

**ICDVC-2006**

**The Second International Conference on  
Dynamics, Vibration and Control**

23-26 August 2006

**Beijing , China**

<http://www.cstam.org.cn/ICDVC2006/ICDVC2006.asp>

<http://ss.buaa.edu.cn/dvc2006/dvc-2006.htm>

**The Second Announcement and Call for Papers**

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Palace Museum



Temple of Heaven



Great Wall



Summer Palace

## Aims and Scope

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Dynamics, vibration and control are most active scientific frontiers in sciences and technology in recent years, and ICDVC-2006 is devoted to these important research areas.

The aim of ICDVC-2006 is to bring together leading scientists of the international dynamics, vibration and control communities, both theoreticians and experimentalists, to present original research work of very high quality. The themes of the conference are intended to be broad enough so as to cover most of the directions in dynamics, vibration and control, promoting wide interactions among different academic disciplines. Mathematical theory, numerical simulation, physical experiments, engineering design, information technique, biological and financial studies, and their various applications are included in the main program of the conference. The conference also provides an excellent opportunity to researchers from different fields of science and engineering, both experts and new comers, for sharing ideas, experience and progress, and exploring new directions and problems among specialists in these fascinating areas of science and technology in the 21st century.

## Chairmen

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<b>Q.S. Lu</b>	Beijing University of Aeronautics and Astronautics, China
<b>L.O. Chua</b>	University of California, Berkeley, USA

## Co-Chairmen

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<b>K. Aihara</b>	University of Toyko, Japan
<b>G.R. Chen</b>	City University of Hong Kong, China
<b>Y.S. Chen</b>	Tianjin University, China
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<b>S.J. Hogan</b>	University of Bristol, UK
<b>H.Y. Hu</b>	Nanjing University of Aeronautics and Astronautics, China
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<b>T. Li</b>	CSTAM, China
<b>Y. Wang</b>	Peking University, China

## Chair's Message

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Dear Colleagues,

On behalf of the Chinese Society of Theoretical and Applied Mechanics (CSTAM) and the Conference Organizing Committee, it is my honour and pleasure to warmly invite you to attend the Second International Conference on Dynamics, Vibration and Control (abbreviated as ICDVC-2006) and to contribute papers for presentation. The ICDVC-2006 Conference will take place during the period of August 23-26, 2006 in Beijing. The city of Beijing is proud of its famous World Cultural Heritages, Palaces and Museums (such as Forbidden City, Temple of Heaven, Great Wall and Summer Palace), as well as many other scenic spots, historic sites and cultural activities. It is also the city for the oncoming 2008 Olympic Games.

Proposals of organizing special mini-symposia are welcome and encouraged, in which the following information should be indicated: title of the mini-symposium; name, affiliation, mailing address and e-mail address of the proposer(s); description of the topic of the mini-symposium (not exceeding 100 words); estimated numbers of speakers. The deadline for mini-symposia proposal submission is March 1, 2006. Please send your proposal to [qishaolu@buaa.edu.cn](mailto:qishaolu@buaa.edu.cn)

I look forward to having the opportunity to meet you at ICDVC-2006 in Beijing .

Q. S. Lu  
Chair of ICDVC-2006

## Scientific Committee

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<b>P.L. Gong</b>	Brain Science Institute, Japan

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<b>W.D. Zhu</b>	University of Maryland at Baltimore County, USA
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## Organizing Committee

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<b>Y.F. Zhang</b>	Beijing Institute of Technology, China
<b>X. H. Zhao</b>	Zhejiang Normal University, China

## Important Dates

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December 31, 2005	One-page abstract submission
March 1, 2006	Mini-symposium proposal submission
March 31, 2006	Notification of acceptance
May 31, 2006	Extended abstract submission
June 30, 2006	Refund

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## Topics of the Conference

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### 1. Nonlinear Dynamics of Discrete and Continuous Systems

General Theory and Numerical Methods of Bifurcation and Chaos  
Bifurcation and Chaos in Hamiltonian Systems  
Dynamics of Non-smooth Systems  
Dynamics of Time-delay Systems  
Dynamics of Stochastic Systems  
Pattern Formation and Complex Systems  
Control of Bifurcations and Chaos  
Synchronization of Chaotic Systems

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### 2. Mechanical Vibration and Control

Free and Excited Vibrations in Linear or Nonlinear Structures and Machinery  
Collision or/and Friction Induced Vibrations  
Random Vibration and Control  
Vibration and Control of Mech-electrical Coupled Systems  
Vibration and Control of Rotor Systems

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### 3. Control Theory and Application

Adaptive and Optimal Control  
Distributed Parameter Systems and Control  
Nonlinear Systems and Control  
Uncertain Systems and Robust Control

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### 4. Dynamics and Control in Multi-body Systems

Theory and Computation of Dynamics and Control in Multi-body Systems  
Contact and Impact Problems in Multi-body Systems  
Numerical Simulation and Experiment Research  
Engineering Applications

