8:30–9:20 Registration

9:20–9:30 Opening Ceremony

Session 1: Fundamentals of deflagrations and detonations-I
Session Chair: (TBA)

9:30–10:30 Keynote Lecture:
Recent studies on liquid rotating detonation engine
Hayashi A. K., Yoshida W., Asaharai M., Tsuboi N., and Dzieminska E.

10:30–11:00
Modeling of multistage autoignition in diesel engine based on the detailed kinetic mechanism of fuel oxidation
Sergeev S. S., Frolov S. M., Basevich V. Ya., Basara B., and Priesching P.

11:00–11:30
Numerical simulation of detonation in a curved channel
Levin V. A., Manuylovich I. S., and Markov V. V.

11:30–12:00
Characteristics of cellular detonation in convergent channel
Liu Q., Liu Y., and Lee J. H. S.

12:00–12:30
Numerical modeling of detonation propagation in H₂-Air mixtures with transverse concentration gradients
Semenov I. V. and Solomatin R. S.

12:30–13:00
The practice of detonation waves simulation on fully unstructured computational grids
Lopato A. I. and Utkin P. S.

13:00–14:00 Lunch

Session 2: Fundamentals of deflagrations and detonations-II
Session Chair: (TBA)

14:00–15:00 Keynote Lecture:
Continuous detonation of a hydrogen–oxygen gas mixture in a plane-radial combustor with exhaustion toward the periphery
15:00–15:30
Detonation control in a high-velocity gas flow
*Levin V. A. and Zhuravskaya T. A.*

15:30–16:00
Prediction of DDT and detonations with the CFD gas-explosion simulator FLACS
*Arntzen B. J.*

16:00–16:30
Numerical investigation of the effect of water spray on irregular and regular gaseous detonation

16:30–17:00
To the mechanisms of particles relaxation behind the shock wave
*Sidorenko D. A. and Utkin P. S.*

17:00–17:30
Combustion regime transition for an n-decane/O₂/Ar mixture at various thermodynamic initial conditions
*Quintens H., Strozzi C., Zitoun R., and Bellenoue M.*

18:00 Welcome Party

**Tuesday, September 18, 2018**

**Session 3: Fundamentals of deflagrations and detonations-III**
Session Chair: (TBA)

10:00–11:00 **Keynote Lecture:**
Advancements in laboratory scale detonation experiments at AFRL
*Fotia M. L., Hoke J., and Schauer F.*

11:00–12:00 **Keynote Lecture:**
Previous and ongoing detonation studies applied to propulsion in Poitiers
*Zitoun R., Vidal P., Boulal S., Hanstmetzger S., Rodriguez V., and Joudain C.*

12:00–12:30
Kinetics of aluminum particles combustion in solid-propellant combustion products
*Babuk V. A., Budnyi N. L., and Nizyaev A. A.*

12:30–13:00
Modelling of cellular detonations in aluminum submicron and nanoparticle suspensions
*Khmel’ T. A. and Fedorov A. V.*

13:00–14:00 **Lunch**
Session 4: Fundamentals of deflagrations and detonations-IV
Session Chair: (TBA)

14:00–15:00 Keynote Lecture:
Research and development of rotating detonation engine system for the sounding rocket flight experiment
*Kasahara J.*, Kawasaki A., Matsuoka K., Matsuo A., Funaki I., Nakata D., and Uchiumi M.

15:00–15:30
Modeling of detonation propagation in variable cross-section channels filled with heterogeneous aluminum mixture
*Fedorov A. V. and Lavruk S. A.*

15:30–16:00
Detonation propagation in the bidispersed gas suspension of aluminum micro- and nanoparticles
*Fedorov A. V., Khmel’ T. A., and Lavruk S. A.*

16:00–16:30
Interaction of detonation waves in composite silane-hydrogen mixtures with the clouds of inert micro- and nanoparticles
*Tropin D. and Fedorov A. V.*

16:30–17:00
On the dependence of reaction rate on strain rate in reacting medium
*Trofimov V. S., Veretennikov V. A., and Petrov E. V.*

