



ICMRS Newsletter

April 2016

ICMRS Communication Committee
Executive Editor: Bingyun Li, PhD

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I. Message from the President, Dr. James H-C. Wang

The ICMRS mission is to promote scientific/professional excellence and enhance communication among scientists of Chinese heritage and other international scholars in the field of musculoskeletal research and related areas. To this end, we formed a new ICMRS leadership team that includes James H-C. Wang (current President), Xu Cao (immediate past President), Tingting Tang (President-elect), Yi-Xian Qin (Chair of Board of Directors), Neil Dong (Chair of the Communication Committee), Ling Qin (Chair of the Membership Committee), Herb Sun (Chair of the Education Committee) and Bin Li (Chair of the China Development of Committee). As a team, we have been working diligently to improve the functioning of ICMRS on several fronts as well as to improve services for our society members.



First, we aim to completely revamp the ICMRS website. Thanks to Neil Dong and his team, we now have a new website (www.icmrs.net) up and running. This website provides answers to all potential services and management of the society, and includes

website management, membership management, new announcements, access to online payment and event registration. We anticipate that this new website will make the operation of ICMRS smooth and effective. We are continuously striving to improve functions in the website and will post new updates for our society members.

Second, as mentioned in our previous communications, we have decided to implement membership reform that aims to transition ICMRS into a membership fee-based professional society. We have three membership categories: a) Student member: any student, resident or fellow currently in training. No doctoral degree or publication is required to apply for student membership; b) Regular member: any individual with a doctoral degree or sufficient research/clinical experience who has at least one publication in the musculoskeletal field. c) Life-time member (LTM): bestowed to a subset of well-established members willing to make a long-term commitment to the ICMRS development, activities and mission. I am pleased to report that the number of current members in the reformed membership program has already reached a milestone of 200 and continues to increase. ICMRS memberships carry many benefits, including but not limited to 1) reduced registration rates for the ICMRS sponsored meetings, 2) access to mentoring program and 3) the right to vote, or to be nominated, in the election for ICMRS officers.

In March this year, we successfully held an ICMRS-ORS Membership meeting at Orlando, organized by Tingting Tang and his team, including Ling Qin and Neil Dong. More than 130 members attended the meeting where the keynote speech was delivered by Dr. Linda Sandell, Professor and Director of Research at the Washington University School of Medicine. Members enjoyed Dr. Sandell's excellent speech, and the social and scientific networking made available to them.

Third, as mentioned above, we are forming a mentoring program. This program will provide mentorship to young/junior ICMRS members on how to obtain and develop careers in the current competitive job market, and how to procure research funding from major agencies. Many senior ICMRS members are eager to share their valuable experience to improve the professional life of junior members. We believe that this program will benefit many members tremendously, particularly the fresh graduates who are actively seeking jobs and the newly appointed assistant professors at Universities, Academic Hospitals or Industries.

Fourth, China Collaborative Centers (CCC) are an integral part of ICMRS and enable the society to fulfill its mission. Under the leadership of Bin Li, the China Development Committee is shaping new guidelines for the development and operation of the CCC. We anticipate that CCC will become healthier and stronger in the years ahead. Additionally, ICMRS will organize a leadership retreat during the ICOBR meeting at Chongqing in October this year. The goal of this retreat is to map out long term strategic development plans for ICMRS.

In closing, I would like to thank my team as well as members such as you for your continuous support. As the President, my goal is to lead the society effectively so that ICMRS becomes a strong professional society in the near future. I believe that the goal is within our reach with our hard working team propelling the society!

II. Meeting Information and Updates

News Report of 2016 ICMRS-ORS Membership Meeting at Orlando

The 2016 annual ICMRS-ORS Membership Meeting was held in Orlando on March 5th this year. More than 130 ICMRS members and invited guests attended this meeting. After enjoying delicious food and social communication, the meeting was started with the welcome remark given by Dr. Tingting Tang, Chair of Program Committee and President-Elect, and followed by the Presidential speech from Dr. James Wang. Dr. Wang introduced the latest development of ICMRS, especially the main transformation of fee-based membership. Next, Dr. Linda J. Sandell from Washington University in St. Louis, current Editor-in-Chief of the Journal of Orthopaedic Research, gave the invited keynote speech entitled “Genetics of Cartilage Repair and Osteoarthritis”.



