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The views, opinions and/or findings contained in this report are those of the author(s) and should not contrued as an official Department of the Army position, policy or decision, unless so designated by other documentation.

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RPPR Final Report
as of 29-Jan-2018

Agency Code:

Proposal Number: 70808EGCF **Agreement Number: W911NF-17-1-0121**
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Report Date: 01-Jan-2018 Date Received: 08-Jan-2018
Final Report for Period Beginning 01-Apr-2017 and Ending 01-Oct-2017
Title: 6th International Workshop on Model Reduction in Reactive Flow
Begin Performance Period: 01-Apr-2017 **End Performance Period:** 01-Oct-2017
Report Term: 0-Other

Submitted By: Yiguang Ju Email: yju@princeton.edu
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Distribution Statement: 1-Approved for public release; distribution is unlimited.

STEM Degrees: **STEM Participants:**

Major Goals: This biennial International Workshop on Model Reduction in Reactive Flow brings together international experts on the theory and application of model reduction techniques in reactive flows. The objective of the workshop is to promote discussion and exchange of information among experts in this technical area, thereby promoting the advance of knowledge as regards the development of effective methods for model reduction in reacting flow. The workshop has five discussion topics: 1. Theoretical Foundations which focuses on theoretical foundations of model reduction techniques, including definitions of slow, fast, invariant manifolds and related subjects; 2. Mechanism simplification which focuses on chemical kinetic mechanisms simplification; 3. Model reduction in ODE's, DAE's and PDE's which focuses on the development of efficient numerical methods; 4. Computational tools which develops computational tools to compute and analyze reacting flows, and 5. Applied Engineering which expands the model reduction to new application areas such as bio-applications.

Accomplishments: The workshop was held between July 11-14, 2017 on the campus of Princeton University. Thirty three participants from 9 countries attended the workshop. 29 papers, two invited lectures were presented and one panel discussions were conducted. The workshop contributed to the exchange of the technical methods of kinetic model reduction and discussed the challenges and opportunities for future research. It also provided an excellent platform for young researchers and students to attend this workshop and to discuss with world experts in model reduction research. Workshop papers and program were published on line at http://modelreduction.net/workshops/6th-international-workshop/#program

Training Opportunities: The workshop provided opportunities for graduate students and young researchers to present their work to and to discuss with the world experts.

Results Dissemination: The 2-page extended abstracts of all presentations are published on the workshop website for public download and information sharing. The website is: http://modelreduction.net/workshops/6th-international-workshop/#program

Honors and Awards: Nothing to Report

Protocol Activity Status:

Technology Transfer: Nothing to Report

RPPR Final Report
as of 29-Jan-2018

PARTICIPANTS:

Participant Type: Co-Investigator
Participant: Temistocle Grenga
Person Months Worked: 1.00 **Funding Support:**
Project Contribution:
International Collaboration:
International Travel:
National Academy Member: N
Other Collaborators:

WEBSITES:

URL: http://modelreduction.net/workshops/6th-international-workshop/
Date Received: 08-Jan-2018
Title: 6TH INTERNATIONAL WORKSHOP on Model Reduction in Reactive Flow (IWMRRF)
Description: This biennial workshop brings together international experts on the theory and application of model reduction techniques in reactive flows. The objective of the workshop is to promote discussion and exchange of information among experts in this technical area, thereby promoting the advance of knowledge as regards the development of effective methods for model reduction in reacting flow.

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7	5/23/2017	Students	Marcus		Heitel	Ulm University		Germany
8	5/24/2017	Students	Jenna		Foale	University of Cambridge		
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10	5/25/2017	Students	Tianhan		Zhang	Princeton University	NJ	
11	5/27/2017	Invited Speaker	Sau-Hai		Lam	Princeton University	NJ	
12	5/27/2017	Others	Temistocle		Grenga	Princeton University	NJ	
13	5/28/2017	Others	Diego		Frezzato	University of Padova - Department of Chemical Sciences		Italy
14	5/28/2017	Others	Hong		Im	KAUST		Saudi Arabia
15	5/29/2017	Others	Xiaoying		Han	Auburn University	AL	
16	5/30/2017	Others	Eliodoro		Chiavazzo	Politecnico di Torino		
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	33	33	33	10	33	33	20	9		

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