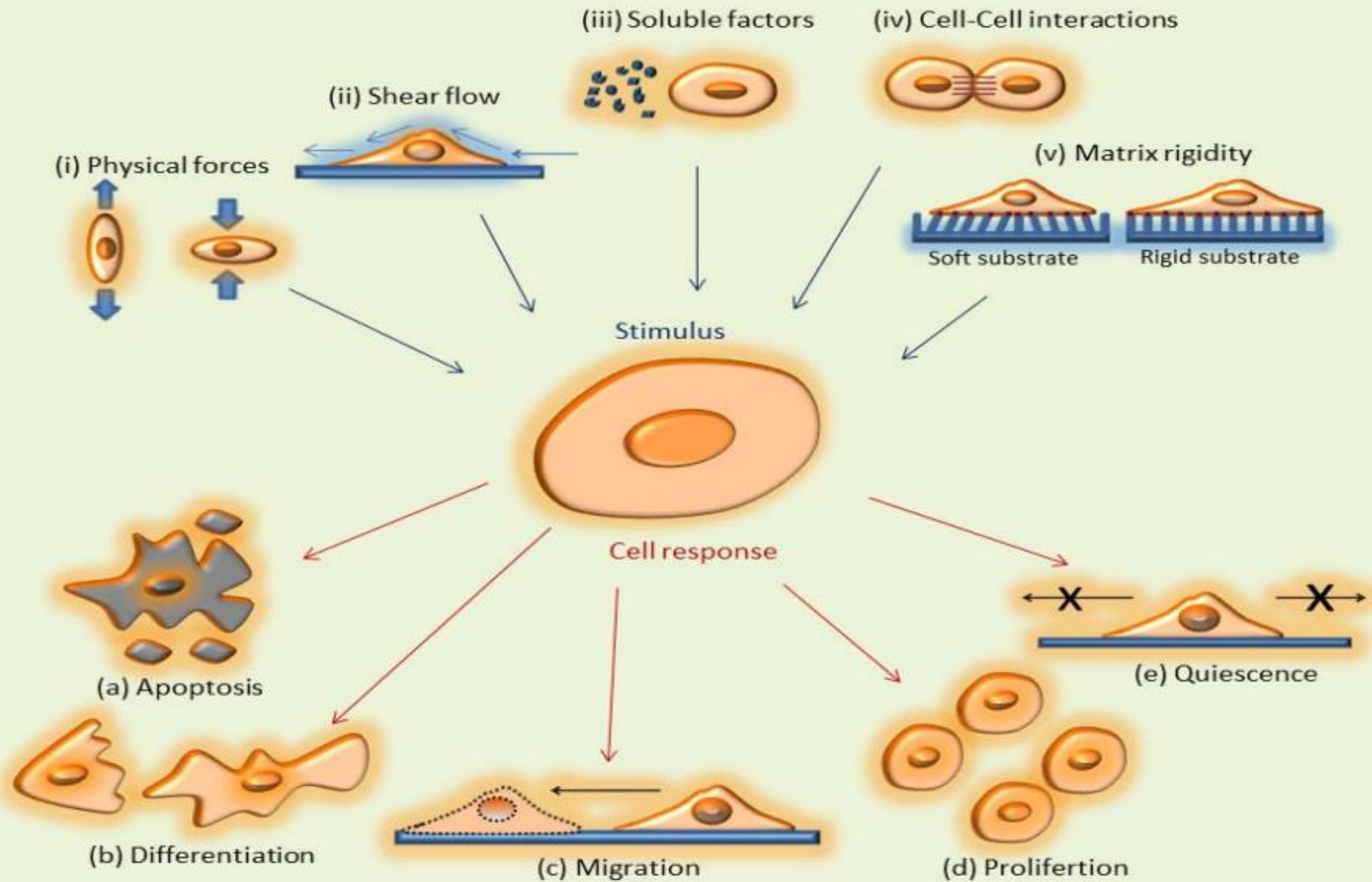


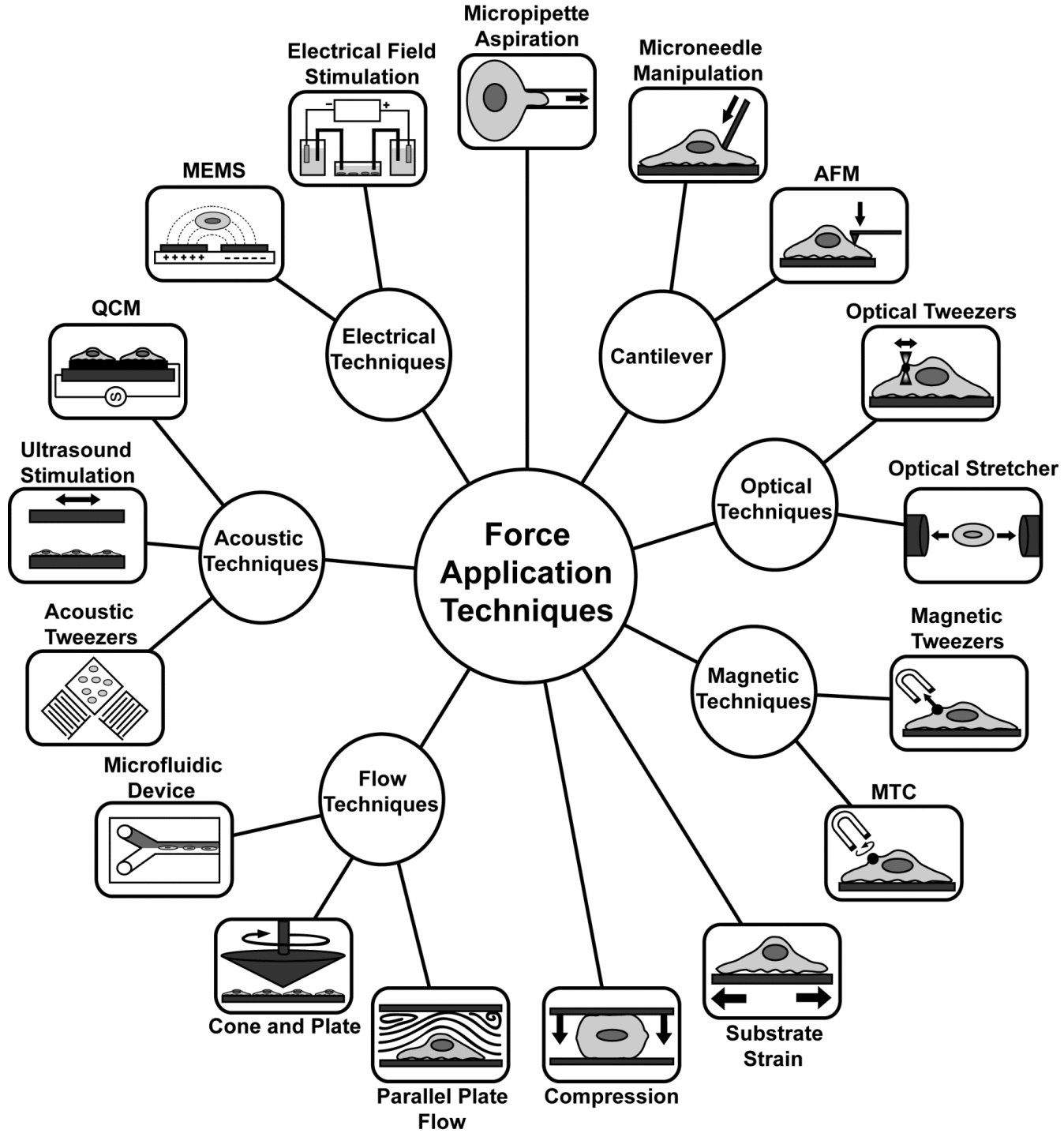
Lecture 3: From Modeling Approaches to Experimental Results