Dr. James H-C. Wang giving the presidential address.

Three winners of Webster Jee Young Investigator Awards were also announced. Shao-wei Wang from the Medical School of Brown University, Huan-xiong Chen from The Chinese University of Hong Kong, and Wei Tong from University of Pennsylvania were each received an award plaque and a \$300 check.

The award ceremony was followed by an introduction of the coming ICOBR 2016 by Dr. Yi-xian Qin, Board Director of ICMRS, and an introduction of Journal of Orthopaedic Translation by Dr. Lin Qin, the Chief Editor of this journal.

The President of CORS, Dr. Zhuo-jing Luo, was also invited to attend this meeting and introduced the 2016 ICORS meeting in Xi'an.

For more information about the conference, please visit the ICMRS website. To see a photo gallery from the meeting, please visit <http://www.icmrs.net/news/3904155>.



ICMRS Members Sharing a Moment for a Nice Group Picture.

2016 ICORS Meeting at Xi'an

September 21-25, 2016. Xi'an, Shanxi Province, China
Location: Kempinski Hotel Xian
For details, please see: <http://www.2016icors.org>

III. Highlights of ICMRS Collaborating Centers

Spine Research Institute in Shanghai University of Traditional Chinese Medicine

The Spine Research Institute in Shanghai University of Traditional Chinese Medicine – ICMRS Research Center was founded in October 2005 and was the first collaboration center of ICMRS. Prof. Yong-Jun Wang and Di Chen are the co-chairmen.

The Center is based on Longhua hospital and the Spine Research Institute, both are affiliated to Shanghai University of Traditional Chinese Medicine (TCM). There are four departments, including Center for fundamental, clinical, rehabilitation and famous TCM Doctor's academic studio inheritance. The main functions of this center are to integrate scientific research, clinical practice, and teaching. There are 57 faculties now

working in this center with technical job titles at primary (25), middle (15), and advanced (17).



Center Members of the Spine Research Institute in Shanghai University of Traditional Chinese Medicine Sharing a Nice Moment.

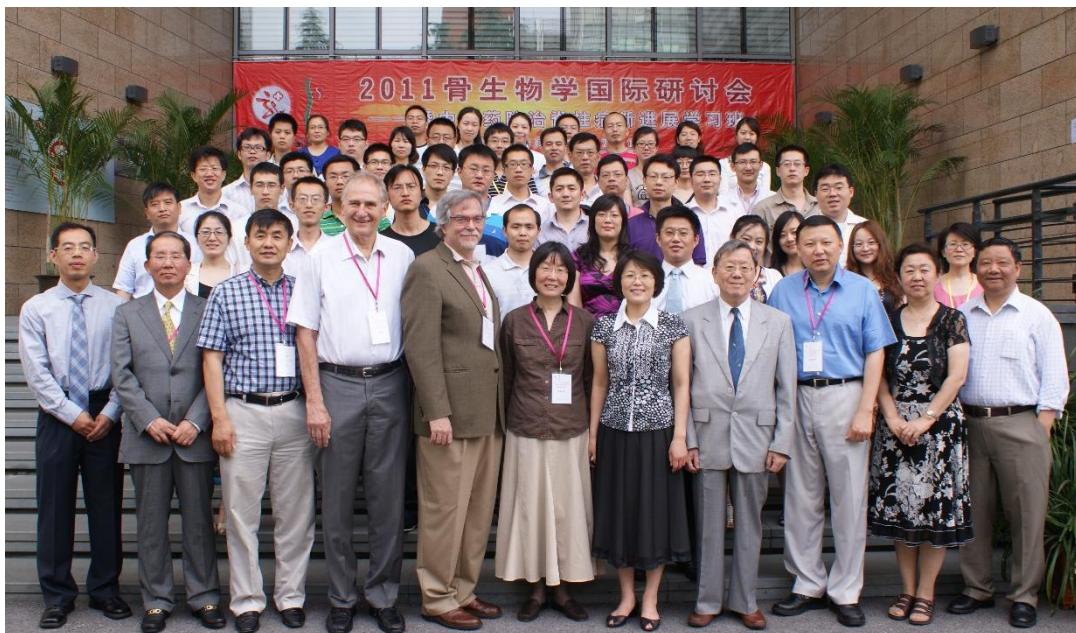
The discipline in this center is regarded as the national key discipline of China, the key discipline of state administration of TCM, the key discipline of Shanghai, the key medical discipline of Shanghai, the key medical discipline of Shanghai municipal education commission. Our team is considered as the national ministry of science and technology innovation team, and the national ministry of education or innovation team. Meanwhile, our lab is the national clinical research base of TCM in China, and the key collaboration laboratory for ministry education of China and Shanghai government.

