



Dear Colleagues,

After 18 years since the 20th symposium in Beijing in 1996, the prestigious Rarefied Gas Dynamics series of conferences has traveled again to China, more precisely to Xi'an. Xi'an records the great changes of the Chinese nation in a long history. In ancient times, it was called Chang'an, and had been a capital of China in most of the time from 1,100 B.C. to 900 A.C., including the first empire in Chinese history, QIN dynasty, partly reflected by the Terra-cotta Warriors and Horses, as well as the most prosperous empire, TANG dynasty. Currently, Xi'an is the capital of Shaanxi Province, a very important city in northwestern China.

The conference has received nearly 300 abstract submissions. Finally, there will be 192 talks presented in parallel sessions, and 3 plenary lectures. The poster session will keep open in an independent conference room during the whole conference period and 64 posters will be displayed.

The organizers, in particular the members of IMCAS and CSTAM, are doing their best to create the pleasant conditions. They also wish that you appreciate the earnest and hospitable character of the country hosting the conference.

With our best wishes for a fruitful conference and an enjoyable stay in Xi'an.

J. Fan

Conference Chair

Conference Chair

Jing Fan

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RGD29 Secretariat

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All information on RGD29, including registration, submission of papers, transportation, accommodation, etc., is available on the conference website at: <http://RGD29.org>.

Venue

Symposium will be held at Hilton Xi'an Hotel.

Address: 199 Dongxin Road Xincheng District,
Xi'an 710005, China



The registration desk is located at the main lobby on the 1st floor of Hilton Xi'an Hotel.

All the presentation will be taken place in the meeting rooms on the 2nd floor of the hotel. The main conference room is named "Hua Xia" (Room A), it will host the plenary lectures, as well as one parallel session. Three other conference rooms named "Han Zhong" (Room B), "Yu Lin" (Room C), and "Shen Mu" (Room D), will be used for parallel sessions.

A special conference room named "Zhong Hua" (Room E) is reserved for the poster session. Close to it, there is also a "Speaker ready room" (Room F) for speakers who want to check their presentation on the conference computer.

The Cafe Xi'an at the 1st floor of Hilton Xi'an will be opened to the participants for the Lunches. The tickets are provided together with the material in the conference bag.

Coffee breaks are served in the Hall close to the conference rooms.

Registration

The registration desk will be opened on July 13 (Sunday) from 15:00 till 19:00. It will be opened during the following days from 9:00 till 17:00. There will be permanently a person who can be called for help, see the registration desk for information.

Talks

The presentation is expected to be done in English, with the support of slides. Each conference room is equipped with a laptop, under windows XP, connected to a data projector and able to read powerpoint or pdf files. Speakers can also use overhead projectors with their acetates or their own laptops.

Be aware of the time limit for each talk, e.g., 15 minutes including discussion for contributed talks. Check who is your chairperson, check your presentation on the conference computer, possibly have the file already on the computer connected to the data projector.

In case of Ipad, or Macintosh, you should have your own adapter to connect to the vga connector.

Posters

Participants presenting a poster can use the boards in the Room E. Scotch tape is available from the staff.

The posters can be placed at any time before the poster session since July 14. They can stay on their boards until the Friday noon to allow extended discussions during the conference.

Proceedings

Final papers must be uploaded via the RGD Web site no later than August 10, 2014. The paper should be presented by one of the authors orally or by poster at the conference sessions in order to qualify for the conference proceedings.

The Proceedings of 29th RGD will be assembled by the American Institute of Physics (AIP). The submitted papers will be reviewed during and/or after the conference, and then tentatively scheduled to be published in November 2014. The cost of this is included in the conference registration fee.

Social events

Welcome reception

Date and time: Sunday, July 13, 2014 (19:00 – 20:00) Hilton Garden, 5th floor of Hilton Xi'an

Half-day excursion and conference dinner

Date and time: Wednesday, July 16, 2014 (15:00 – 22:00)

Ancient City Wall: It's the most complete city wall that has survived in China, as well being one of the largest ancient military defensive systems in the world.

Small Wild Goose Pagoda: The Small Wild Goose Pagoda was built in the year 707 A.D during the Tang Dynasty. It is an important cultural relic and one of the remaining symbols of ancient Chang'an (the name of Xian in the Tang Dynasty).

Tang Dynasty Dancing Show & Banquet: Tang Dynasty Music and Dance Show is an outstanding exponent of the ancient stable and prosperous society in the Tang Dynasty, keeping alive its splendid culture and providing an insight into the peaceful life style of the period.

Night view of Qujiang: Qujiang in Tang times was a region with rivers, lakes and pavilion where important social events were held. The square closely combines the Tang-style buildings, city sculpture with Tang-Dynasty culture and the virescence of precious trees.

Farewell party

Date and time: Friday, July 18, 2014 (15:00 – 17:00) Hua Xia Grand Ball Room, 2nd floor of Hilton Xi'an

Moving around in the city

The Hilton Xi'an hotel is located within the 600-year-old City Wall in Xi'an and is only a few minutes' walk distance from the Bell Tower, a Xi'an landmark monument also considered the heart of the city. The hotel is surrounded by leisure and entertainment facilities including department stores, shopping centers, bars, a night market, a variety of restaurants, movie theaters and historical sightseeing sites. The hotel is also close to the main subway line, the train station and is only 45 minute drive from Xi'an International Airport and the Terracotta Museum.

When you land at Xi'an Xianyang International Airport, you could go to conference venue and hotels by taxi or bus. The direct way to the conference venue and hotels is by taxi (about 180 RMB). Alternatively, you could first go to Bell Tower by shuttle (ticket: 25RMB) and then take bus or taxi for the rest of the route.

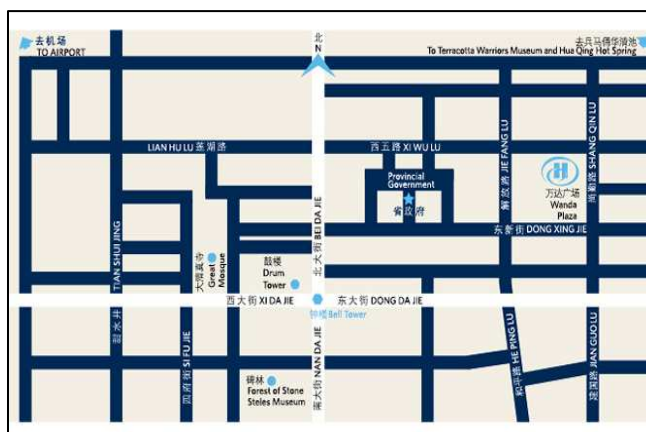
Airport Shuttle Guide

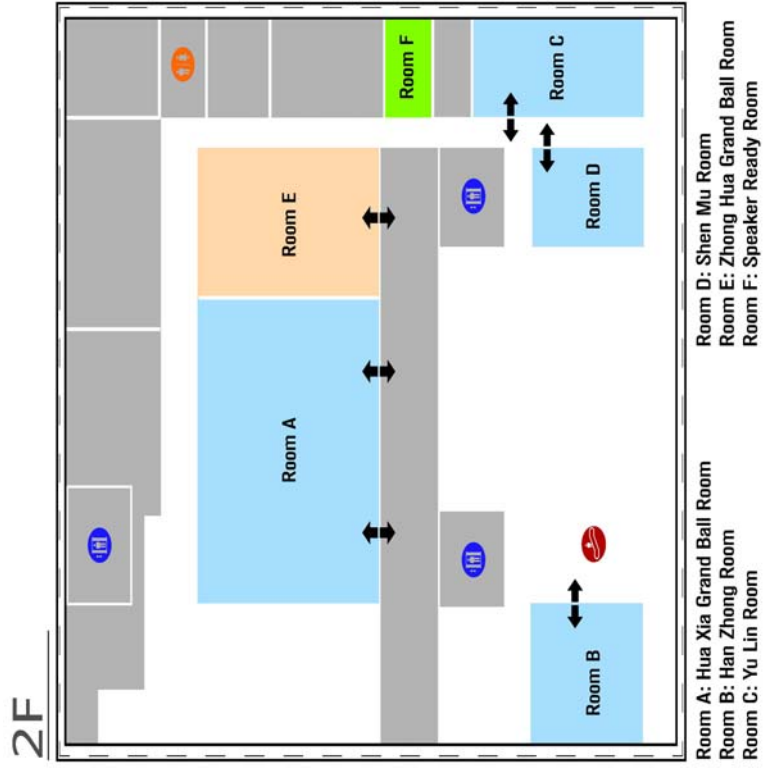
Tickets Offices: Terminal 2: outside 1F (Arrivals); Terminal 3: GTC 1F

Note: There are 7 lines for shuttles.

