

The main ways for metal nanoparticles degradation

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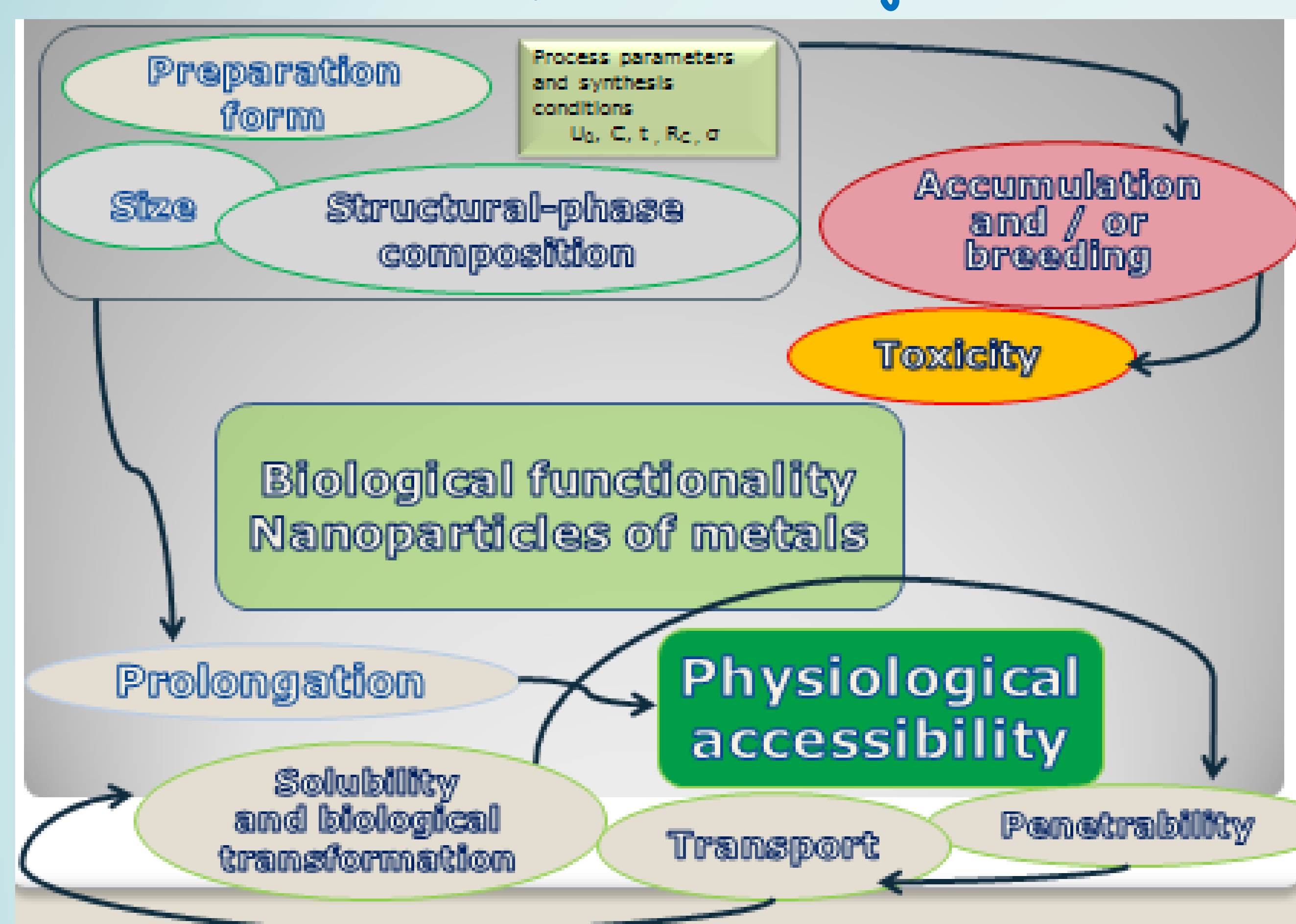
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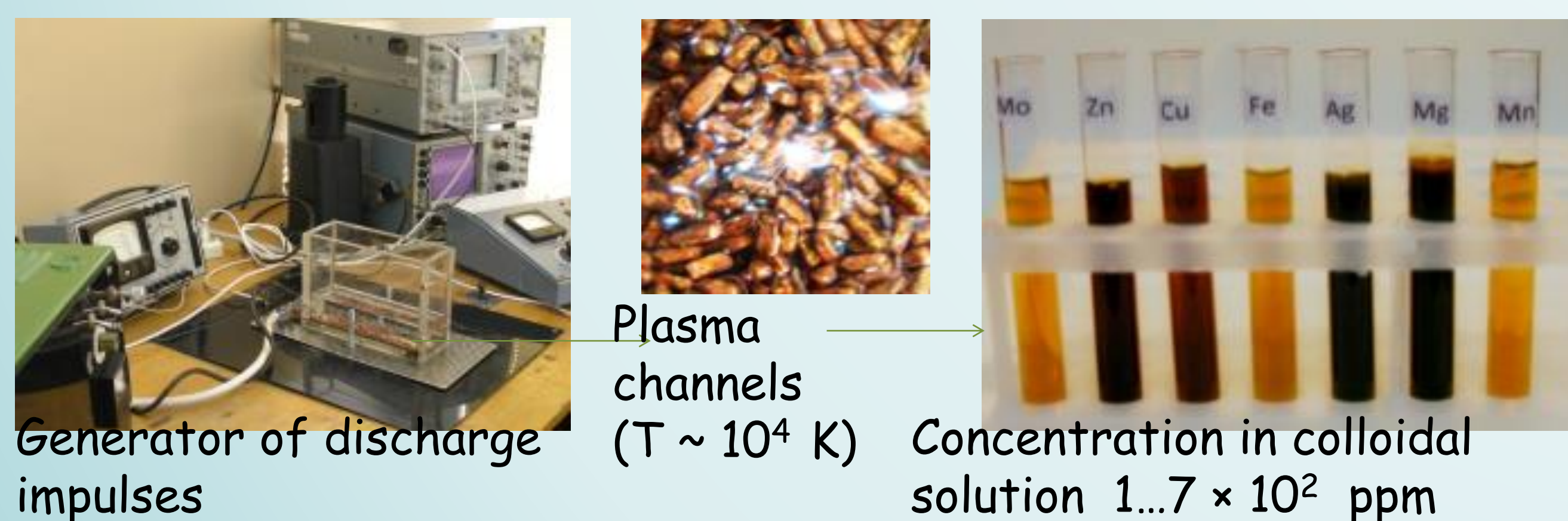
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Abstract This work presents a review, mostly of foreign literature, to systematize knowledge about degradation pathways, mechanisms of nanoparticle penetration into the cell, their subsequent transport through tissues and interaction of metal nanoparticles with the environment in agrobiocenoses. Therefore, the main issue today is the possibility of destruction of nanotechnology products due to edaphic factors and products of metabolism of plants and microorganisms to avoid their accumulation in agrophytocenoses.

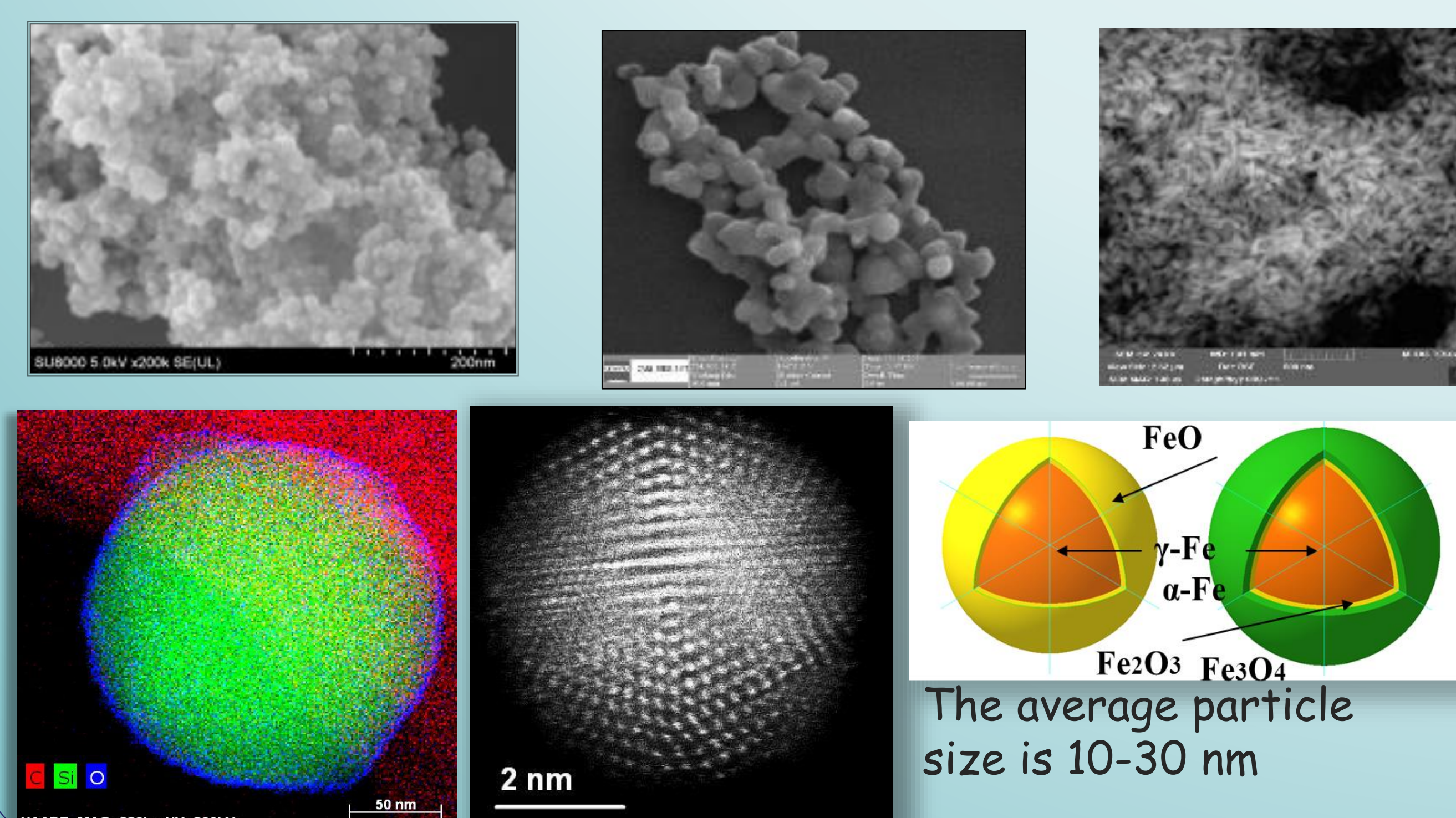
Biological functionality and preconditions for the use of nanoscale objects