Our work focuses on clinical and basic research to prevent and treat bone degenerative diseases of TCM. In the past 10 years, four directions have been formed to target the diseases based both clinical and basic research according to TCM: prevention and treatment of spinal degenerative disease; prevention and treatment of bone metabolic disease; prevention and treatment of osteoarthritis, bone inflammatory, and tumor; prevention and treatment of Chronic disease with Kidney essence deficiency types. This work has made great progress and achievement in past years.

Multiple grants have been obtained from different levels: national (43) and state (121). In particular, the center has been awarded the national 973 program (Chief scientist unit), national outstanding youth program, national key projects of natural science foundation (2), national natural science foundation of major international cooperation projects (2) and national youth science funds of NSFC (21).

The Center has published 618 papers, of which 169 are SCI papers with the total impact factor of 363. The center has hosted eight sessions of Shanghai international bone

biology seminars. Moreover, the members of this center have participated in world spinal disease meetings, ASBMR conference, and ORS annual meeting, and so on for 66 times. There are 49 papers included by ISTP. 15 national invention patents were submitted and seven have been awarded. There are two certifications of new drug of TCM obtained, and 5 certifications have achieved the transformation to clinic practice. In addition, 28 textbooks and monographs are edited in chief.



Participants at the 2011 International Workshop on Bone Biology Sharing a Moment.

The center has won the second prize of National Award for Science and Technology Progress for two times, and the center has also won prizes from different organizations at the number of 30, including the first prize of Shanghai Award for Science and Technology Progress (2 times), the first prize of Chinese Association of Integrated Medicine Award for Science and Technology Progress (2 times), the first prize of the Chinese medical association Award for Science and Technology Progress, and the first prize of the China association of Chinese Medicine Award for Science and Technology Progress.

IV. ICMRS-Sponsored Journals

Bone Research

Bone Research was founded in 2013 as a collaboration between Chinese and US bone scientists, and is supported by ICMRS. The aim of the Journal is to foster the worldwide dissemination of research in bone-related physiology, pathology, disease, and treatment. The Editor-in-Chief is Professor Zhou Xue-dong of Sichuan University, China. The Founding Editor and Executive Editor-in-Chief are Professors Xu Cao and Thomas L. Clemens from Johns Hopkins University.

In 2014, Bone Research is officially co-published with Nature Publishing Group. Due to the joint efforts, Bone Research has been accepted for coverage in the Web of Science Core Collection and PubMed Central. Coverage will begin with the first issue of Volume 1. You could see the journal articles in SCI and PMC websites. Followed are the Highlights of the publications in Bone Research. For more details, please check the journal website at: <http://www.nature.com/boneres>.