The destination for Bell Tower is Line 1. Please wait shuttle bus at the Platform 1.

There is a bus stop nearby the shuttle destination (Bell Tower), you could select bus line 15 to Minleyuan (Chinese: 民乐园). The ticket is 1RMB. The conference venue and hotels are within 400 meters from the Minleyuan bus stop. If you take taxi from Bell Tower to the conference venue and hotels, the ticket is about 10RMB.





Schedule

	Sunday	Monday (July 14)	Tuesday (July 15)	Wednesday (July 16)	Thursday (July 17)	Friday (July 18)
9:00		Room A Welcome & Opening Remarks	Room A PL 2 Thomas Lecture Aleksy Rebrov	Room B S13 Numerical Kinetics	Room A PL 3 Bird Lecture Michael Gallis	Room B S3 DSMC
9:15				Room C S10 Micro	Room B S6 Granular	Room C S13 Numerical Kinetics
9:30		Room A	Room B S5 Surface	Room D S11 MB	Room A S4 Experimental Procedure	Room D S10 Micro
9:45		Room A PL 1 Grad Lecture Mario Pulvirenti	Room C S15 Plasma	Room B S13 Numerical Kinetics	Room C S12 MD	
10:00			Room A S3 DSMC	Room C S15 Plasma	Room A S22 Ivanov	
10:15			Room B S5 Surface	Room C S10 Micro	Room B S6 Granular	
10:30			Room C S4 Experimental Procedure	Room D S11 MB	Room C S12 MD	
10:45		Room A S1 Boltzmann	Room A S3 DSMC	Room B S13 Numerical Kinetics	Room A S22 Ivanov	Room D S10 Micro
11:00		Room B S18 Reaction	Room B S5 Surface	Room C S10 Micro	Room B S6 Granular	Room C S13 Numerical Kinetics
11:15		Room C S4 Experimental Procedure	Room C S15 Plasma	Room D S11 MB	Room C S12 MD	Room B S3 DSMC
11:30		Room B S18 Reaction	Room B S5 Surface	Room C S10 Micro	Room A S22 Ivanov	Room D S10 Micro
11:45		Room C S4 Experimental Procedure	Room C S15 Plasma	Room D S11 MB	Room B S6 Granular	Room C S13 Numerical Kinetics
12:00		Room A S1 Boltzmann	Room A S3 DSMC	Room B S13 Numerical Kinetics	Room C S12 MD	Room B S3 DSMC
12:15		Room B S18 Reaction	Room B S5 Surface	Room C S10 Micro	Room A S22 Ivanov	Room D S10 Micro
13:30		Room C S4 Experimental Procedure	Room C S15 Plasma	Room D S11 MB	Room B S6 Granular	Room C S13 Numerical Kinetics
13:45		Room B S18 Reaction	Room B S5 Surface	Room C S10 Micro	Room C S12 MD	Room B S3 DSMC
14:00		Room C S4 Experimental Procedure	Room C S15 Plasma	Room D S11 MB	Room A S22 Ivanov	Room D S10 Micro
14:15		Room B S18 Reaction	Room B S5 Surface	Room C S10 Micro	Room B S6 Granular	Room C S13 Numerical Kinetics
14:30		Room C S4 Experimental Procedure	Room C S15 Plasma	Room D S11 MB	Room C S12 MD	Room B S3 DSMC
14:45		Room A S1 Boltzmann	Room A S3 DSMC	Room B S13 Numerical Kinetics	Room A S22 Ivanov	Room D S10 Micro
15:00		Room B S18 Reaction	Room B S5 Surface	Room C S10 Micro	Room B S6 Granular	Room C S13 Numerical Kinetics
15:15		Room C S4 Experimental Procedure	Room C S15 Plasma	Room D S11 MB	Room C S12 MD	Room B S3 DSMC
15:30		Room B S18 Reaction	Room B S5 Surface	Room C S10 Micro	Room A S22 Ivanov	Room D S10 Micro
15:45		Room C S4 Experimental Procedure	Room C S15 Plasma	Room D S11 MB	Room B S6 Granular	Room C S13 Numerical Kinetics
16:00	Registration	Room B S9 Kinetic	Room B S1 Boltzmann	Room C S10 Micro	Room C S12 MD	Room B S3 DSMC
16:15		Room C S14 & S20 Particle & Turbulence	Room C S18 Reaction	Room D S11 MB	Room A S22 Ivanov	Room D S10 Micro
16:30		Room D S21 Vacuum	Room D S8 Jet & Plume	Room B S13 Numerical Kinetics	Room C S6 Granular	Room C S13 Numerical Kinetics
16:45		Room B S9 Kinetic	Room E Poster Session	Room C S10 Micro	Room D S19 Space	Room B S3 DSMC
17:00		Room C S7 Hybrid	Room E Poster Session	Room D S11 MB	Room A S22 Ivanov	Room D S10 Micro
18:00		Room D S21 Space	Room E Poster Session	Room C S10 Micro	Room B S6 Granular	Room C S13 Numerical Kinetics
19:00	Welcome Reception	Room B S9 Kinetic	Room E Poster Session	Room D S11 MB	Room A S22 Ivanov	Room D S10 Micro
20:00		Room C S7 Hybrid	Room E Poster Session	Room C S10 Micro	Room B S6 Granular	Room C S13 Numerical Kinetics
		Room D S21 Space	Room E Poster Session	Room D S11 MB	Room C S6 Granular	Room B S3 DSMC
		Room E Excursion and Banquet	Room E Poster Session	Room C S10 Micro	Room D S19 Space	Room D S10 Micro
		Room A Farewell party	Room E Poster Session	Room D S11 MB	Room A S22 Ivanov	Room C S13 Numerical Kinetics

Program Summary

Plenary Lectures

1. 13th Harold Grad lecture by Mario Pulvirenti

Quantitative analysis of the correlations in the Boltzmann–Grad limit for hard spheres

2. 11th Lloyd Thomas lecture by Alexey Rebrov

Nanostructure synthesis from high velocity gas mixture flows

3. 2nd Graeme Bird lecture by Michael Gallis

Direct simulation Monte Carlo: The quest for speed

Sessions

S1. Boltzmann and Related Equations
S2. Clusters and Aerosols
S3. DSMC and Related Simulations
S4. Experimental Procedures in RGD
S5. Gas-Surface Interactions
S6. Granular Fluids

Invited Talks: Hisao Hayakawa

Stefan Luding

S7. Hybrid Methods
S8. Jet and Plumes
S9. Kinetic and Transport Theory
S10. Micro- and Nano-scale Flows and Devices
S11. Molecular Beam and Collisions

Invited Talks: Paul W. Dunk

John P. Maier

S12. Molecular Dynamics Simulations
S13. Numerical Solutions of Kinetic Equations