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### 5. Analytical Dynamics

Hamiltonian Dynamics and Birkhoffian Dynamics  
Dynamics with Holonomic and Nonholonomic Constraints  
Symmetry and Conservation  
Mathematical Methods in Dynamics

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### 6. Dynamics in Industry, Biology, Economy and Other Related Fields

Neurodynamics  
Dynamics in Ecology, Epidemic and Environmental Sciences  
Dynamics of Biological Systems  
Networks Dynamics  
Economy and Finance Dynamics  
Dynamic Signal Processing, Monitoring and Diagnostics in Engineering Systems  
Dynamics and Vibration of Micro-Systems and Micro-Structures  
Dynamics Analysis in Nano- Systems  
Dynamics of Railroad Vehicles and Transportation Systems  
Spacecraft Dynamics and Control

## Proceedings and Special Issues

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All accepted papers will be divided into several sessions. The extended abstracts (3-4 A4 pages) will be published in the Conference Proceedings with CD-ROM. A number of selected full papers will also be published as special issues of the following international journals after the Conference:

- 1 Chaos, Solitons and Fractals (CSF);
- 2 International Journal of Nonlinear Sciences and Numerical Simulation (IJNSNS);
- 3 Mathematical Biosciences and Engineering (MBE);
- 4 Dynamics of Continuous, Discrete and Impulsive Systems, Series B (DCDIS-B).

## Paper Submission

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Contributed papers should include the following contents:

- 1) Objective and novelty of the research;
- 2) Methods and techniques;
- 3) Main results;
- 4) Conclusions;
- 5) Main references.

A format of the paper is available on the website

<http://www.cstam.org.cn/ICDVC-2006>

Please send **one-page abstract** before December 31, 2005 to Mr. T. Li

[leetao@cstam.org.cn](mailto:leetao@cstam.org.cn)

After reviewed by the academic committee, the acceptance of a paper will be notified to the corresponding author, and an extended abstract (3-4 A4 pages) should be sent to Mr. T. Li before May 31, 2006 for publication in the Conference Proceedings. Some selected papers will be further recommended for publication in international peer-reviewed journals.

## Mini-symposia Proposals

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Proposals of organizing special mini-symposia are welcome and encouraged, in which the following information should be indicated: title of the mini-symposium; name, affiliation, mailing address and e-mail address of the proposer(s); description of the topic of the mini-symposium (not exceeding 100 words); estimated numbers of speakers. The deadline for mini-symposia proposal submission is March 1, 2006. Please send your proposal to [qishaolu@buaa.edu.cn](mailto:qishaolu@buaa.edu.cn)

## Mini-symposia (submitted)

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### 1. Stochastic Dynamics and Control

#### Main topics :

- (1) Random processes and stochastic differential equations
- (2) Stochastic stability, stochastic bifurcation and chaos
- (3) Stochastic control
- (4) Reliability
- (5) Stochastic finite elements
- (6) Stochastic fatigue and fracture
- (7) Applications in engineering

#### Organizers:

**Prof. Z.L.Huang**

Department of Mechanics, Zhejiang University

Hangzhou, 310027, China

E-mail: [huangzhilong@yahoo.com](mailto:huangzhilong@yahoo.com); [zhuang@zju.edu.cn](mailto:zhuang@zju.edu.cn)

Tel: 86-571-87952651(O), 86-571-87990323(H)

**Prof. W.Xu**

Department of Applied Mathematics,

Northwestern Polytechnical University

Xian, 710072, China

E-mail: [weixu@nwpu.edu.cn](mailto:weixu@nwpu.edu.cn); Tel: 86-29-8492571(O), 86-29-8492393(H)

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### 2. Neurodynamics

The present mini-symposium gives a forum for a concentrated and efficient interaction among researchers from various disciplines; including scientists from theoretical, computational, and engineering disciplines in neurodynamics and neuroinformatics, also neuroscientists and cognitive scientists.

#### Main topics:

- (1) Models of neurons, local circuits and learning rules
- (2) Systems neurobiology and neural modeling
- (3) Spiking neurons
- (4) Neuroinformatics and brain models
- (5) Cognitive information processing
- (6) Learning and memory
- (7) Motor control and response
- (8) Neural control in robotics
- (9) Other applications

#### Organizer :

**Prof. Rubin Wang**

College of Science

East China University of Science and Technology

Shanghai, China;

E-mail: [rbwang@163.com](mailto:rbwang@163.com); [rbwang3@sohu.com](mailto:rbwang3@sohu.com)

### 3. Dynamics and Control of Multibody Systems

**Main topics:**

- (1) Computational and theory method for multibody system dynamics
- (2) Flexible multibody system dynamics
- (3) Numerical computational stability of multibody system dynamics
- (4) Symbol deduction for multibody system dynamics
- (5) Model identification of multibody system dynamics
- (6) Contact and impact problem in multibody system dynamics
- (7) Engineering application of multibody system dynamics
- (8) Multibody system dynamics and control theory
- (9) Experimentation in multibody system dynamics

**Organizer:**

**Professor X.T. Rui**

Nanjing University of Science and Technology, Nanjing, China

E-mail: [ruixt@163.net](mailto:ruixt@163.net), [ruixt@mail.njust.edu.cn](mailto:ruixt@mail.njust.edu.cn)