Recent articles in Bone Research

Assessment of bone turnover and bone quality in type 2 diabetic bone disease: current concepts and future directions. Mishaela R Rubin & Janina M Patsch. Bone Research 4:16001(2016). <http://www.nature.com/articles/boneres20161>

Pit- and trench-forming osteoclasts: a distinction that matters. (Corrigendum) Ditte MH Merrild, Dinisha C Pirapaharan, Christina M Andreasen, Per Kjærsgaard-Andersen, Anaïs MJ Møller, Ming Ding, Jean-Marie Delaissé & Kent Søe. Bone Research 4:16006(2016). <http://www.nature.com/articles/boneres20166>

Characterization of genetically engineered mouse models carrying Col2a1-cre-induced deletions of Lrp5 and/or Lrp6. Cassie A Schumacher, Danese M Joiner, Kennen D Less, Melissa Oosterhouse Drewry & Bart O Williams. Bone Research 4:15042(2016). <http://www.nature.com/articles/boneres201542>

Current research on pharmacologic and regenerative therapies for osteoarthritis. Wei Zhang, Hongwei Ouyang, Crispin R Dass & Jiake Xu. Bone Research 4:15040(2016). <http://www.nature.com/articles/boneres201540>

Crosstalk between adipose-derived stem cells and chondrocytes: when growth factors matter. Juan Zhong, Bin Guo, Jing Xie, Shuwen Deng, Na Fu, Shiyu Lin, Guo Li, Yunfeng Lin & Xiaoxiao Cai. Bone Research 4:15036(2016). <http://www.nature.com/articles/boneres201536>

Analysis of new bone, cartilage, and fibrosis tissue in healing murine allografts using whole slide imaging and a new automated histomorphometric algorithm. Longze Zhang, Martin Chang, Christopher A Beck, Edward M Schwarz & Brendan F Boyce. Bone Research 4: 15037(2016). <http://www.nature.com/articles/boneres201537>

MicroRNA-26a inhibits osteosarcoma cell proliferation by targeting IGF-1. Xinyu Tan, Shicai Fan, Wen Wu & Yin Zhang. Bone Research 3:15033(2015). <http://www.nature.com/articles/boneres201533>

Journal of Orthopaedic Translation

The Journal of Orthopaedic Translation (JOT) is the official peer-reviewed publication of the Chinese Speaking Orthopaedic Society (CSOS) and the International Chinese Musculoskeletal Research Society (ICMRS), with an office in Hong Kong at the Chinese University of Hong Kong. It is published quarterly by Elsevier. All material published in the JOT is freely available at www.e-jot.com.

Recent articles in JOT

Volume 6 (In Progress)

In vivo magnetic resonance imaging features of spinal muscles in the ovine model. Stephanie Valentin, Theresia Licka, Annika Essigbeck, James Elliott. Pages 1-9. <http://www.sciencedirect.com/science/article/pii/S2214031X15000686>

Tissue reaction and material biodegradation of a calcium sulfate/apatite biphasic bone substitute in rat muscle. Jian-Sheng Wang, Magnus Tägil, Hanna Isaksson, Mathias Boström, Lars Lidgren. Pages 10-17. <http://www.sciencedirect.com/science/article/pii/S2214031X15000868>

Role of alpha-crystallin, early-secreted antigenic target 6-kDa protein and culture filtrate protein 10 as novel diagnostic markers in osteoarticular tuberculosis. Nazia Rizvi, Ajai Singh, Manish Yadav, Syed Rizwan Hussain, Salma Siddiqui, Vineet Kumar, Sabir Ali, Avinash Agarwal. Pages 18-26. <http://www.sciencedirect.com/science/article/pii/S2214031X16000140>

Volume 5 (April 2016)

Orthopaedic Biomaterials and Devices, Edited by Ting-ting Tang and Ling Qin

Translational study of orthopaedic biomaterials and devices. Ting-ting Tang, Ling Qin. Pages 69-71. <http://www.sciencedirect.com/science/article/pii/S2214031X16000255>

Recent developments and challenges of lower extremity exoskeletons. Bing Chen, Hao Ma, Lai-Yin Qin, Fei Gao, Kai-Ming Chan, Sheung-Wai Law, Ling Qin, Wei-Hsin Liao. Pages 26-37. <http://www.sciencedirect.com/science/article/pii/S2214031X15000716>

Development of a whole organ culture model for intervertebral disc disease. James T. Stannard, Kazuya Edamura, Aaron M. Stoker, Grace D. O'Connell, Keiichi Kuroki, Clark T. Hung, Theodore J. Choma, James L. Cook. Pages 1-8. <http://www.sciencedirect.com/science/article/pii/S2214031X15000595>

