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## SEMINAR

Room 119A, ZEC

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### Power Management Ideas for Low Noise Solutions

By

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**Abstract:** Presented is a power management unit that props up multiple rails in unison while using only 1 inductor. The PMU shown can use a lithium ion battery as an input supply (min 3V) and creates high voltage positive and negative low noise outputs. It consists of single inductor dual output DCDC converter combined with positive and negative LDOs. Switching noise coupling to the outputs is suppressed by a state of the art low noise LDO with very good supply rejection and extremely fast response to sharp transient loading events. The proposed architecture can also be used in applications where DCDC converter switching can contaminate the integrity of the signal being processed. The unit proposed is especially useful in mobile communication solutions where the existence of low noise signal chain applications is essential to maintain very high SNR. Proposed architecture is in a production IC, having sold millions of units to date.

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**Harish Venkataraman** is currently a Design Manager and a Senior Member of the Technical Staff @ TI and has been designing circuits in the field of analog & mixed signal for the last 12 years since he was hired from the M.S.E.E program at the University of Florida. Harish's experience is in the areas of signal chain design & power management with a focus on integrating low noise signal chain with power management on monolithic ICs. Areas of work include solutions for Medical Imaging as well as solutions for Mobile Computing and Communication.

