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Expert Consulting and Expert Witness Services

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Expert 108470 - Medical Instrumentation, Therapeutic Devices, Tissue Ablation, Taser Safety

WI, United States of America



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Expertise	Education	Work History	Career Accomplishments	Consulting Services	International Experience	Additional Experience
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Summary of Expertise:

-- Primary Expertise --	-- Description --
biomedical instrument bioinstrumentation biomedical diagnostic instrumentation biomedical engineering biomedical instrumentation medical equipment	Expert has developed the leading textbook in medical instrumentation (see Selected Publications) and has taught courses on the subject for 30 years. Through this activity he has acquired a broad knowledge of all types of medical devices and instruments. He does research on ablation to cure liver cancer and safety of Tasers.
biomedical sensor pressure transducer	Expert is knowledgeable of all types of sensors and their signal conditioning circuits (see Selected Publications). He has directed research on sensors to measure pressure and force using piezoresistivity and optical occlusion. He has also directed research on sensors to measure oxygen concentrations using both polarography and absorption spectroscopy.
medical electrode	Expert has directed research on medical electrodes for monitoring biopotentials such as the ECG, EEG, EMG, and motion artifacts from their use on the skin. He has also directed research on tack, size, location, and number of electrodes for infant apnea monitors. He has studied stimulating electrodes for defibrillation and transcutaneous cardiac pacing and undesirable heating that occurs under electrosurgical dispersive electrodes. He has testified as an expert witness on design of transcutaneous cardiac pacing electrodes and transcutaneous defibrillator electrodes.
pressure sensor	Expert is knowledgeable of biomedical pressure sensors and has testified as an expert witness on the design of a disposable blood pressure sensor. This sensor used a piezoresistive chip sensor and was electrically isolated using a silicone polymer overcoat. Expert has directed research on measuring tissue pressure using piezoresistive strain gauges, conductive polymers, and optical occlusion. He edited a book on miniature pressure sensors (see Selected Publications).
electrophysiology catheter	Expert has an NIH grant to develop improved radio-frequency cardiac catheters for ablation and directs six graduate students on this research.
electrosurgical product	Expert directs research to reduce electromagnetic interference from electrosurgical units from causing interference in electrocardiographic monitoring.