The effect of hydrogen gas evolution of magnesium implant on the postimplantation mortality of rats. Deni Noviana, Devi Paramitha, Mokhamad Fakhrul Ulum, Hendra Hermawan. Pages 9-15. <http://www.sciencedirect.com/science/article/pii/S2214031X15000601>

Covalently immobilised type I collagen facilitates osteoconduction and osseointegration of titanium coated implants. Hai-Yong Ao, You-Tao Xie, Sheng-Bing Yang, Xiao-Dong Wu, Kai Li, Xue-Bin Zheng, Ting-Ting Tang. Pages 16-25. <http://www.sciencedirect.com/science/article/pii/S2214031X15000625>

Assessment of activated porous granules on implant fixation and early bone formation in sheep. Ming Ding, Susan S. Henriksen, Naseem Theilgaard, Søren Overgaard. Pages 38-47. <http://www.sciencedirect.com/science/article/pii/S2214031X15000728>

Optimising femoral-head osteochondral allograft transplantation in a preclinical model. Brett D. Crist, Aaron M. Stoker, Ferris M. Pfeiffer, Keiichi Kuroki, Cristi R. Cook, Samuel P. Franklin, James P. Stannard, James L. Cook. Pages 48-56. <http://www.sciencedirect.com/science/article/pii/S2214031X15000844>

Calcium phosphate/thermoreponsive hyaluronan hydrogel composite delivering hydrophilic and hydrophobic drugs. Dalila Petta, Garland Fussell, Lisa Hughes,

Douglas D. Buechter, Christoph M. Sprecher, Mauro Alini, David Eglin, Matteo D'Este. Pages 57-68. <http://www.sciencedirect.com/science/article/pii/S2214031X15000856>

Housing design and testing of a surgical robot developed for orthopaedic surgery. Lai-Yin Qin, Jing Zhou Wen, Chun-Sing Chui, Kwok-Sui Leung. Pages 72-80. <http://www.sciencedirect.com/science/article/pii/S2214031X16000267>

Volume 4 (January 2016)

Therapy for Musculoskeletal Disorders, Edited by Jürg Gasser

Editorial: Therapy for musculoskeletal disorders. J.A. Gasser. Pages 71-74. <http://www.sciencedirect.com/science/article/pii/S2214031X1500087X>

Sclerostin, an emerging therapeutic target for treating osteoporosis and osteoporotic fracture: A general review. Pui Kit Suen, Ling Qin. Pages 1-13. <http://www.sciencedirect.com/science/article/pii/S2214031X15000613>

Bone morphogenetic protein-7: Review of signalling and efficacy in fracture healing. Steven Cecchi, Simon J Bennet, Manit Arora. Pages 28-34. <http://www.sciencedirect.com/science/article/pii/S2214031X15000583>

Review of various treatment options and potential therapies for osteonecrosis of the femoral head. Huijuan Cao, Hanfeng Guan, Yuxiao Lai, Ling Qin, Xinluan Wang. Pages 57-70. <http://www.sciencedirect.com/science/article/pii/S2214031X15000698>

Comparative study of two types of herbal capsules with different Epimedium species for the prevention of ovariectomised-induced osteoporosis in rats. Shi-Hui Chen, Xin-Luan Wang, Li-Zhen Zheng, Yi Dai, Jia-Yong Zhang, Bao-Lin Guo, Zhi-Jun Yang, Xin-Sheng Yao, Ling Qin. Pages 14-27. <http://www.sciencedirect.com/science/article/pii/S2214031X1500042X>

Tanshinol stimulates bone formation and attenuates dexamethasone-induced inhibition of osteogenesis in larval zebrafish. Shiying Luo, Yajun Yang, Jingfeng Chen, Zhiguo Zhong, Hongxin Huang, Jingjing Zhang, Liao Cui. Pages 35-45. <http://www.sciencedirect.com/science/article/pii/S2214031X15000558>