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### 4. Nonlinear Dynamics and Control of Mechanical Systems

**Organizers:**

**Prof. W. Zhang**

Beijing University of Technology, Beijing 100022, China

E-mail: [Sandyzhang0@yahoo.com](mailto:Sandyzhang0@yahoo.com)

**Prof. L.Q. Chen**

Shanghai University, Shanghai 200072, China

E-mail: [lqchen@online.sh.cn](mailto:lqchen@online.sh.cn)

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### 5. Analytical Dynamics

Analytical dynamics is not only an important part of classical mechanics but is also a powerful tool used in almost branches of classical mechanics. It also plays a crucial role in quantum mechanics and quantum theory of fields, in control theory and other areas of physics, engineering, and even biology because of the universality of its method. Clearly analytical dynamics has been an active subject and plays a fundamental role in science. The original research work of very high quality about self-improvement of analytical dynamics and its various applications are encouraged to present in the conference.

**Main topics:**

- (1) Hamiltonian dynamics and Birkhoffian dynamics
- (2) Dynamics with holonomic and nonholonomic constraints
- (3) Symmetry and conservation
- (4) Mathematical methods in dynamics
- (5) Applications of analytic dynamics

**Organizers:**

**Prof. Y.X. Guo**

Liaoning University, Liaoning, China

E-mail: [guoyongxin@lnu.edu.cn](mailto:guoyongxin@lnu.edu.cn)

**Prof. M.P. Yushkov**

St. Petersburg University, Russia

E-mail: [Mikhail.Yushkov@pobox.spbu.ru](mailto:Mikhail.Yushkov@pobox.spbu.ru)

## 6. Discrete Chaos: Theory and Applications

Discrete chaotic systems are a very important type of complex systems. They have attracted a great deal of attention and interest for half a century. Some significant progress in the theory and applications of discrete chaos has been made recently. The present mini-symposium offers a forum for interactions among some leading researchers in the area of theory and applications of discrete chaos. Recent research works of high quality, on both finite-dimensional and infinite-dimensional systems, are invited for presentation in this mini-symposium.

### Main topics:

- (1) Discrete chaos in finite-dimensional systems
- (2) Discrete chaos in Banach spaces and general metric spaces
- (3) Discrete chaos in partial difference equations, functional equations, etc.
- (4) Applications of discrete chaos in various fields including engineering, mechanics, physics, etc.

### Organizers:

**Prof. Guanrong Chen**

City University of Hong Kong

Hong Kong, China

Email: [eggchen@cityu.edu.hk](mailto:eggchen@cityu.edu.hk)

**Prof. Yuming Shi**

Shandong University

Jinan, China

Email: [ymshi@sdu.edu.cn](mailto:ymshi@sdu.edu.cn)

### Invited speakers:

Xiangdong Ye, Wen Huang, Yi Zhao, Yu Huang, Zhong Li, Chuanjun Tian , Xiaosong Yang , Wei Lin , Guanrong Chen, Yuming Shi .

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## 7. Diagnosis and Control of Adaptronic Structures

Adaptronic structures and /or multifunctional materials are becoming much for important in aerospace and aeronautical applications. For these mostly also safety critical applications is will be important to get informations about the state of mechanical structures, typically dynamically stressed ones.

So supervising and monitoring concepts concerning mechanical stress and/or reliability aspects are becoming important elements within the design of such systems as well as design concepts conserving new functionalities of the mechanical structures in case of faults etc.

### Organizer:

**Prof. Dirk Soeffker**

Institute for Mechatronics and System Dynamics

University Duisburg-Essen, Germany

E-mail: [soeffker@uni-duisburg.de](mailto:soeffker@uni-duisburg.de)

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## 8. Structural Dynamics

### Organizers:

**Prof. S. L. Du**

Beijing University of Technology , Beijing, China

## Accommodation and Location

Detailed information about accommodation and location will be announced in the next circular.

## Social Program

The social program is open to all registered participants and registered accompanying persons. Post-conference tours will be arranged by a travel agency. Detailed information will be announced in the next circular.

## Registration

### REGISTRATION FEE

	Before June 15, 2006	After June 15, 2006
<b>Delegates</b>	US\$ 450	US\$ 550
<b>Students</b>	US\$ 250	US\$ 300
<b>Accompanying Persons</b>	US\$ 150	US\$ 200

The full registration fee covers plenary lectures, four days of meeting attendance, final CD-ROM of proceedings, coffee breaks, welcome reception, working lunch, banquet and a one-day excursion. A refund of conference registration fee, with a deduction of US\$ 60 for administration, will be granted until June 30, 2006. The conference secretariat must receive the cancellation in writing before this date. No refund will be issued after June 30, 2006.

**REGISTRATION FORM** is available on the website

<http://www.cstam.org.cn/ICDVC-2006>

### For registration please contact

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## Contact Information

Inquiries, suggestions and comments are welcome. Please send them to the secretariats:

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