Invited Talks: Vladimir Kolobov

Luc Mieussens

S14. Particle Methods for Flow Simulations
S15. Plasma Flows and Processing
S16. Radiation and Plasma Flows
S17. RGD in Astrophysics
S18. Reaction and Relaxation Processes

Invited Talks: Gianpiero Colonna

S19. Space Vehicles Aerodynamics

Invited Talks: Zonglin Jiang & Zongmin Hu

Eswar Josyula

S20. Turbulence
S21. Vacuum Gas Dynamics

Invited Talks: Dimitris Valougeorgis

S22. Ivanov Memorial Session

Program Summary

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Monday, July 14, 2014

	Room A	Room B	Room C	Room D
9:00	Room A			
9:15	Welcome & Opening Remarks			
9:30	Room A			
9:45	PL 1 Grad Lecture			
10:00	Mario Pulvirenti			
10:15				
10:30	Coffee break			
10:45	S1-05 Aoki	S18-04 Kustova	S4-01 McDaniel	
11:00	S1-03 Taguchi	S12-11 Laporta	S4-02 O'Byrne	
11:15	S1-09 Zhang	S18-03 Istomin	S4-03 Nakamura	
11:30	S1-11 Liu	S18-11 Yang	S4-09 Lilly	
11:45	S1-12 Li	S18-05 Mekhonoshina	S4-10 Ketsdever	
12:00	S1-13 Saveliev	S8-02 Li	S4-11 Ketsdever	
12:15	Lunch			
13:30		S9-05 Polewczak	S14-03 Zhang	S21-04 Valougeorgis
13:45		S9-06 Rahimi	S3-08 Gorji	
14:00		S9-07 Koellermeier	S20-03 Fei	S21-03 Luo
14:15		S9-10 Aristov	S20-02 Zeng	S21-05 Zhou
14:30		S9-11 Inaba	S14-01 Jin	S21-07 Pantazis
14:45		S9-12 Tsuji	S3-11 Roohi	S8-01 Cai
15:00	Coffee break			
15:15		S9-01 Babac	S7-02 Verhoff	S19-15 Josyula
15:30		S9-02 Gorbachev	S7-03 Valougeorgis	
15:45		S9-13 Malhotra	S7-04 Xiao	S19-02 Shao
16:00		S9-14 Aristov	S7-01 Li	S19-05 Wang
16:15		S3-45 Venkattraman	S7-06 Zhang	S19-10 Brykina
16:30		S13-12 Babovsky	S3-07 Kuechlin	S19-13 Miao

Program Summary

Tuesday, July 15, 2014

	Room A	Room B	Room C	Room D
9:00	Room A PL 2 Thomas Lecture Aleksey Rebrov			
9:15				
9:30				
9:45				
10:00	S3-22 Karchani	S5-02 Abe	S14-04 Venkatraman	
10:15	S3-20 Mankodi	S5-01 Gorji	S16-01 Colonna	
10:30	Coffee break			
10:45	S3-46 Fan	S5-14 Struchtrup	S4-06 Zhang	
11:00	S3-35 Bondar	S5-03 Brull	S15-02 Yu	
11:15	S3-42 Shumakova	S5-04 Kosuge	S15-07 Colonna	
11:30	S3-27 Rose	S5-05 Kon	S15-08 Jousot	
11:45	S3-06 Celenligil	S5-06 Dinler	S15-09 Marchenko	
12:00	S16-02 Wan	S5-13 Khalidov	S15-04 Schweigert	
12:15	Lunch			
13:30		S1-01 Chen	S18-13 Colonna	S8-10 Knuth
13:45		S1-04 Caprino		S8-04 Cai
14:00		S1-07 Takata	S18-06 Kunova	S8-05 Grabe
14:15		S1-08 Yue	S18-02 Giovangigli	S3-10 Liang
14:30		S1-10 Gao	S9-04 Oblapenko	S7-05 Tang
14:45		S1-14 Mohammadzadeh	S15-10 Wang	S8-03 Ren
15:00	Coffee break			
15:15	Room E Poster Session			
15:30				
15:45				
16:00				
16:15				
16:30				

Program Summary

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Wednesday, July 16, 2014

	Room A	Room B	Room C	Room D
9:00		S13-01 Kolobov	S10-05 Yakunchikov	S11-07 Maier
9:15			S10-28 Cai	
9:30		S10-09 Chen	S10-30 Alexeenko	
9:45		S13-20 Dechristé	S10-27 Patronis	S11-06 Soorkia (25 min)
10:00		S13-24 Zabelok	S5-10 Bao	S11-01 Gaveau (20 min)
10:15		S13-25 Li	S3-03 Roohi	
10:30	Coffee break			
10:45		S13-28 Mieussens	S10-12 Titarev	S11-08 Dunk
11:00			S10-06 Voronich	
11:15		S13-04 Wang	S10-10 Nakaye	
11:30		S13-09 Westerkamp	S10-15 Gatignol	S11-02 Skovorodko
11:45		S13-26 Clarke	S10-29 Zhang	S18-09 Zheng
12:00		S13-11 Titarev	S10-31 Aksenova	S2-02 Gorbachev
12:15	Lunch			
13:30	Break			
13:45				
14:00				
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16:45				
17:00				
18:00				
19:00				
20:00				

Program Summary

Thursday, July 17, 2014

	Room A	Room B	Room C	Room D
9:00	Room A PL 3 Bird Lecture Michael Gallis			
9:15				
9:30				
9:45				
10:00	S4-05 Liu	S6-03 Vega Reyes	S5-09 Song	
10:15	S4-04 Shu	S6-11 Chen	S12-01 Zhang	
10:30	Coffee break			
10:45	S22-08 Sun	S6-06 Hayakawa	S12-02 Frezzotti	
11:00	S22-04 Kashkovskiy		S12-03 Sathian	
11:15	(40 min)	S6-01 Zhang	S12-04 Yamaguchi	
11:30	S22-01 Hornung	S6-04 Vega Reyes	S12-07 Stephani	
11:45		S6-10 Hou	S12-09 Park	
12:00		(40 min)	S10-22 Kumar	S5-08 Kobayashi
12:15	Lunch			
13:30		S22-06 Ketsdever	S6-07 Luding	S19-14 Jiang
13:45				
14:00		S22-05 Aoki (20 min)	S6-02 M.H.	S19-04 Ozawa
14:15		S22-02 Bruno (20 min)	S6-05 Sirmas	S8-07 Ling
14:30		S22-07 Alexeenko	S13-15 Almazán	S5-11 Egorova
14:45		(20 min)	S6-08 Alam	S19-12 Ketsdever
15:00	Coffee break			
15:15	Room E Poster Session			
15:30				
15:45				
16:00				
16:15				
16:30				

Program Summary

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Friday, July 18, 2014

	Room A	Room B	Room C	Room D
9:00		S3-18 Kashkovskiy	S13-05 Fan	S10-35 Alexeenko
9:15		S3-19 Leite	S13-06 Cai	S10-02 Li
9:30		S3-48 O'Byrne	S13-23 Haack	S10-11 Kudryavtsev
9:45		S3-24 Lilly	S13-02 Szalmas	S10-33 Yonemura
10:00		S3-25 Lilly	S13-07 Ren	S10-20 Kawagoe
10:15		S3-02 Pradhan	S13-14 Shershnev	S10-34 Ramanan
10:30	Coffee break			
10:45		S3-37 Frezzotti	S13-03 Brull	S10-04 Manela
11:00		S3-47 Alexeenko	S13-10 Brechtken	S10-07 Pogorelyuk
11:15		S3-32 Skovorodko	S13-19 Zhu	S10-14 Croizet
11:30		S3-23 Zhao	S13-27 Malkov	S10-17 Haack
11:45		S3-09 Li	S13-08 Su	S10-25 Yang
12:00		S3-15 Wu	S13-17 Wu	S3-31 Wu
12:15	Lunch			
13:30	Break			
13:45				
14:00				
14:15				
14:30				
14:45				
15:00	Room A Farewell party			
15:15				
15:30				
15:45				
16:00				
16:15				
16:30				
16:45				

