Karlsruher Institut für Technologie



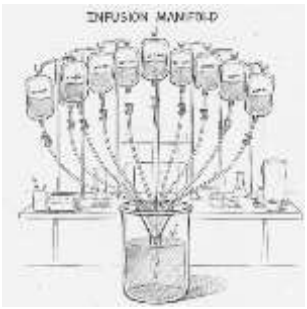
Institute for Automation and Applied Informatics (IAI)

Student Assistant Position (HiWi)

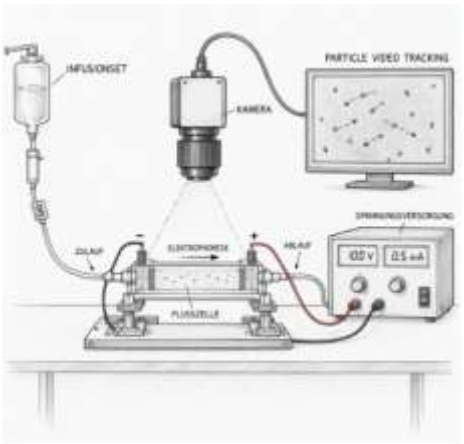
Particles in Infusion Devices

Microscopic Analysis and Development of an Experimental Setup for Determining Particle Charge

Infusion devices can contain particulate contamination. To characterize it, infusion sets are flushed and the released particles are collected on filters. Microscopic examination provides information on the type and extent of the contamination.







Aim of the work

You will examine particles from infusion sets using optical microscopy and analyze the recorded image data. In addition, you will help set up an experiment designed to determine the electric charge of the particles via electrophoresis. Depending on your interests, you can also contribute to digital evaluation methods.

Part 1: Filter analysis

Capture filters from infusion sets microscopically, analyze image datasets and summarize the results.

Part 2: Electrophoresis

Contribute to the experimental setup and carry out first experiments to determine suitable parameters.

You will gain hands-on experience in laboratory work, measurement technology and current research on particles in medical products.

What you bring

Motivation and independent work; interest in laboratory experiments and measurement technology. Knowledge of data processing or electrical engineering is an advantage.

Supervision:

Marc von Pawlowski, M.Eng.

Prof. Dr. Christian Pylatiuk

Focus areas:

Optical microscopy and image analysis

Setup and testing of an electrophoresis experiment

Required skills:

Ability to work independently

Interest in laboratory experiments and measurement technology

Data processing and electrical engineering are an advantage

Start:

By arrangement

Contact:

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