



**The Combustion Institute**

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**Tiziano Faravelli**

*Candidate, 2016 CI Board of Directors*

**Reasons for Nomination**

I was nominated by the Italian Section of the Combustion Institute, especially because of my activity. I am a kinetic modeler, with attention to the development and reduction of mechanisms and to the interactions between chemistry and fluidynamics. This particular activity brought me in contact with and allowed me to cooperate with several research groups. My field of interest is also quite wide, working on a large variety of fuels from gas to liquids, to solids.

In my opinion, there are aspects of particular importance and I would like to effectively contribute to their development.

Combustion is a mature science, but several challenges are still open and some of them are significant, like those related to sustainability.

There is the need of a renewed involvement of companies in our community.

Despite our long experience in solid fuel combustion, researches about the thermal use of biomass seem today to belong to different communities.

Above all, the scientific culture and the environmental sensibility are of paramount importance and we have the social responsibility to work toward their growth at any levels.



*Tiziano Faravelli*

*See next page(s) for candidate's curriculum vitae.*

## **Tiziano Faravelli, Ph.D.**

### **Education**

PhD. Chemical Engineering, Politecnico di Milano, (1990)

M.S. Chemical Engineering, Politecnico di Milano, (1986)

### **Working Experience**

2004-Present Full Professor, Politecnico di Milano, Italy.

1998-2004 Associate Professor, Politecnico di Milano, Italy.

1993-1998 Assistant Professor, Politecnico di Milano, Italy.

1990-1993 Senior Engineer in the R&D department at KTI, Italy.

### **Professional Affiliation**

Member of the Combustion Institute

Member of The Italian Section of the Combustion Institute

Member of the AIDIC "Italian Association of Chemical Engineering"

Associate Editor of the Proceedings of Combustion Institute

### **Fellowships, awards, and selected lectures**

1987-1989 PhD scholarship, Italian Ministry of Education (MIUR), Italy

1989 Visiting at University of Massachusetts (8 months)

2005 Invited lecture at Workshop "Clean I.C. Engines and Fuels", Louvain La Neuve (Belgium).

2006 Invited lecture at "International Workshop on Gas Kinetics" University of Karlsruhe (Germany).

2008 Invited plenary lecture at XXXI Combustion Meeting della Sezione Italiana del Combustion Institute, Torino.

2011 Invited plenary lecture at 5<sup>th</sup> European Combustion Meeting (ECM2011) Cardiff (Wales).

2013 Invited plenary lecture at 14<sup>th</sup> International Conference on Numerical Combustion, San Antonio (Texas).

2013 Sugden Prize from the Combustion Institute, British Section for the best journal publication.

2014 Invited plenary lecture at 2<sup>nd</sup> International Conference of the Cluster of Excellence Tailor-Made Fuels from Biomass, Aachen (Germany).

2014 Invited lecture at 2<sup>nd</sup> International Conference of the Cluster of Excellence Tailor-Made Fuels from Biomass, Aachen (Germany).

2015 Invited lecture at 1<sup>st</sup> General Meeting & Smart Energy Carriers for Power, Industry and Engines Workshop, CERTH Conference center Thessaloniki (Greece) 26–28 AUGUST

2016 Invited Lecture at KAUST Future Fuel Workshop, KAUST (Saudi Arabia) 7-9 March

2016 Invited Keynote at 21<sup>st</sup> International Symposium on Analytical and Applied Pyrolysis (PYRO 2016), Nancy, (France) 9-12 May

### **Services to the University**

2010 – 2015 Coordinator of PhD school in Industrial Chemistry and Chemical Engineering at Politecnico di Milano.

2010 - Head of Chemical Engineering Section of Chemistry, Materials and Chemical Engineering Department.

### **Teaching Experience**

Theory of Errors and Applied Statistics. Transport Phenomena. Pollutant Formation from Combustion Processes.

### **Research Activity**

Chemical reaction engineering of complex systems: pyrolysis, partial oxidation and combustion modeling of gas, liquid and solid fuels. Pollutant formation (NO<sub>x</sub>, PAH and soot) from combustion processes. Mechanism validation and reduction.

Heterogeneous combustion of liquids (droplets) and solids (detailed modeling at the particle size).

Numerical fluidynamics of reactive flows. Turbulence/kinetics interactions.

**URL Website:** <http://creckmodeling.chem.polimi.it/>

### **Publications:**

ISI Database: 143 papers, 3704 citations, h-index=36

Scopus Database: 163 papers, 4417 citations, h-index=38

Google Scholar: 242 papers, 5889 citations, h-index=41

Author also of review articles appeared as book chapters and 1 patent.

### **Service to the combustion community**

Colloquium co-chair of the International Symposium of Combustion 2010, 2014

Colloquium chair of the International Symposium of Combustion 2016

Associate Editor of the Proceedings of the Combustion Institute: 2008 –

Member of the Board of the Italian Section of the Combustion Institute: 1997 - 2003