Detailed Program

Oral Presentations

Monday, July 14, 2014

Room A			
9:00–9:30	Welcome & Opening Remarks		
9:30–10:30	<p style="text-align: center;">PL 1 Grad Lecture Mario Pulvirenti</p> <p style="text-align: center;">Quantitative analysis of the correlations in the Boltzmann-Grad limit for hard spheres</p> <p style="text-align: center;">Chair: K. Aoki</p>		
10:30–10:45	Coffee break		
	Room A Session: Boltzmann Chair: H. Struchtrup	Room B Session: Reaction Chair: E. Josyula	Room C Session: Experimental Procedure Chair: M.-A. Gaveau
10:45	S1-05 Kazuo Aoki, Ryo Kagaya, Shingo Kosuge, Hiroaki Yoshida: Numerical analysis of the Taylor-vortex flow of a slightly rarefied gas	S18-04 Iole Armenise, Elena V. Kustova: Mars sample return orbiter: Detailed vibrational-chemical kinetics and heat transfer	S4-01 James C. McDaniel, Erin M. Reed, Joshua R. Codoni: Planar laser-induced iodine fluorescence technique for measurement of rarefied jet flowfields
11:00	S1-03 Satoshi Taguchi: On the drag exerted on the sphere by a slow uniform flow of a rarefied gas	S12-11 Vincenzo Laporta, Domenico Bruno: Cross sections for electron-molecule scattering	S4-02 Tremayne Kaseman, Sean O'Byrne: Rb based near-resonant enhanced shearing interferometry in free-piston shock tunnels
11:15	S1-09 Irene M. Gamba, Chenglong Zhang: A conservative discontinuous Galerkin scheme with $O(N^2)$ operations in computing Boltzmann collision weight matrix	S18-03 Vladimir A. Istomin, Elena V. Kustova: Effect of electronic excitation on high-temperature flows behind strong shock waves	S4-03 Shigeto Nakamura, Takeru Yano: Measurements of the evaporation coefficient of water based on molecular gas dynamics
11:30	S1-11 Chang Liu, Kun Xu, Quanhua Sun, Qingdong Cai: A unified gas-kinetic scheme for continuum and rarefied flows, direct modeling, and full Boltzmann collision term	S18-11 Chao Yang, Quanhua Sun: Comparison of chemical models in DSMC on spontaneous hydrogen-oxygen combustion	S4-09 Jacob S. Graul, Taylor C. Lilly: Coherent Rayleigh–Brillouin scattering as a flow diagnostic technique
11:45	S1-12 Zhihui Li, Junlin Wu, Qiang Ma, Xinyu Jiang, Hanxin Zhang: Gas-kinetic unified algorithm for hypersonic flows covering various flow regimes solving Boltzmann model equation in nonequilibrium effect	S18-05 Vladimir A. Istomin, Elena V. Kustova, Mariia A. Mekhonoshina: Validity of Eucken formula and Stokes viscosity relation in high-temperature electronically excited gases	S4-10 Ryan W. Bosworth, Austin L. Ventura, Andrew D. Ketsdever, Natalia E. Gimelshein, Sergey F. Gimelshein: Thermophoretic forces on a plate with holes in transitional flow
12:00	S1-13 Vladimir L. Saveliev: On invariant discretizations of Boltzmann equation	S8-02 Jie Li, Yu Z. Shi, Ning Wang, Ling Jin: DSMC simulation of two-phase plume flow with UV radiation	S4-11 Ryan W. Bosworth, Andrew D. Ketsdever, Natalia E. Gimelshein, Sergey F. Gimelshein: Determination of thermophoretic force on a particle in transitional flow
12:15–13:30	Lunch		

	Room B	Room C	Room D
	Session: Kinetic Chair: R. Gatignol	Session: Particle & Turbulence Chair: M.A. Gallis	Session: Vacuum Chair: C. Day
13:30	S9-05 Jacek Polewczak, Ana Jacinta Soares: Hard spheres mixtures: Kinetic and hydrodynamical properties	S14-03 Jun Zhang, Jing Fan: Langevin simulation of gas flows	Invited S21-04 Dimitris Valougeorgis: Kinetic modeling of transport phenomena in vacuum flows and pumps
13:45	S9-06 Behnam Rahimi, Henning Struchtrup: Stable set of transport equations for rarefied polyatomic gases at high orders in the Knudsen numbers	S3-08 Hossein Gorji, Nemanja Andric, Patrick Jenny: Low-variance particle Monte Carlo scheme for Fokker–Planck approximation of the Boltzmann equation	
14:00	S9-07 Julian Koellermeier, Manuel Torrilhon: Hyperbolic moment equations using quadrature-based projection methods	S20-03 Fei Fei, Jing Fan, Chunxiao Xu, Yang Song, Zhaohui Liu: Numerical simulation of homogeneous isotropic turbulence with diffusive information preservation method	S21-03 Xueli Luo, Ruijie Wang, Christian Day, Kun Xu: Study of vacuum gas flows with the unified gas-kinetic scheme
14:15	S9-10 Vladimir V. Aristov, Oleg V. Ilyin: Processes of aggression described by kinetic methods	S20-02 Dandan Zeng, Jing Fan, Jun Zhang: Molecular simulation of three-dimensional turbulent channel flow	S21-05 Ning Zhou: A joint continuum and transitional/free-molecular model for gas flow in semiconductor processing chambers
14:30	S9-11 Masashi Inaba, Takeru Yano: Half-space problem for linearized ES-BGK model equation with unsteady evaporation and condensation flows	S14-01 Xuhong Jin, Fei Huang, Xiaoli Cheng: Test particle Monte Carlo simulation of return flux due to ambient scatter of outgassing molecules	S21-07 Sarantis Pantazis: Computational and experimental study of unsteady expansions between two closed vessels
14:45	S9-12 Tetsuro Tsuji, Yudai Katto, Satoyuki Kawano: Steady flow of highly rarefied gas in half space induced by gravity and non-uniform wall temperature	S3-11 Bijan Goshayeshi, Stefan Stefanov, Ehsan Roohi, Javad Abolfazli Esfahani: Extension of SBT-TAS algorithm to curved boundary geometries	S8-01 Chunpei Cai, Xionghui Huang: Highly rarefied jet and impingement flows from a round nozzle exit
15:00–15:15	Coffee break		

