Wireless cancer treatment device developed

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Purdue University scientists are building a tiny wireless device that could be implanted in tumors to register the precise dose of radiation received.

The units -- the size of a grain of rice -- will also enable physicians to determine the exact position of tumors during treatment, Purdue engineers said.

Researchers have tested a dime-size prototype and expect to have the miniature version completed by the end of summer, said Babak Ziaie, an associate professor in the Purdue School of Electrical and Computer Engineering.

"Currently, there is no way of knowing the exact dose of radiation received by a tumor," Ziaie said. "And, because most organs shift inside the body depending on whether a patient is sitting or lying down, for example, the tumor also shifts," said Ziaie. "This technology will allow doctors to pinpoint the exact position of the tumor to more effectively administer radiation treatments."

The device, a "passive wireless transponder," has no batteries and will be activated with electrical coils placed next to the body.

The research was detailed in a paper presented earlier this year during the 19th IEEE International Conference on Micro Electro Mechanical Systems.