



AI-generated image

# Bachelor / Master Thesis

## Physiological Closed-Loop Control for the Next Generation of Neonatal Mechanical Ventilators

**Motivation** Newborns, especially when born preterm, are often in need of mechanical ventilation. In this therapy automation has the potential to improve patient care and relief medical staff. At i11 we are developing such an automatic control system for mechanical ventilation of neonates.

Several theses are available on the following topics

- Controller design
- Modelling of the patient ventilator system
- Estimation of the physiological control variable

Methods range from classical rule- and model-based approaches to data-driven solutions and AI.

### Your Profile

- Ongoing studies in Automation Engineering, Computer Science, or an engineering discipline
- Demonstrate motivation, analytical skills, and reliability
- Interest in control engineering and medical background knowledge

### Our Offer

- Gain insights into a highly relevant, interdisciplinary research field at the interface of engineering, computer science, and medicine
- Weekly meetings with your supervisor are a matter of course
- Positive atmosphere and regular social events at the chair

### Contact

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I'm looking forward to your e-mail.  
Please include

- short statement on your motivation and topic of interest
- CV
- transcript of records

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