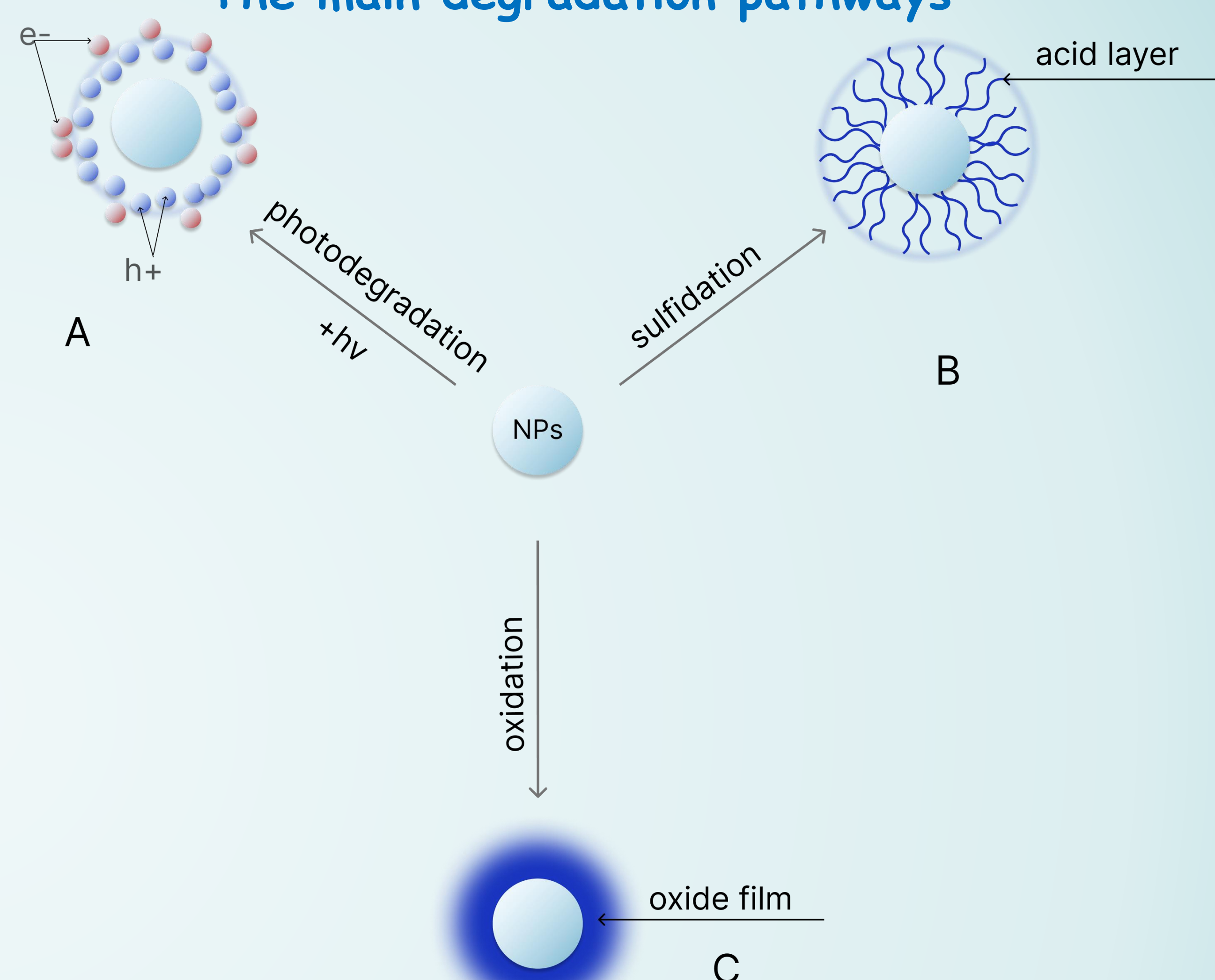
Synthesis of metal nanoparticles by underwater discharges



