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Abstract: This paper presents an innovative hardware architecture for medical nanorobots, using nanobioelectronics, clinical data, and wireless technologies, as embedded integrated system devices for molecular machine data transmission and control upload, and show how to use it in cancer surgery. The integration of medical nanorobotics and surgical teleoperation has the use of robotic laparoscopy concepts. To illustrate the proposed approach, we applied advanced 3D simulation techniques as a practical choice on methodology for molecular machine integrated system analyses and biomedical instrumentation prototyping.

Number of references:	29
Inspec controlled terms:	medical robotics - nanoelectronics - telerobotics
Uncontrolled terms:	laparoscopic cancer surgery - innovative hardware architecture - medical nanorobots - nanobioelectronics - clinical data - wireless technologies - embedded integrated system devices - molecular machine data transmission - surgical teleoperation - 3D simulation techniques
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