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Hidemasa Kosaka, Dr.-Ing.

Division Manager,
Emerging Energy Technology Division,
Toyota Central R&D Labs., Inc. (TCRDL)

Google Scholar

https://scholar.google.com/citations?hl=en&user=rTJ0h_QAAAAJ

◇ Employment

- 07/2025-Present
 - ◇ Division Manager, Emerging Energy Technology Division, TCRDL, Aichi, Japan.
- 01/2021-06/2025
 - ◇ Research Domain Leader, Green Fuel Research Domain, TCRDL, Aichi, Japan.
- 04/2019 -12/2020
 - ◇ Senior Researcher, Powertrain-System Lab., TCRDL, Aichi, Japan.
- 09/2015 -03/2019
 - ◇ Research Scholar, Doctorate, Technical University Darmstadt, Germany. (seconded from TCRDL)
- 04/2005-08/2015
 - ◇ Researcher, TCRDL, Aichi, Japan

● Education

- 01/2019 Doctor of Engineering (Dr.-Ing in German), Technical University Darmstadt, Germany
 - ◇ Title of Doctor Thesis: Experimental Investigation of Flame-Wall Interaction by Laser-based Diagnostics.
- 09/2015-03/2019
 - ◇ Reactive Flows and Diagnostics, Department of Mechanical Engineering, Technical University Darmstadt, Germany
- 03/2005 Master of Engineering, Kyoto Univ., Kyoto, Japan
- 04/2003-03/2005
 - ◇ Department of Energy Science, Graduate School, Kyoto Univ., Kyoto, Japan
 - ◇ Major: Laser Diagnostics on Turbulent Flow

- 03/2003 **Bachelor of Engineering**, Kyoto Univ., Kyoto, Japan
- 04/1999-03/2003
 - ✧ Department of Energy Science, Graduate School, Kyoto Univ., Kyoto, Japan
 - ✧ Major: Turbulent flow dynamics

- **Research Activities**

- 2025-Present: Strategic Leadership for developing next-generation energy technologies with a focus on sustainability, efficiency, and societal implementation.
- 2019-2025: Domain leader of carbon-neutral research including **future energy scenario analysis, carbon-neutral fuel supply chain and combustion dynamics**.
- 2015-2019: Doctorate research on **laser diagnostics for combustion** and **Project management of German public funding project**.
- 2013-2015: Team Leader of Development of **free-piston engine linear motor generator** research group
- 2008-2012: Development of **Heat Insulation in diesel combustion engines**
- 2005-2007: **Mathematical modeling for Spark Ignition Engines**
- 2001-2004: Mathematical modeling and experiments of hydrogen turbulent flow

- **Professional Affiliation**

- **Director**, Combustion Society of Japan (2023-Present)
- Society of Automotive Engineers of Japan (2008-Present)
- Japan Society of Mechanical Engineers (2008-2015)