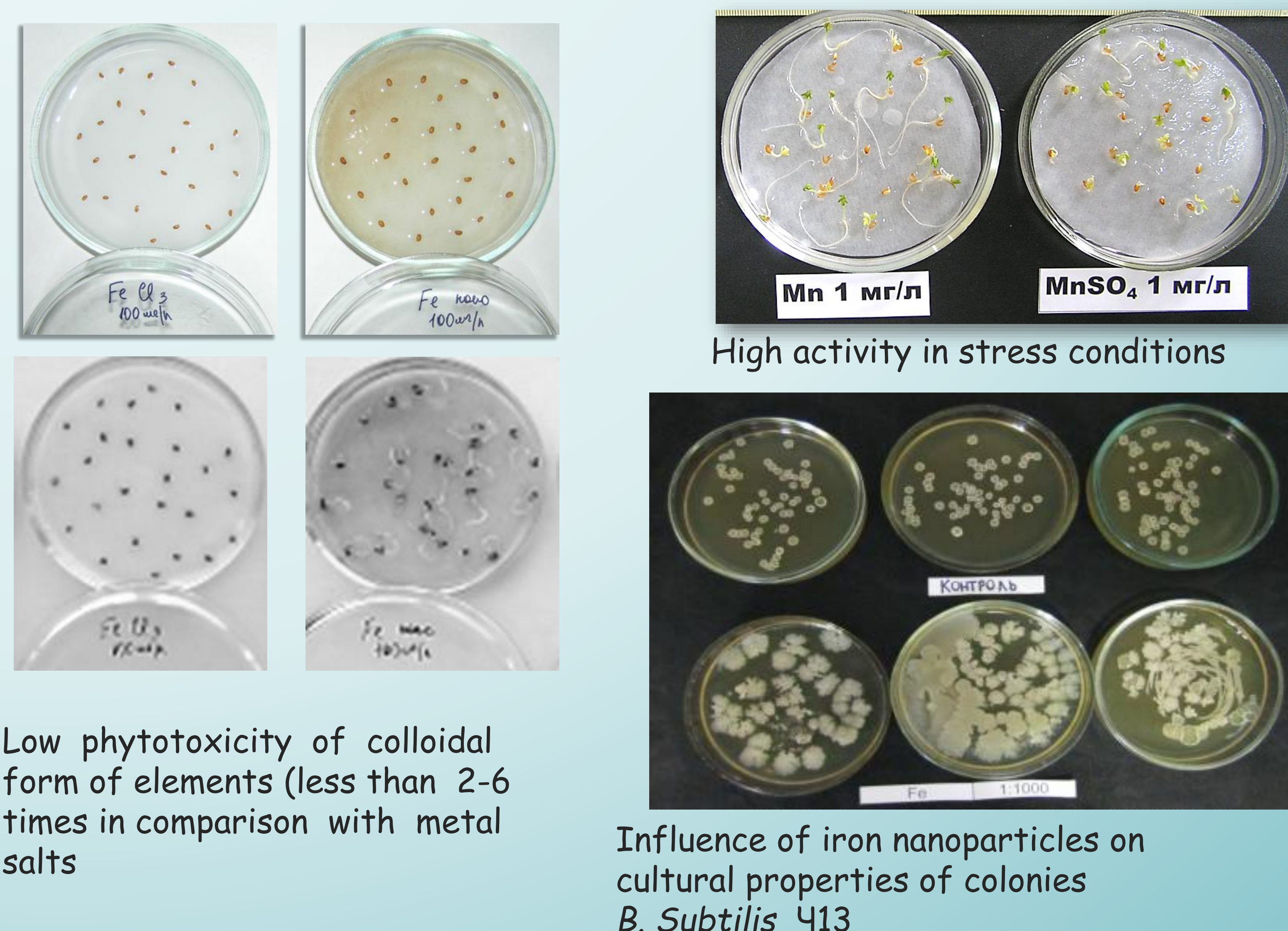
General structure of nanoparticles



The main degradation pathways



Biological activity of metal nanoparticles



Conclusions

Physicochemical properties of metal nanoparticles (eg size, charge, shape, coating) and soil properties (eg pH, mineral composition, presence of organic acids, etc.) play an important role in elucidating the decay, transport, mobility and interaction of nanoparticles with soil components. . The main role in the formation of most morphological features of metal nanoparticles, which are the basis of nanoparticles, is played by the method of nanoparticle synthesis. In this way, potential risks of using metal nanomaterials can be anticipated and avoided.