



Bond3D has developed a revolutionary printing technique to produce parts made from high performance polymers through additive manufacturing. The products have the same characteristics as products that are currently produced with conventional techniques. Since the foundation in 2014, Bond3D has been developing the 3D printer to put the innovative concepts into practice. The new generation of printers that are currently being developed can print the parts quickly, in high quality and reproducibly.

Does High Tech appeal to you? And an environment in which multidisciplinary insight is self-evident? Do you seize such a technical challenge with both hands and do you want to work with your colleagues to develop concepts for this? Take your chance now and get started with Bond3D and make an important contribution to the development of this revolutionary printer.

Internship/Graduation assignment – Monitoring and Control of a 3D printer

Bond3D is developing a 3D FDM printer for high performance polymers such as PEEK. The printer is designed for products in demanding medical and industrial applications. Key product features are 100% volume infill and isotropic high strength. The printer features a dispensing system based on a heated nozzle. The plastic base material is fed by a feeder drive into the nozzle as solid, where it melts and is dispensed through a narrow channel onto the product being build. The main function of the nozzle is to provide a predictable flow of plastic, with a constant temperature. Since in-line output sensors are not feasible, feedback control is not possible and feedforward is used instead. Accurate control of the nozzle has shown to be complex because of the physics and variations of nozzle and the printing process.

What are you going to do?

- The goal of the assignment is to develop a control system based on long-term monitoring and to prove its effectiveness for increasing the accuracy of the dispensing system;
- The following techniques will be applied: model based control, signal analysis, simulation and experimental verification.

What do we expect from you?

- You are studying a Master technical degree in Control Engineering, Applied Physics, Mechanical Engineering or Mechatronics;
- Excellent communication and presentation skills;
- English language fluent in spoken and written;
- Creative, proactive, strong in communication and likes to work together with different disciplines in short lines.

Does the above appeal to you? Then send your motivation letter and CV to: Bond3D for Serap Gauri, via recruitment@bond3d.com