	Room B	Room C	Room D
	Session: Kinetic Chair: G.M. Kremer	Session: Hybrid Chair: Q. Sun	Session: Space Chair: C. Cai
15:15	S9-01 Gulru Babac: Deviation from the Knudsen law on quantum gases	S7-02 Ashley M. Verhoff, Iain D. Boyd: Further development of a hybrid particle-continuum method for transitional hypersonic flows	Invited S19-15 Eswar Josyula, Casimir J. Suchyta III, Jonathan M. Burt, Prakash Vedula: Implications of modeling inelastic collisions in nonequilibrium hypersonic flows
15:30	S9-02 Evgeniy Kolesnichenko, Yuriy Gorbachev: Chemical gas-dynamics beyond Boltzmann's kinetics	S7-03 Manuel Vargas, Naris Stergios, Dimitris Valougeorgis, Sarantis Pantazis, Karl Jousten: Separation effects in unsteady binary gas mixture expansion into vacuum	
15:45	S9-13 Chetan P. Malhotra, Roop L. Mahajan: Use of finite volume radiation for predicting the Knudsen minimum in 2D channel flow	S7-04 Rho Shin Myong, Hong Xiao, Satyvir Singh: A new near-equilibrium breakdown parameter based on the Rayleigh-Onsager dissipation function	S19-02 Chun Shao, Liang Nie, Weifang Chen: Analysis of electromagnetic scattering characteristics for an HTV-2 type flight vehicle ablation flows
16:00	S9-14 Vladimir V. Aristov, Anna A. Frolova, Sergei A. Zabelok: Kinetic models with chemical reactions and nonequilibrium entropy in open systems	S7-01 Zhonghua Li, Zhihui Li, Haiyan Li, Yanguang Yang, Xinyu Jiang: N-S/DSMC hybrid simulation of hypersonic flow over blunt body including wakes	S19-05 Zhihui Wang, Lin Bao: Modeling study of rarefied gas effects on hypersonic reacting stagnation flows
16:15	S3-45 Ayyaswamy Venkatraman: When do we need attractive-repulsive intermolecular potentials?	S7-06 Jianping Meng, Nishanth Dongari, Jason M. Reese, Yonghao Zhang: Breakdown parameter for multiscale kinetic modeling of gas flows	S19-10 Irina G. Brykina: Analytical prediction of heat transfer and skin friction in 3D transitional hypersonic flows over blunt bodies
16:30	S13-12 Hans Babovsky: Translation invariant kinetic models on integer lattices	S3-07 Hossein Gorji, Stephan Kuchlin, Patrick Jenny: Hybrid Fokker-Planck-DSMC method for rarefied gas flow simulations in the whole Knudsen number range	S19-13 Wenbo Miao, Liang Zhang, Junhong Li, Xiaoli Cheng: Surface slip effect on thermo-chemical thermal environment of hypersonic reentry vehicles

Tuesday, July 15, 2014

	Room A		
9:00–10:00	PL 2 Thomas Lecture Aleksey K. Rebrov Nanostructure synthesis from high velocity gas mixture flows Chair: Andrew D. Ketsdever		
	Room A	Room B	Room C
	Session: DSMC	Session: Surface	Session: Plasma
	Chair: J. Zhang	Chair: E.L. Knuth	Chair: H. Huang
10:00	S3-22 Abolfazl Karchani, Omid Ejtehad, Rho Shin Myong: A new steady-state convergence detection method for DSMC	S5-02 Hiroyuki Ishida, Asei Tezuka, Takashi Abe: Influence of gas/surface interaction on shock wave propagation through a tube	S14-04 Ayyaswamy Venkattraman: Glow and arc modes in a microplasma driven by thermionic/field emission
10:15	S3-20 Tapan K. Mankodi, Upendra V. Bhandarkar, Bhalchandra P. Puranik: Density distribution based interpolated grid for DSMC	S5-01 Hossein Gorji, Patrick Jenny: A demixing device concept based on selective excitation of polyatomic gas molecules	S16-01 G. Colonna, D. D'Ambrosio, L. D. Pietanza, G. D'Ammando, M. Capitelli: Multi-temperature model derived from state-to-state kinetics for hypersonic entry in Jupiter atmosphere
10:30–10:45	Coffee break		

Oral Presentations

	Room A	Room B	Room C
	Session: DSMC	Session: Surface	Session: Plasma
	Chair: D. Bruno	Chair: A.K. Rebrov	Chair: A. Venkattraman
10:45	S3-46 Jing Fan, Yuhuai Zhang, Jianzheng Jiang: Separate modeling of trace species in hypersonic rarefied gas flows	S5-14 Henning Struchtrup, Alireza Mohammadzadeh: Applications of generalized Maxwell boundary condition	S4-06 Shaohua Zhang, Xilong Yu, Heng Xiong, Hui Zeng, Fei Li: Plasma assisted stabilization of a premixed methane-air flame by nanosecond repetitively pulsed discharges
11:00	S3-35 Alexander A. Shevyrin, Pavel V. Vashchenkov, Yevgeniy A. Bondar, Mikhail S. Ivanov: Validation of DSMC results for chemically non-equilibrium air flows against measurements of the electron number density in RAM-C II flight experiment	S5-03 Stéphane Brull, Pierre Charrier, Luc Mieussens: Boundary conditions for the Boltzmann equation for rough walls	S15-02 M. Yu, Y. Takahashi, H. Kihara, K. Abe, K. Yamada, T. Abe: Numerical simulation of nonequilibrium inductive plasma flow coupled with electromagnetic field calculation
11:15	S3-42 Alexandra Shumakova, Alexandr Kashkovsky, Yevgeniy Bondar: A detailed DSMC surface chemistry model	S5-04 Shingo Kosuge: Effect of a boundary condition on the cylindrical Couette flow of a rarefied gas	S15-07 L. Cutrone, M. Tuttafesta, M. Capitelli, A. Schettino, G. Pascazio, G. Colonna: 3D nozzle flow simulations including state-to-state kinetics calculation
11:30	S3-27 Martin Rose: Simulation of a complete triple turbo molecular pumping stage using direct simulation Monte Carlo in 3D	S5-05 Misaki Kon, Kazumichi Kobayashi, Masao Watanabe: Numerical analysis of kinetic boundary conditions at net evaporation/condensation interfaces in various liquid temperatures based on mean-field kinetic theory	S15-08 Romain Jousset, Viviana Lago, Jean-Denis Parisse: Efficiency of plasma actuator ionization in shock wave modification in a rarefied supersonic flow over a flat plate
11:45	S3-06 M. Cevdet Celenligil: Direct simulation of rarefied laminar flow past a circular cylinder	S5-06 Ali Dinler: Solving transient temperature-jump models over curved micro-surfaces	S15-09 S. V. Rogasinsky, M. A. Marchenko: Stochastic simulation of electron avalanches on supercomputers
12:00	S16-02 Yuhuai Zhang, Tian Wan, Jianzheng Jiang, Jing Fan: Key issues of ultraviolet radiation of OH at high altitude	S5-13 Olga A. Aksenova, Iskander A. Khalidov: Poly-Gaussian model of randomly rough surface in rarefied gas flow	S15-04 Irina Schweigert, Michael Keidar: Sheath structure transition controlled by electron emission in gas discharge
12:15–13:30	Lunch		

	Room B Session: Boltzmann Chair: K. Aoki	Room C Session: Reaction Chair: E.V. Kustova	Room D Session: Jet & Plume Chair: J. Fan
13:30	S1-01 Wenwen Zhao, Weifang Chen, Ramesh Agarwal: Computation of 1-D shock structure in a gas in rotational non-equilibrium using a new set of simplified Burnett equations	Invited S18-13 G. Colonna: Problems and perspectives of state-to-state kinetics for high enthalpy plasma flows	S8-10 Eldon L. Knuth, David R. Miller, Uzi Even: On the roles of the binodal line, metastable flow, adjacent surfaces and the spinodal line in free-jet expansions from the supercritical state
13:45	S1-04 Caprino Silvia, Cavallaro Guido, Marchioro Carlo: On the problem of a Vlasov plasma with infinite charge		S8-04 Kelvin Garcia, Radford Perry, Kristina Montt de Garcia, Jesse Buffington, Tim Bond, Michael Woronowicz, Rebecca Blackmon, Danielle DeLatte, Dino Rossetti, Edward Cheng, Jonathan Mah, Kimathi Tull, Jodie Glenn, David Autrey, Eric Warren: Analytical and experimental studies of leak location and environment characterization for the international space station
14:00	S1-07 Shigeru Takata: A toy model study of grazing collision effect of non-cutoff potentials	S18-06 O. V. Kunova, E. A. Nagnibeda, I. Z. Sharafutdinov: State-to-state and simplified models for shock heated reacting air flows	S8-05 Martin Grabe, Andre Holz, Georg Dettleff, Stefan Ziegenhagen, Klaus Hannemann: Numerical investigation of two interacting parallel thruster-plumes and comparison to experiment
14:15	S1-08 Yubei Yue, Carlo Lancellotti: Curvature corrections to the Rankine–Hugoniot conditions across a shock front in a gas of hard spheres	S18-02 Domenico Bruno, Fabrizio Esposito, Vincent Giovangigli: Relaxation of quantum state population and volume viscosities in He/H ₂ mixtures	S3-10 Jie Liang, Zhihui Li, Xuguo Li, Ming Fang: DSMC numerical simulation of lateral jet interaction with rarefied atmosphere
14:30	S1-10 Wei Gao, Quanhua Sun: Development of BGK-type models and their relaxation performance	S9-04 Elena V. Kustova, Georgii P. Oblapenko: Rates of VT transitions and dissociation and normal mean stress in a non-equilibrium viscous multi-temperature N ₂ /N flow	S7-05 Zhenyu Tang, Guobiao Cai, Bijiao He: Analysis of the effect of the plume protect cover assembled to a 60N thruster using coupled NS/DSMC method
14:45	S1-14 Alireza Mohammadzadeh, Henning Struchtrup: Extended moments model for energy transport in the phonon gas	S15-10 Surong Sun, Haixing Wan: The population distribution of excited level species in a high-velocity argon plasma flow	S8-03 Wei Ren, Hong Liu: Monte Carlo simulation on the laminar hypersonic transverse interaction
15:00–15:15	Coffee break		
15:15–16:45	Room E Post Session		

