

Lund Technical University at



LUND UNIVERSITY

Dr. Magnus Pålsson





Copenhagen

Malmö

City of Lund

Lund Institute of Technology/LTH

Ideon Science Park

Photo: Per Lindström

Lund

"a city of ideas"

a Student City with
many traditions

100 000 inhabitants
1/3 are students



Lund University



Founded in 1666

One of the largest institutes for higher education and research in Scandinavia with about 38 000 students



Lund Technical University

Staff & Students

| | |
|-------------------------------------|------|
| • Undergraduate students | 5842 |
| • Postgraduate students | 540 |
| • Professors * | 156 |
| • Lecturers* | 182 |
| • Other Teachers & researchers* | 311 |
| • Technical & administrative staff* | 288 |

* Equivalent to fulltime



Heat and Power Engineering

Divisions:

- Heat Transfer
- Thermal Power Engineering
- Combustion Engines
- Fluid Mechanics
- Energy Economics and Planning



Combustion Engines

Research focus:

- HCCI engines
- Otto engines
- Diesel engines
- Stirling engines
- Combustion in engines
- Engine control



Green Car

Henrik Nordgren
Leif Hildingsson
Petter Strand

Green Car

Göran Haraldsson
Jari Hyvönen

SAAB

Volvo Cars

Volvo Trucks

**Competence Centre for
Combustion Processes**

Caterpillar

Scania

Cummins

Per Amnéus Andreas Vressner
Per Tunestål Roland Pfeiffer
Mattias Richter

SGC

Hino

Toyota

Nissan

Ryo Hasegawa



Stirling Engines

Research focus:

- Experimental work
- The hot engine parts, especially combustion systems
- Biofuel engines

- Complete engine system testing
- Full emission tests
- Engine control



Stirling Engines

Combustion systems:

- Low emissions
- Fuel economy
- Design for production:
 - Long life
 - Low cost
 - Control system



Stirling Engines

Development of:

- Gas combustion systems for
 - Small stand-alone units
 - CHP engines
 - Dish (solar) engines

Current work:

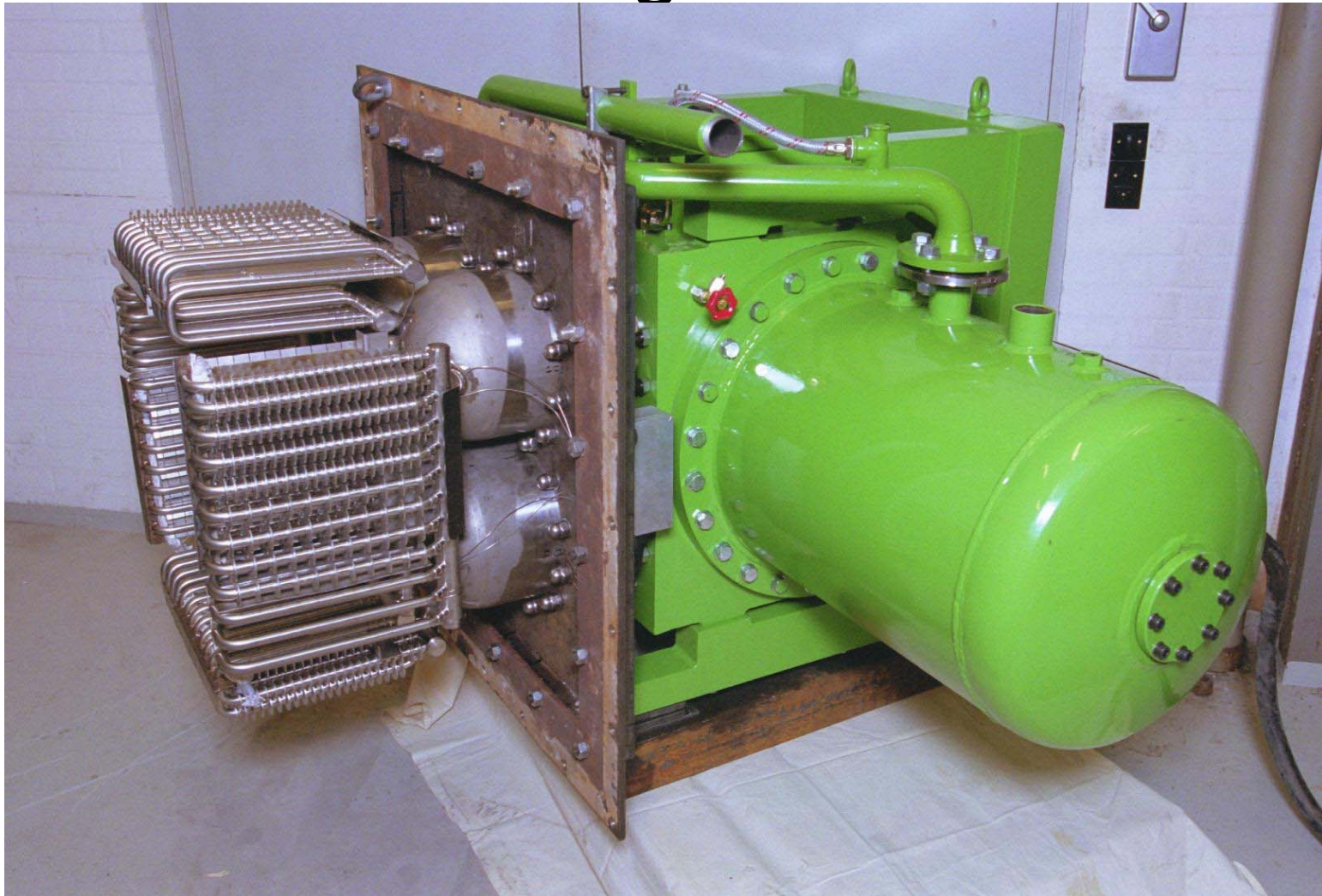
- Development of 160 kW_{th}, 35 kW_{el} wood powder fuelled CHP engine



