Name	Job Title	Area of Expertise
YAZAWA Takanori	Professor	Mechanical Engineering

1. Main Research Topics

We conduct research related to precision production and address various social issues based on its outcomes. With a focus on "measurement time as non-productive time," "minimizing work paths," and "achieving required uncertainty," we propose and research systems that can be implemented from the initial stages.

① **Research on non-contact on-machine measurement and corrective machining of dies and molds**

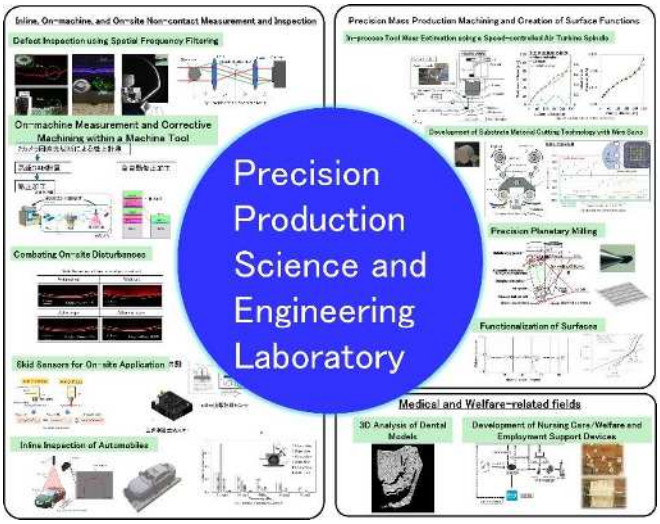
This research involves measuring and performing corrective machining on the shapes of dies and molds, which are processed by cutting and electrical discharge machining, directly on the machine tool in a practical amount of time. Currently, multiple systems are in the phase of social implementation.

② **Research on precision edge projection**

This is a high-precision edge projection system that uses spatial frequency filtering. It has numerous achievements in fields such as dimensional measurement, contour measurement, and defect inspection. It has achieved on-site measurements with a 6σ value of 1.8 μm

③ **Research on practical machining and measurement of next-generation semiconductor materials**

This research focuses on machining and measuring next-generation semiconductor materials such as SiC (silicon carbide) and GaN (gallium nitride) at practical speeds and precisions. The machining research primarily concerns wire saws, while the measurement research focuses on wafer shape error and internal stress.



2. Keywords

Production Engineering, Inline Measurement, On-machine Measurement, Shape Measurement, Edge Detection, Defect Inspection, Optical Design, Precision Mass Production Machining, Machining Phenomenon Analysis, Wire Saw, Creation of Surface Functions using Micro-scale Irregularities,3D Brain Analysis, Development of Assistive Devices with Voice Support

3. Remarks and Websites

Please contact us about anything related to production, such as building the optimal measurement system.

researchmap： https://researchmap.jp/t_yazawa
YouTube： https://www.youtube.com/watch?v=VMABRyYdJjE