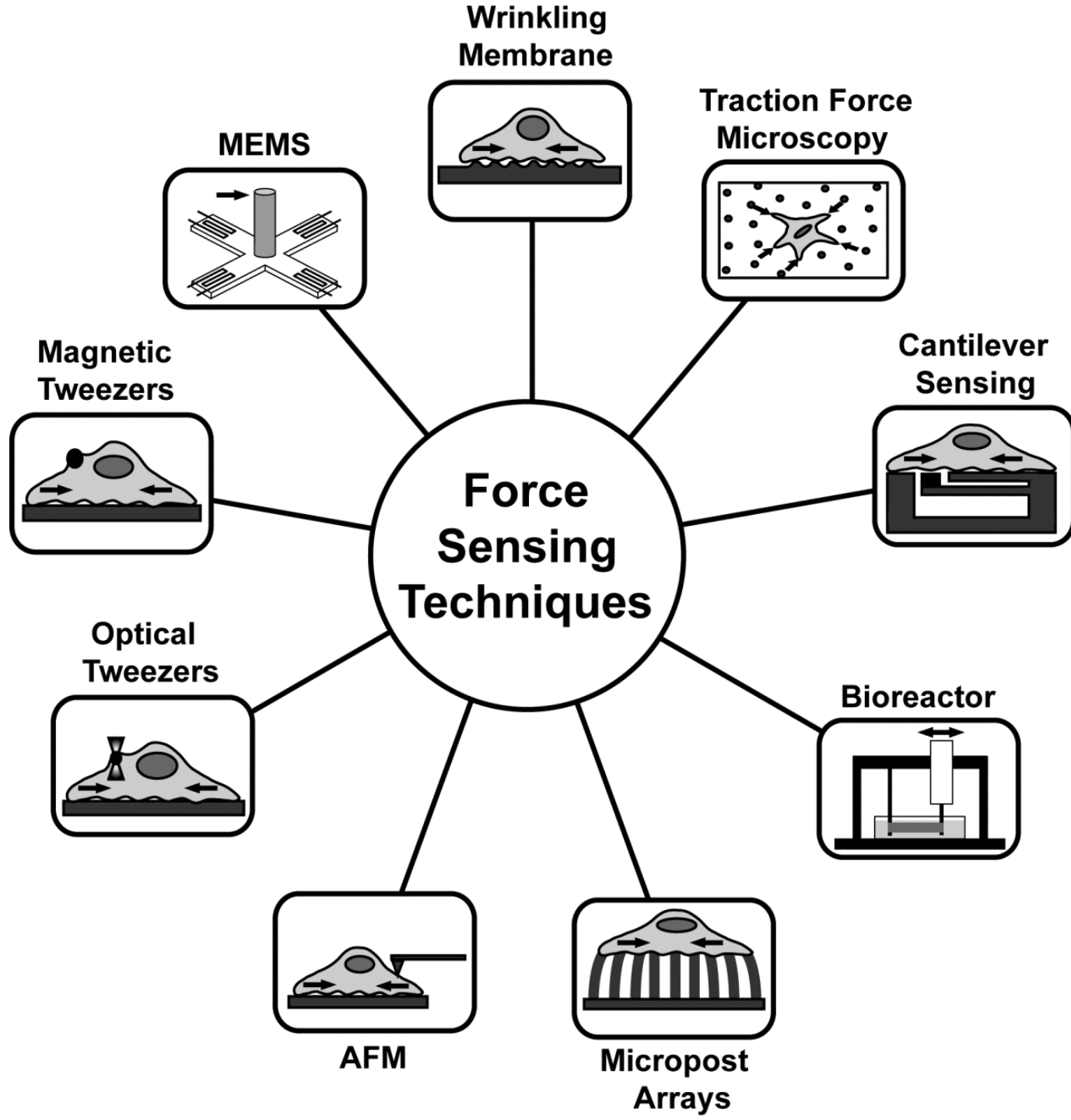
Interactive

(Hover over certain images or words to see
if they redirect you to papers or videos!)

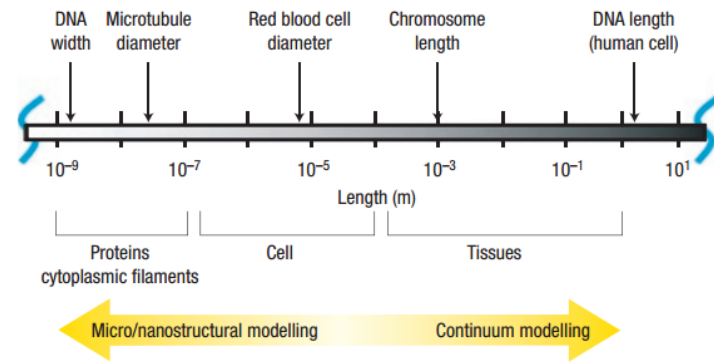
From Stimulus to Cell Response







Modeling Approaches



Computational approaches for cell mechanics

Bridging the length scales

Continuum approaches

Multiscale models

Microscale approaches

Adherent cells

Suspended cells

Liquid drop models

Material models

- #### Elastic continua
- Linear model (ELM)
 - Nonlinear model (ENL)

- #### Viscoelastic continua
- Maxwell model (VMM)
 - Generalized Maxwell model (VGM)
 - Power-law structural dampening model (VPL)

- #### Biphasic continua
- Poroelastic model (BPE)
 - Poro-viscoelastic model (BPV)

- #### Active continua
- Bio-chemo-mechanical model (ABM)
 - Active poroelastic gels (APG)

- #### Other models
- Percolation models
 - Foam models
 - Tensegrity models (elastic and viscoelastic)
 - Cable network models

- #### Monte-Carlo (MC) models
- Stochastic motor-filament models
 - MC network models

- #### Molecular dynamics (MD)
- MD networks models
 - Mean field MD models

Tensegrity (In the context of full body)