Gas combustion system for SOLO 161 stirling engine



The SM3D 35 kW_{el} biofuel stirling engine



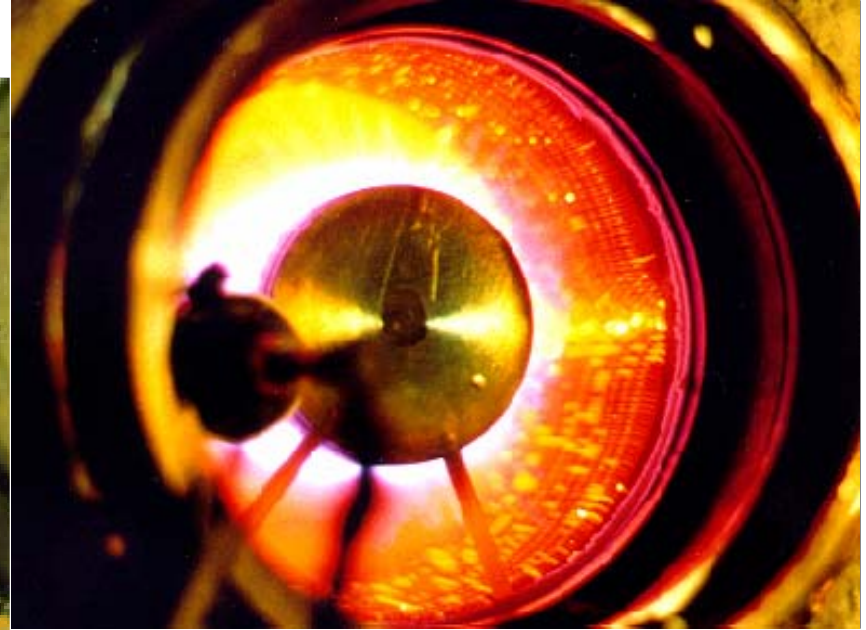
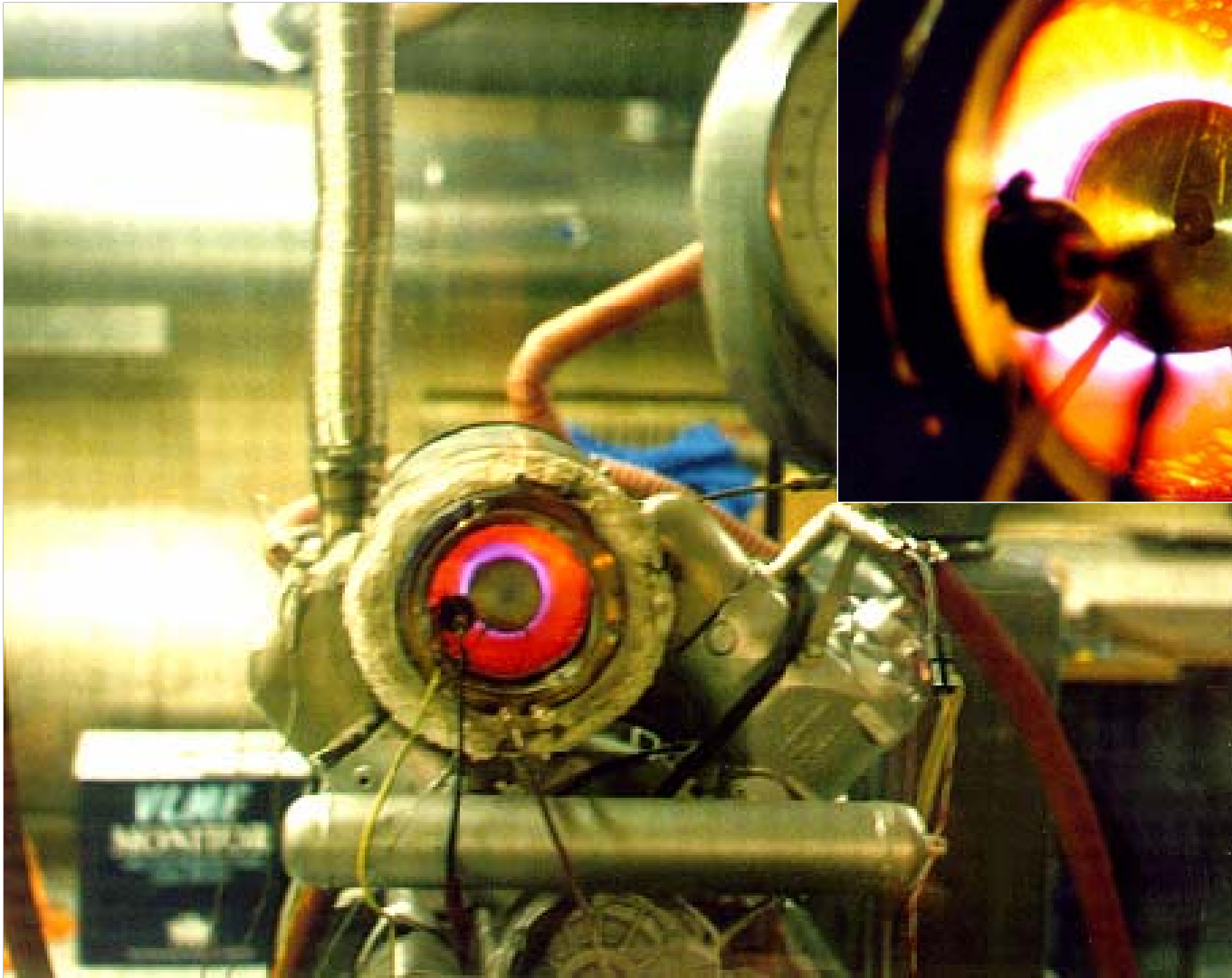
Wood-powder combustion system for the SM3D biofuel stirling engine



Thank you for your attention!



Gas burner for Stirling engine



Stirling engine with wood powder combustion chamber and preheater

