RIKEN Symposium   Computational Biomechanics
- P r o g r a m -

10: 00 - 10: 05

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10:05 - 10:25

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10:25 - 10:45
Development of Precise Digitizer and Digitizing of Human Eyeball
H. Yokota, S. Nakamura, N. Kakusho (RIKEN), R. Kawaguchi, H.Yabe(Toho Univ./RIKEN), A. Makinouchi(RIKEN), and T.Higuchi(TokyoUniv./RIKEN)

10:45 - 11:05
Development of Mechanical Property Measurement System and Measurement for Eyeball Property
H.Yokota, J. Sunaga(Nihon Univ./RIKEN), Y. Kita(Toho Univ./RIKEN), S.Nakamura,Y.Yamagata(RIKEN), K.Sato(Nihon Univ./RIKEN)H.Yabe(Toho Univ./RIKEN), and A.Makinouchi(RIKEN)

11:05-11:15
11:15 - 11:35
Realistic Method for Generatioing a Hexahedral FEM Mesh from Biological Soft Tissue
S. Hirata, H. Yokota, S. Nakamura, and A.Makinouchi(RIKEN)

11:35 - 11:55
Automatic Extraction of the Interest Organization of a Biological Sample from Full-color Continuous Images
S.Takemoro (Saitama Univ./RIKEN), H.Yokota (RIKEN),H.Sshimai (SaitamaUniv./RIKEN), A.Makinouchi (RIKEN), and T.Mishima (Saitama Univ./RIKEN)

11:55   13:30
13:30   13:50
Extraction Method of the Interest Region with Intensity Change From Biological Volume Data
H.Shimai(SaitamaUniv./RIKEN),H.Yokota,S.Nakamura(RIKEN),S.Takemoto(SaitamaUniv./RIKEN), T.Mishima(Saitama Univ./RIKEN), R.Himeno, and A.Makinouchi(RIKEN)

13:50 - 14:10
Improved 3D FEM Program for Simulating the Retina Detachmant Operation on an Eyeball
Zhi-Gang SUN and A. Makinouchi(RIKEN)

14:10 - 14:30
Clinical Evaluation for Simulation of Optic Nerve Damage in Glaucoma
H. Yabe(Toho Univ./RIKEN), Zhi-Gang SUN and A. Makinouchi(RIKEN)

14:30 - 14:40
14:40 - 15:00
Femoral Stem Shape Design of Aatificial Hip Joint Using a Voxel Based Finite Element Method
Taiji Adachi (Kobe Univ./Riken), Hiromichi Kunimoto (Kobe Univ.), Ken-ichi Tsubota (RIKEN), Yoshihiro Tomita (Kobe Univ./Riken)

15:00 - 15:20

15:20 - 15:40
Trabecular Remodeling Simulation of a Vertebral Body with a Fixation Screw Using Voxel Finite Element Models
Ken-ichi Tsubota (Riken), Taiji Adachi (Kobe Univ./Riken), Yoshihiro Tomita (KobeUniv./Riken)

15:40 - 15:50

15:50 - 16:00

16:00 - 16:20
Time-dependent static optimization method to estimate muscle force from the motion
Taku Komura, Akinori Nagano, Yoshihiro Ehara, Przemyslaw ProkopowRyutaro Himeno, Toshikazu Ebisuzaki (Riken)

16:20 - 16:40
Evaluation of the dynamic postural balance model
Kudoh Shunsuke, Taku Komura (Riken)

16:40 - 17:00
Simulation Annalysis of the Influenced Motion from Ball Mass and Shape for Upper Limb during Baseball Pitching
Yoshiyuki Mochizuki (Matsushita, Ltd, Co.)

17:00- 17:20
A Prototype of Technique Training System for Human Motion (Swing)
Tetsuya S. Shimizu, Yoshiyuki Mochizuki, Taku Komura, Ryutaro Himeno (Riken)

17:20- 17:40
Analysis of human gait based on forward dynamic computer simulation
Przemyslaw Prokopow, Akinori Nagano, Taku Komura, Ryutaro Himeno (Riken)

17:40- 17:50

From Biomechanics Simulation to Human Simulation

17:50 - 19:30

10:20 - 10:30

10:30 - 10:50
> **Development of Computational Biomechanics Simulation System for Cardiovascular Clinical Medicine**
> Takami YAMAGUCHI(Tohoku Univ.), Tomoaki HAYASAKA (Riken), Daisuke MORI (Tohoku Univ.)

10:50 - 11:10
> **Multi-Scale computation in Hemodynamics: Towards to the Noninvasive Simulation of Cardiovascular Blood Flow**
> Hao LIU (Riken)

11:10 - 11:30
> **Expectations for FUTURE Computer simulation study IN clinical cardiac practice**
> Shinichi FUJIMOTO(Nara. Med. Univ./Riken) Shinobu NAKAMURA (Nara Med. Univ.)

11:30 - 10:50
> **Flow Measurement Techniques from Medical Modalities for Computational Fluid Dynamics**
> K. FUKASAKU (Fujita Health Univ./Riken), M. NEGORO (Fujita Health Univ.)

12:00   13:00

13:00 - 13:30

image-based modeling:
13:30 – 13:50
> **Automatic Contour Extraction from a CT image of Blood Vessel Region around Renal Aorta**
> H. IWASE (Riken), Hao LIU (Riken), Noriyuki KATAOKA (Kawasaki Med. Univ.)Ryutaro HIMENO(Riken)

13:50 - 14:10
> **Efficient, Image-Based, Computational Fluid Dynamic Modeling of Left Ventricle Hemodynamics**
> H.IWASE (Riken), Hao LIU (Riken), S.FUJIMOTO (Nara. Med. Univ./Riken) R.HIMENO (Riken)

14:10 - 14:30
> **Extraction method for Blood vessels, Based on the velocity Profile measured by Phase Shift Method**
> Yoko KATO and Ryutaro HIMENO   Riken

14:30 - 14:50
> **Relationship between the Structure and the Velocity profile in the Accompanying Vein of the Limb**
> Yoko KATO and Ryuotaro HIMENO (Riken)

14:50   15:00

Computational Modeling:
15:00 - 15:20
> **Blood Flow Analysis Using Voxel Information**
> Nami MATSUNAGA (Riken), Hao LIU (Riken), Ryutaro HIMENO (Riken)

15:20 - 15:40
> **A Finite Element Model for Determining the Effects of Blood Flow on the Finger Temperature Distribution**
> Ying HE (Riken), Minoru SHIRAZAKI (Riken), Ryutaro HIMENO (Riken)

15:40 – 16:00
> **A Study of the Relationship Between Flow Rate and Temperature in a Peripheral Artery by A One-Dimensional Elastic Tube Model**
> Ying HE (Riken), Hao LIU (Riken), Ryutaro HIMENO (Riken)

16:00 - 16:20
> **Flows into vascular branches**
> Mehran TADJFAR   Riken