17:00–17:30
Transient combustion phenomena in high-speed flows in ducts
*Vlasenko V. V., Sabelnikov V. A., Molev S. S., Voloshchenko O. V., Ivankin M. A., Frolov S. M.*

20:00–24:00 Excursion

Wednesday, September 19, 2018

10:00–15:00 Excursion

Thursday, September 20, 2018

Session 5: Continuous and Pulsed Detonation Engines-I
Session Chair: (TBA)

10:00–11:00 Keynote Lecture:
Anatomy of rotating detonation engine cycle - analyses of thermodynamic cycle and flowfield structure
*Burr J., Fievisohn R., and Yu K. H.*

11:00–12:00 Keynote Lecture:
Wind tunnel experiments with the hydrogen fueled air-breathing continuous-detonation engine at Mach 5 to 8
*Ivanov V. S., Frolov S. M., Aksenov V. S., and Shamshin I. O.*
12:00–12:30  
Numerical simulation of rotating detonation in annular gap  
_Levin V. A., Manuylovich I. S., and Markov V. V._

12:30–13:00  
Transient engine analysis of a rotating detonation combustor coupled to subsonic and supersonic turbines  
_Braun J._

**13:00–14:00 Lunch**

**Session 6: Continuous and Pulsed Detonation Engines-II**  
**Session Chair:** (TBA)

**14:00–15:00 Keynote Lecture:**  
Progress on turbine–combustor integration  
_Paniagua G._

15:00–15:30  
Analysis of advanced turbine integration with rotating detonation combustors using a time-accurate reduced-order-model  
_Braun J. and Paniagua G._

15:30–16:00  
Steadily-rotating, semi-confined, overdriven detonation: An experimental study  
_Jourdain C., Rodriguez V., Zitoun R., and Vidal P._

16:00–16:30  
Spectral structure of thrust and gas pressure pulsations signals in nozzles with deflector  

16:30–17:00  
Modeling of the initiation of gas detonation in plane radial chamber with outflow to the periphery  
_Voronin D. V._

**18:30 Conference Dinner**

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**Friday, September 21, 2018**

**Session 7: Safety and Condensed-phase detonations**  
**Session Chair:** (TBA)

**10:00-11:00 Keynote Lecture:**  
Blast wave and fireball after hydrogen tank rupture in a fire  
_Molkov V. V., Cirrone D. M. C., Shentsov V. V., Dery W., Kim W., and Makarov D. V._

11:00–11:30  
Molecular distribution function theories and chemical equilibrium: Liquid nitrogen shock wave simulation  
_Anikeev A., Bogdanova Y., and Gubin S._
11:30–12:00
Computational chemistry employment in evaluation and validation of detonation pressure of plastic explosive — PBX

12:00–12:30
Research on stability of primary explosive in extreme temperature
*Liu S., Jia Z., and Chen J.*

12:30–13:00
The detonation wave in emulsion explosives: Modes of propagation
*Gorinov S. A. and Maslov I. Yu.*

**13:00-14:00 Lunch**

**Session 8: Continuous and Pulsed Detonation Engines-III**
**Session Chair: (TBA)**

14:00–14:30
Study of the thrust of a reactive-type pulsed detonation combustor operating on oxygen-enriched Jet 1/air mixtures
*Alhussan K., Assad M. S., Penyazkov O. G., and Chernukho I. I.*

14:30–15:00
Air-breathing PDE module for a flying vehicle: numerical simulations and firing tests
*Frolov S. M., Aksenov V. S., Ivanov V. S., Shamshin I.O., and Zangiev A. E.*

15:00–15:30
RDE with liquid-film detonation
*Shamshin I. O., Aksenov V. S., and Frolov S. M.*

15:30–16:00
How to utilize the kinetic energy of pulsed detonation products?
*Smetanyuk V. S. and Frolov S. M.*

16:00–16:30
Pulsed detonation hydrojet: Simulations and experiments

16:30–17:00
Combustion in the gas cavity under the boat bottom: Simulations and experiments

17:00 **Panel Discussion and Farewell**