Wednesday, July 16, 2014

	Room B	Room C	Room D
	Session: Numerical Kinetics Chair: L. Mieussens	Session: Micro Chair: W. Ye	Session: MB Chair: R. Campargue
9:00	Invited S13-01 Vladimir Kolobov, Robert Arslanbekov, Anna Frolova: Solving kinetic equations with adaptive mesh in phase space for rarefied gas dynamics and plasma physics	S10-05 Artem Yakunchikov, Valery Kovalev, Vasili Kosiantchouk: Free-molecular gas flow through high-frequency oscillating membrane	Invited S11-07 John P. Maier: Electronic spectra of organic radicals and ions of relevance to combustion, atmospheres and interstellar space
9:15		S10-28 Chunpei Cai: Theoretical investigations on velocity-slip gas flow over a flat plate	
9:30	S10-09 Songze Chen, Kun Xu: A Cartesian grid-based unified gas kinetic scheme	S10-30 Andrew D. Strongrich, Alina A. Alexeenko: Experimental measurements and modeling of convective heat transfer in the transitional rarefied flow regime	S11-06 Satchin Soorkia, Géraldine Féraud, Michel Broquier, Claude Dedonder, Christophe Juvet, Gilles Grégoire: UV photofragmentation spectroscopy and dynamics of gas phase biological molecular ions in a cold ion trap (25min)
9:45	S13-20 Guillaume Dechristé, Luc Mieussens: An adaptively refined Cartesian cut-cell method for Boltzmann kinetic equation	S10-27 Alexander Patronis, Duncan A. Lockerby: Hybrid continuum-molecular modelling of non-isothermal multiscale internal gas flows	
10:00	S13-24 Sergey A. Zabelok, Andrey V. Stroganov, Vladimir V. Aristov: GPU implementation of deterministic Boltzmann solver	S5-10 Fubing Bao, Yuanlin Huang, Shuangshuang Luo: Molecular dynamics simulations of pressure-driven gaseous flow in nano-channels	S11-01 Marc-André Gaveau, Marc Briant, Christophe Pothier, Jean-Michel Mestdagh: Laser induced fluorescence spectroscopy of the Ca dimer deposited on mixed helium/xenon clusters (20min)
10:15	S13-25 Shiyi Li, Qibing Li, Song Fu: A unified gas-kinetic scheme for axisymmetric flow	S3-03 Ali Amiri-Jaghargh, Ehsan Roohi, Stefan Stefanov: DSMC simulation of micro/nano flows using SBT-TAS technique	
10:30–10:45	Coffee break		

	Room B Session: Numerical Kinetics Chair: V. Kolobor	Room C Session: Micro Chair: A.A. Alexeenko	Room D Session: MB Chair: J.P. Maier
10:45	Invited S13-28 Luc Mieussens: A survey of deterministic solvers for rarefied flows	S10-12 Vladimir A. Titarev, Evgeniy M. Shakhov: Rarefied gas flow into vacuum through a long circular pipe composed of two sections of different radii	Invited S11-08 Paul W. Dunk, Nathan K. Kaiser, Marc Mulet-Gas, Antonio Rodríguez-Forteza, Josep M. Poblet, Christopher P. Ewels, Hisanori Shinohara, Alan G. Marshall, Harold W. Kroto: Recent advances in fullerene science: Cluster source to a 9.4 T FT-ICR mass spectrometer for experimental study of nanocarbon formation
11:00		S10-06 Oscar G. Friedlander, Yuriy V. Nikolskiy, Ivan V. Voronich: Gas flows through double-layer membrane of thermomolecular pump	
11:15	S13-04 Ruijie Wang, Kun Xu: Unified gas-kinetic scheme for multi-species non-equilibrium flow	S10-10 Shoeji Nakaye, Hiroshi Sugimoto: Numerical analysis on gas separator with thermal transpiration in micro channels II	
11:30	S13-09 Armin Westerkamp, Manuel Torrilhon: Finite element discretizations for moment approximations of the Boltzmann equation in the low Mach number limit	S10-15 Renée Gatignol, Cédric Croizet: Asymptotic modeling of the flow of a thermal binary gas mixture in a microchannel	S11-02 N. G. Korobeishchikov, P. A. Skovorodko, V. V. Kalyada, A. A. Shmakov, A. E. Zarvin: Experimental and numerical study of high intensity argon cluster beams
11:45	S13-26 Peter B. Clarke, Philip L. Varghese, David B. Goldstein: Discrete velocity computations of the Boltzmann equation for gas mixtures with variance reduction	S10-29 Jianping Meng, Yonghao Zhang: Conservative numerical simulations of micro gas flows through Venturi tubes	S18-09 Zhongyu Zheng, Yuren Wang: Structural signatures of dynamic heterogeneities in monolayers of colloidal ellipsoids
12:00	S13-11 Evgeniy M. Shakhov, Vladimir A. Titarev: Time-dependent rarefied gas flow into vacuum from a long circular pipe closed at one end	S10-31 Olga A. Aksenova, Iskander A. Khalidov: Comparison of analytic models of instability of rarefied gas flow in a channel	S2-02 Nikolay Bykov, Yuriy Gorbachev: Comparative analysis of condensation models within DSMC
12:15-13:30	Lunch		

Thursday, July 17, 2014

	Room A		
9:00–10:00	PL-03 Bird Lecture Michael A. Gallis Direct simulation Monte Carlo: The quest for speed Chair: E.V. Kustova		
	Room A Session: Experimental Procedure Chair: T.C. Lilly	Room B Session: Granular Chair: H. Hayakawa	Room C Session: MD Chair: A. Frezzotti
10:00	S4-05 Chong Liu, Lianhong Wang, Yonghua Shu, Jing Fan: Effect of growth temperature on composition control for YBCO precursor films fabricated by vapor codeposition	S6-03 Francisco Vega Reyes, Vicente Garzó: Thermal diffusion segregation of an impurity in a driven granular fluid	S5-09 Chengqian Song, Xieyuan Yin, Fenghua Qin: A gas-surface scattering simulation based on molecular dynamics method with GPU acceleration
10:15	S4-04 Yonghua Shu, Lianhong Wang, Chong Liu, Jing Fan: Quantitative analysis of oxygen content in copper oxide films using ultra microbalance	S6-11 Yanpei Chen, Meiyong Hou, Pierre Evesque: Influence of the driving velocity on local velocity distribution for granular	S12-01 Ran Zhang, Zhengyu Tian, Wenjia Xie: Effects of surface roughness on tangential momentum accommodation coefficient between Pt (100) and Ar
10:30–10:45	Coffee break		

