

# Doctoral candidate position (m/w/d) (DC6) Metrology on a wafer level (electrical/optical characterization of 3C-SiCOI stacks)

Technische Fakultät, Erlangen, TV-L E 13, Full time, Temporary employment: until 30.04.2029,  
Bewerbungsschluss: 30.03.2026

## Your Workplace

The semiconductor material silicon carbide (SiC) has established itself as the standard semiconductor material in power electronics. New applications in photonics are also emerging that take advantage of the extraordinary physical properties of SiC. In the EU project SiCPiC the so-called CVD (Chemical Vapor Deposition) and CS-PVT (Close-Space Physical-Vapor-Transport) processes are investigated with regard to their use in new photonic applications of SiC.

<https://electro.dtu.dk/newsarchive/2025/08/doctoral-network-harnesses-silicon-carbide-to-power-a-new-era-of-photonic-chips>

## Job Benefits

- Regelmäßiger Stufenanstieg und steigendes Gehalt nach Tarifvertrag für den öffentlichen Dienst der Länder (TV-L) beziehungsweise Besoldung nach BayBesG sowie zusätzliche Jahressonderzahlung
- Urlaubsanspruch von 30 Tagen pro Kalenderjahr bei fünf Arbeitstagen pro Woche, mit zusätzlichen freien Tagen am 24. und 31. Dezember
- Betriebliche Altersversorgung sowie vermögenswirksame Leistungen

## Description

In the EU project SiCPiC the so-called CVD (Chemical Vapor Deposition) and CS-PVT (Close-Space Physical-Vapor-Transport) processes are investigated with regard to their use in new photonic applications of SiC. The tasks of the three doctoral candidate (DC3,5,6) positions at the Crystal Growth Lab at FAU CGL include SiC layer fabrication, surface preparation and electrical-optical characterisation. ML and AI assisted methods support the experiment planning and analysis. Each of the three doctoral candidate positions focus on one of the three tasks: DC6 focusses on Metrology on a wafer level (electrical/optical characterization). It is expected that all three doctoral candidates collaborate together beyond their own research focus.

The doctoral positions offer the opportunity to participate in the international EU project SiCPiC. In cooperation with partners in Europe, short stays abroad for specialist meetings and research activities are mandatory.

## Qualifications

**Required qualifications:** Excellent master's degree in materials science, nanotechnology, electrical engineering, physics, or a comparable field / Good written and spoken English skills / Ability to work independently and as part of an interdisciplinary team / Positive attitude, enjoyment of research, and finding new solutions.

Due to restrictive legal requirements for technology export control, project staff must be citizens of the European Union, Switzerland, Norway, Island, Japan or the USA/Canada/Australia/New Zealand.

**Desirable qualifications:** Previous knowledge in the field of materials synthesis and/or characterization of semiconductors is an advantage.

## Supplementary description

**Job position:** The TVL E13 position (75%) (project duration = 3 years/36 months) is initially limited to 15 months.

## Interessiert?

Die vollständige Stellenausschreibung sowie alle Infos zum Bewerbungsverfahren finden Sie hier:

