PROJECT AND THESIS LIST

This document was last modified on **2023-10-23** at **22:50** by **Kapi Denes** (IFCE IPC IPB D SFP)

After choosing from the list, please get in touch with the contact person in order to discuss the details, and agree on the requirements specification.

In case you have something else in mind (which somehow relates to power electronics) please contact Denes Kapi →

Topic	Description	Contact person
One-, two-, and four-quadrant DC drives (Obuda University laboratory development)	Designing a specific control and driver circuit for (mainly, but not exclusively) one of the DC motors in the automation laboratory.	denes.kapi@infineon.com
Three-phase line (230/400V) inverters (Obuda University laboratory development)	Designing a specific control and driver circuit for (mainly, but not exclusively) one of the AC motors in the automation laboratory.	denes.kapi@infineon.com
One-phase line (230V) inverters	Designing a one-phase line inverter for a given application.	denes.kapi@infineon.com
One-phase NPC line (230V) inverters	Designing a one-phase NPC line inverter for a given application.	denes.kapi@infineon.com
Three-phase NPC line (230/400V) inverters	Designing a three-phase NPC line inverter for a given application.	denes.kapi@infineon.com
Generic non-isolated switch-mode power supplies	Designing a generic step-down (buck), step-up (boost), or non-inverting buck-boost converter for a given application.	denes.kapi@infineon.com
Generic isolated switch-mode power supplies	Designing a generic flyback, or push-pull converter for a given application.	denes.kapi@infineon.com
Special switch-mode power supplies	Designing the generic topologies with synchronous design AND/OR Interleaved design AND/OR Green-mode control.	denes.kapi@infineon.com
Charge pump switch-mode power supplies	Designing an inductorless step-up charge pump DC/DC converter for a given application.	denes.kapi@infineon.com
Flying capacitor booster switch-mode power supplies	Designing a flying capacitor booster DC/DC converter for a given application.	denes.kapi@infineon.com
Active PFC circuits	Designing an active (boost) PFC circuit for a given application.	denes.kapi@infineon.com
Class-D audio amplifiers	Designing a class-D audio amplifier for a given application.	denes.kapi@infineon.com
Solid-state relays	Designing a solid-state relay (with driver circuit) for a given application.	denes.kapi@infineon.com
Zero IQ rectifiers	Designing a zero IQ (one-, or three-phase) full bridge rectifier for a given application.	denes.kapi@infineon.com
Clamp circuits for IGBTs / MOSFETs	Designing a clamp circuit for a given setup, comparing different methods.	denes.kapi@infineon.com
Current signal generators	Designing a current signal generator for a given application.	denes.kapi@infineon.com

In order to be up-to-date in trending power electronics topics, please visit **Bodo's Power Systems**!