	Room A	Room B	Room C
	Session: Ivanov Chair: Y. Bondar	Session: Granular Chair: S. Luding	Session: MD Chair: C. Liu
10:45	S22-08 Quanhua Sun, Jie Liang, Guobiao Cai, Jing Fan: A "smile" memory in China's RGD community: Mikhail Ivanov's academic links	Invited S6-06 Koshiro Suzuki, Hisao Hayakawa: Rheology of dense sheared granular liquids: A mode-coupling approach	S12-02 Paolo Barbante, Aldo Frezzotti, Livio Gibelli: A comparison of molecular dynamics and diffuse interface model predictions of Lennard–Jones fluid evaporation
11:00	S22-04 A. V. Kashkovsky, Ye. A. Bondar, S. F. Gimelshein: Computational tools for high-altitude aerodynamics: In memory of Mikhail Ivanov		S12-03 Joe Francis Thekkethala, Sarith P. Sathian: Thermal transpiration: A molecular dynamics study
11:15	(40min)	S6-01 Ziwei Wang, Jie Zhang: Unjamming and jamming transitions of granular avalanches	S12-04 Kyohei Yamaguchi, Masashi Inaba, Takeru Yano: Molecular dynamics study on the vapor-liquid interface of Ar-Ne mixtures
11:30	S22-01 Hans G. Hornung: Mach reflection in steady flow: I. Mikhail Ivanov's contributions II. Caltech stability experiments	S6-04 Francisco Vega Reyes, Andrés Santos, Gilberto M. Kremer: Properties of the homogeneous cooling state of a gas of inelastic rough particles	S12-07 Kelly A. Stephani, Iain D. Boyd: Molecular dynamics modeling of defect formation and lattice thermal conductivity in multilayer hexagonal boron nitride
11:45	(40min)	S6-10 Meiyang Hou, Rui Liu, Yinchang Li, Yin Zhang, Sajjad Hussain Shah: Bifurcation and nonlinear behavior of compartmentalized granular gases	S12-09 Ramki Murugesan, Jae Hyun Park: Bombardment of gas molecules on single graphene layer in high temperature
12:00		S10-22 Abhishek Kumar Verma, Rakesh Kumar: Molecular dynamics study of heat transfer in two-phase flows through a nanochannel	S5-08 Kazumichi Kobayashi, Kazumasa Hori, Hisao Yaguchi, Masao Watanabe: Molecular dynamics simulation on evaporation molecules in a vapor-liquid equilibrium state
12:15–13:30	Lunch		

Oral Presentations

	Room B Session: Ivanov Chair: Y. Bondar	Room C Session: Granular Chair: M. Hou	Room D Session: Space Chair: T. Abe
13:30	S22-06 Andrew D. Ketsdever, Sergey Gimelshein: A spacecraft's own ambient environment: The role of simulation-based research	Invited S6-07 Stefan Luding: From particles to continuum theory—from slow to rapid flow	Invited S19-14 Zonglin Jiang, Zongmin Hu, Hongru Yu: Development of the advanced high-enthalpy test facility for hypersonic vehicles
14:00	S22-05 Hiroaki Yoshida, Kazuo Aoki: A DSMC study of the Taylor–Couette problem for a vapor-gas mixture (20min)	S6-02 Lakshminarayana Reddy M. H., Santosh Ansumali, Meheboob Alam: Shock waves in a dilute granular gas	S19-04 Takashi Ozawa, Toshiyuki Suzuki, Kazuhisa Fujita: Rarefied aerodynamic measurements in hypersonic rarefied wind tunnel
14:15	S22-02 Domenico Bruno: DSMC simulation of thermal fluctuations (20min)	S6-05 Nick Sirmas, Matei I. Radulescu: Evolution of shock instability in viscoelastic granular gases	S8-07 Guilong Ling, Guobiao Cai, Bijiao He: An introduction on the novel plume effects experimental system
14:30	S22-07 Alina Alexeenko: Rarefied microflows: Modeling by DSMC and beyond (20min)	S13-15 Lidia Almazán, Dan Serero, Clara Salueña, Thorsten Pöschel: Granular gas sedimentation in a hydrodynamic simulation	S5-11 Lidia A. Egorova, Grigoriy A. Tirskiy: Gasdynamic substantiation of physical theory of meteors
14:45		S6-08 Meheboob Alam: Role of roughness/friction on instabilities and correlations in a sheared granular fluid	S19-12 Carlos A. Maldonado, Andrew D. Ketsdever, Sergey F. Gimelshein, Natalia E. Gimelshein: Drag measurements in a simulated low-Earth orbit environment
15:00–15:15	Coffee break		
15:15–16:45	Room E Poster Session		

Friday, July 18, 2014

	Room B Session: DSMC Chair: M.G. Celenligil	Room C Session: Numerical Kinetics Chair: K. Xu	Room D Session: Micro Chair: Y. Zhang
9:00	S3-18 Alexandr V. Kashkovsky: DSMC investigations of reentry vehicle aerothermodynamics on a GPU	S13-05 Yuwei Fan, Zhenning Cai, Ruo Li: On the hyperbolicity of Grad's moment system	S10-35 William O'Neill, Andrew Strongrich, Anthony Cofer, Alina A. Alexeenko: Measurements and simulations of Knudsen thermal force
9:15	S3-19 Paulo H. M. Leite, Wilson F. N. Santos: Mach number impact on heat flux and pressure distributions of a hypersonic flow over combined gap/step geometries	S13-06 Zhenning Cai: Numerical simulation of large hyperbolic moment systems with linear production terms	S10-02 Qi Li, Tengfei Liang, Wenjing Ye: Knudsen torque on heated micro beams
9:30	S3-48 James N. Moss, Sean O'Byrne, S. L. Gai: Simulated hypersonic separated flows about a "tick" configuration with sensitivity to model design	S13-23 Irene M. Gamba, Jeffrey Haack, Jingwei Hu: A fast conservative spectral solver for the nonlinear Boltzmann collision operator	S10-11 Alexey N. Kudryavtsev, Oyuna D. Rybdylova, Anton A. Shershnev: Aerodynamic focusing of particles in supersonic micronozzles at low Reynolds numbers
9:45	S3-24 Jacob S. Graul, Sergey F. Gimelshein, Taylor C. Lilly: Numerical examination of optical lattice gas heating within realistic optical cavities	S13-02 Lajos Szalmas: Numerical analysis of flows of rarefied gases in long channels with octagonal cross section shapes	S10-33 Shigeru Yonemura, Susumu Isono, Masashi Yamaguchi, Yoshiaki Kawagoe, Takanori Takeno, Hiroyuki Miki, Toshiyuki Takagi: A study of floating of a slider with micro/nanoscale surface structure on a rotating disk
10:00	S3-25 Jacob S. Graul, Sergey F. Gimelshein, Taylor C. Lilly: Kinetic view of optical lattice-gas interactions under varying pulse width	S13-07 Wei Ren, Hong Liu, Shi Jin: Nonequilibrium hypersonic flows simulations with asymptotic-preserving Monte Carlo methods	S10-20 Yoshiaki Kawagoe, Shigeru Yonemura, Susumu Isono, Takanori Takeno, Hiroyuki Miki, Toshiyuki Takagi: Numerical analysis of micro-/nanoscale gas-film lubrication of sliding surface with complicated structure
10:15	S3-02 Sahadev Pradhan, Viswanathan Kumaran: Transition and turbulence in a wall bounded channel flow at high Mach number	S13-14 Anton A. Shershnev, Alexey N. Kudryavtsev: Numerical investigation of plane plume exhausting from wedge-like micronozzle	S10-34 Aditya Ramanan, Yu Xuan Teoh, Wenjing Ye: Experimental and numerical characterization of a microresonator for low-pressure sensing
10:30–10:45	Coffee break		