Computational anatomy of the proximal humerus: An ex vivo high-resolution peripheral quantitative computed tomography study. Lukas Kamer, Hansrudi Noser, Albrecht Werner Popp, Mark Lenz, Michael Blauth. Pages 46-56. <http://www.sciencedirect.com/science/article/pii/S2214031X15000704>

Antiosteoporotic effects of Alpinia officinarum Hance through stimulation of osteoblasts associated with antioxidant effects. Yanjie Su, Yahui Chen, Yanzhi Liu, Yajun Yang, Yifeng Deng, Zhongqin Gong, Jingfeng Chen, Tie Wu, Sien Lin, Liao Cui. Pages 75-91. <http://www.sciencedirect.com/science/article/pii/S2214031X1500073X>

V. Grant Opportunities



Dr. Fei Wang from NIAMS/NIH has presented funding opportunities at the ICMRS-ORS Membership Meeting in Orlando on March 5, 2016. Please [click here](#) for her presentation.

- NIAMS PAs on Accelerating Research on Intervertebral Disc, [R01](#) (PA-16-097) and [R21](#) (PA-16-096)
- NIAMS RFAs on Mechanistic Ancillary Studies to Ongoing Interventional Clinical Trials, [R01](#) (RFA-AR-17-003) and [R21](#) (RFA-AR-17-004)
- NIAMS SBIR RFA Building Complex 3-Dimensional in Vitro Human Musculoskeletal and Skin Tissue Models, [R43](#) (RFA-AR-17-005)
- NCATS Chip 2.0 – Disease Modeling Program in FY 2017 (Check out <http://www.ncats.nih.gov/tissuechip> for details and future RFAs)

VI. Job Announcements

Postdoctoral Research Positions to Study Stem/Progenitor Cells in Repair and Regeneration: Postdoc positions are available in the Center for Musculoskeletal Research at the University of Rochester Medical Center. The successful candidate will participate in research projects recently funded by NIH. The projects involve using multiphoton microscopy as a live imaging platform to characterize the interactions between vascular progenitors and mesenchymal progenitors during skeletal repair and regeneration. The study integrates bone tissue engineering, vascular biology, and skeletal biology. The successful candidates must have a MD or PhD degree in biomedical science with published experience in any of these fields: molecular biology, cell biology, tissue engineering, electrospinning/3D writing, or transgenic animal work. Recent

graduates will receive substantially more favorable consideration than applicants who have completed 3-4 years of postdoc training. Prior experience with bone biology, small animal surgery or cell sorting is a plus. To apply: please send C.V. and names of three references to: Xinpingle Zhang, MD, PhD, Associate Professor, Center for Musculoskeletal Research, Department of Orthopaedics and Rehabilitation, University of Rochester Medical Center, Rochester, NY14642. Tel: 585-275-7928, Fax: 585-275-1121, email: xinpingle.zhang@urmc.rochester.edu.

Website: www.urmc.rochester.edu/musculoskeletal-research/research-labs/zhang-lab/

VII. Message from the Chair of ICMRS Communication Committee

Dear ICMRS members,

I would like to express my sincere thanks to each of the members of ICMRS and the members of the Executive Committee who contributed to this newsletter and make it possible. In particular, I would like to thank Dr. Bingyun Li for his outstanding job as the Executive Editor for this issue of the Newsletter.

The goal of this quarterly newsletter is to share the exciting news and events, progress from and related to our society, and to facilitate communication among ICMRS members. This is your newsletter and we are here to serve you, the ICMRS members!

In order to reach our goal, we appreciate your participation, contribution, and support, in particular with the following:

- Meeting information and progress
- News and updates from ICMRS collaborating centers and ICMRS-sponsored journals
- Members' research highlights, which includes, but is not limited to: major publications of high scientific and/or social impact, reports from principal investigators, and/or grant awards.
- Member recognition and achievements
- Education opportunities and mentoring requests
- Job opportunities
- Any information that may be interesting and important to share among our members
- Any comments, suggestions, feedback regarding our service and the newsletter.

Please send this information to: icmrs@icmrs.net. You are welcome to contact us anytime. We look forward to hearing from you.

Sincerely,

X. Neil Dong, PhD

Chair, ICMRS Communication Committee