

## RISKS ASSOCIATED WITH NANOENGINEERING AND RESEARCHERS RESPONSABILITY

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Nanoengineering is an essential branch of modern science and electronics, ensuring the sustainability of development in energy, communications, materials, and environmental and health protection. However, nanoengineering is dual-use in its genesis, posing a real dilemma that cannot be ignored [1]. The progress in diversifying the spectrum of conventional CBRN weapons raises the issue of defining new classes of destructive offensive weapons, liaisons with nanoengineering, such as genetic and cyber weapons, as weapons of mass destruction. This denotes a key warning about gaps in non-proliferation policies and regimes [2]. The new interdisciplinary branches of science are always ahead of the policies that can and must regulate them. One thing is certain: the need for more research to better understand the latest offerings of deep technologies and assess the risks associated with them.

To achieve targeted and effective research, it is imperative to follow strategic objectives such as: a risk-oriented approach with comprehensive risk characterizations and assessments; evaluation of the novelty of nanoengineering; application-oriented and regulatory-relevant research; consideration of sustainability and the precautionary principle; public transparency [3]. Considering the importance of educating the new generation of researchers in the spirit of assuming responsibility and assessing the risks of research, the Department of Microelectronics and Biomedical Engineering at TUM has launched a new course, "Research, Engineering, and the Culture of Non-Proliferation," available to master's students as a free choice. This study was supported by the European Union through the STCU Projects no. 9608.

### References

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