Oral Presentations

	Room B	Room C	Room D
	Session: DSMC	Session: Numerical Kinetics	Session: Micro
	Chair: A.V. Kashkovskiy	Chair: P.L. Varghese	Chair: H. Sugimoto
10:45	S3-37 Domenico Bruno, Aldo Frezzotti, Gian Pietro Ghioldi: Oxygen shear viscosity estimation by DSMC-CT simulations	S13-03 Stéphane Brull, Luc Mieussens: A numerical adaptive method for solving kinetic equations based on local velocity grids	S10-04 Gilad Oskar, Avshalom Manela: The response of a confined rarefied gas to non-periodic acoustic excitation
11:00	S3-47 Andrew B. Weaver, Alina A. Alexeenko, Michael A. Gallis, John R. Torczynski: Effect of elastic collision model on viscosity and thermal conductivity calculations	S13-10 Stefan Brechtken: A discretization of Boltzmann's collision operator with provable convergence	S10-07 Leonid Pogorelyuk, Avshalom Manela: Approach to acoustic cloaking in rarefied gases
11:15	S3-32 Petr A. Skovorodko: Continuum regions of the flow in the evaporation-condensation problems	S13-19 Zhaoli Guo, Kun Xu, Ruijie Wang, Lianhua Zhu: Discrete unified gas-kinetic scheme for non-equilibrium flows	S10-14 Cédric Croizet, Renée Gagniol: Asymptotic modeling of the axisymmetric flow of a binary gas mixture in a circular microchannel
11:30	S3-23 Xinpeng Zhao, Zengyao Li, He Liu, Wenquan Tao: The influences of microstructural parameters on the gaseous thermal conductivity in nanoporous material	S13-27 E. A. Malkov, S. O. Poleshkin, A. A. Kokhanchik, Ye. A. Bondar: An accurate numerical solution of the Boltzmann equation for the shock wave structure	S10-17 Irene Gamba, Kui Ren: Recovering doping profiles: An inverse source problem for the Boltzmann–Poisson transport system
11:45	S3-09 Jin Li, Xiangren Geng, Jianqiang Chen: Dynamic load balance scheme for the DSMC algorithm	S13-08 Wei Su, Alina A. Alexeenko, Guobiao Cai: A stable Runge–Kutta discontinuous Galerkin solver for hypersonic rarefied gaseous flows	S10-25 Qin Yang, Yulu Liu, Haijun Zhang: Study on Stokes' second problem using the direction simulation Monte Carlo (DSMC) method
12:00	S3-15 Xinming Wu, Bin Zhang, Hong Liu: Grid effect of DSMC upon the accuracy of heat flux prediction	S13-17 Lei Wu, Craig White, Thomas J. Scanlon, Jason M. Reese, Yonghao Zhang: Coherent Rayleigh–Brillouin scattering: The influence of the intermolecular potential	S3-31 Di Wu, Yuhe Shang, Hong Xiao: Vorticity in micro-scale shock/vortex interaction
12:15–13:30	Lunch		

Tuesday (July 15) & Thursday (July 17) 15:15–16:45

PS1: Kinetic Theory and Solutions (S1 & S9 & S13)			
Chair: Z. Li			
Paper No.	Authors	Title	Post No.
S1-02	Wenwen Zhao, Weifang Chen, Hualin Liu, Ramesh Agarwal	3D linearized stability analysis of various forms of Burnett equations	P01
S1-06	Mingtian Xu, Yudong Mao	From discrete Boltzmann transport equation to the generalized Navier–Stokes equations	P02
S9-09	Igor V. Chermnyaninov, Vladimir G. Chernyak	Thermo-optical “piston” in gases	P27
S9-15	Vincenzo Laporta, Domenico Bruno	Effects of state-to-state kinetic modeling on nonequilibrium radiation behind shock heated air	P28
S13-13	V. V. Aristov, V. A. Titarev, S. A. Zabelok	Unsteady benchmark problems for flows in vacuum tubes	P40
S13-16	Vladimir L. Saveliev, Svetlana A. Filko, Shigeru Yonemura	Kinetic force method and two-particle kinetic equation	P41

PS2: Hybrid Methods and Turbulence (S7 & S14 & S20)			
Chair: J. Zhang			
Paper No.	Authors	Title	Post No.
S7-07	Ranjit U. Khot, Arvind V. Deshpande, Atul K. Tak, A. K. Das	One step hybrid approach for continuum to rarefied transition gas flow through a micro-orifice	P25
S7-08	Sergey Zabelok, Robert Arslanbekov, Vladimir Kolobov	Multi-GPU kinetic solvers using MPI and CUDA	P26
S14-02	Song Chen, Quanhua Sun	A cell-size relaxed DSMC method for diatomic molecules	P43
S14-05	Jing Fan, Jianzheng Jiang, Dandan Zeng	Microscopic mechanism of Rayleigh–Benard transition from thermal conduction to convection	P44
S20-04	Marcello Righi, Ruijie Wang	A gas-kinetic scheme for turbulence	P61
S20-05	Yuri I. Khlopkov, Vladimir A. Zharov, Zay Yar Myo Myint, Anton Yu. Khlopkov	The coherent structure of turbulent boundary layer	P62

Tuesday (July 15) & Thursday (July 17) 15:15–16:45

PS3: Vacuum & Experimental Procedures (S2 & S4 & S21)			
Chair: S. O'Byrne			
Paper No.	Authors	Title	Post No.
S2-04	Hongwei Zhou, Shenghua Xu	Utilizing T-matrix method for precisely measuring colloidal coagulation rate	P03
S4-07	Lianhong Wang, Chong Liu, Jing Fan	Influence of post-annealing ambient on the superconducting properties and microstructure of $YBa_2Cu_3O_{7-\delta}$ films	P19
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S21-06	Tian Wan, Guoqing Hu, Jianzheng Jiang, Hongli Liu, Jing Fan, Weilin Pan, Shuai Qiao	Comparison of the simulated and LIDAR measured atmospheric density and temperature in transitional flow regime	P64

PS4: Plasma Flows (S15 & S16)			
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S15-03	Ning Wang, Jie Li, Yuzhong Shi, Ling Jin	Numerical simulation of three-dimensional unsteady plasma plume flow	P46
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PS5: DSMC and High Speed Flow (S3 & S17 & S18)			
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S3-26	Yazhong Jiang, Zhenxun Gao, Chongwen Jiang, Chunhian Lee	Error estimation for CFD aeroheating prediction under rarefied flow condition	P10
S17-01	Ferdin S. Donbosco, Kishore K. Kumar, Rakesh Kumar	Investigation of spacecraft surface erosion due to plume impingement by particle based methods	P49
S18-01	Luigi Morsa, Gennaro Zuppardi	Influence of ionization for the Gupta and the Park chemical models	P50

PS6: DSMC and Related Simulations (S3)			
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S3-14	Douglass J. Auld	Adaptive boundary conditions applied to DSMC stream flows	P66
S3-16	Mikhail Yu Plotnikov	The rarefied gas flow through a grid of cylinders	P08
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S3-28	Linying Li, Bin Zhang, Hong Liu	The influence of MCS on the recirculation zone in DSMC	P11
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S19-08	G. Malaikannan, Ferdin S. Donbosco, Rakesh Kumar	Aerothermodynamic design of a reentry vehicle based on comparative DSMC study of existing designs	P59
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