Editorial - Progress and Vision for 'Current Aging Science'

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One year has been completed for the new journal, *Current Aging Science,* which was established to disseminate research advances on the science of aging and related disorders. Notably, *Current Aging Science* has successfully presented all three issues of its first volume on time. As we celebrate the anniversary of *Current Aging Science*, may I revisit the accomplishments of the journal and outline how it might develop in this coming year.

This international journal was launched to publish up-to-date reviews and experimental articles in different areas of aging and aging-related research that could affect longevity [1]. The mission of this multidisciplinary journal remains the understanding the biological mechanisms underlying aging, the role of the environment and genetics, and intervention in the normal aging process with preventive strategies designed to retard senescence. The first volume published a total of 26 articles comprising aging research ranging from cellular processes and molecular genetics to applied science. In addition the journal published a 'Book review' and an 'Editorial'. These manuscripts have been skillfully written by experts in the field and duly peer-reviewed prior to publication. The manuscripts of the first volume of the journal have been well received by scientific researchers across several disciplines, including plant science researchers, clinical investigators and other health professionals. All the articles' abstracts are freely available on the journal's website (http://www.bentham.org/cas/). The journal's contribution is global in nature as it represents research from 14 different countries: Brazil, Croatia, Finland, France, India, Italy, Japan, Mongolia, Poland, Russia, South Korea, Spain, UK and the USA. In addition to the print edition, the journal is accessible online. The website serves important purposes: It provides free access to Contents and Abstracts of all papers published in different issues of *Current Aging Science,* and is also useful to the authors for electronic submission of their papers with 'Instruction for Authors'. This user-friendly approach has enabled *Current Aging Science* to reach scientists, educators and other medical professionals all over the world.

In the first volume alone, *Current Aging Science* covered the emerging areas of various aspects of age-related research. Some of these papers have already been cited in other peer-reviewed journals. The themes and topics that were featured in the first volume can be broadly grouped in to the following categories: 1) Antiaging mechanisms such as calorie restriction, 2) Age-related disorders, including Alzheimer's disease and other neurodegenerative disorders, 3) Age-dependent physiological changes, such as thyroid function and hypopituitarism, 4) Metabolic changes and the role of insulin in aging, 5) Dietary approaches to deceleration of aging, such as the utility of melatonin and resveratrol, and associated role of insulin in aging, 6) Improving techniques for maintaining lifestyle of older adults, such as balance control and the high velocity power training method, 7) Premature aging in children, such as in Werner's syndrome, 8) Theories of aging based on free radicals, oxidative stress and inflammation, 9) Mood and memory changes associated with aging, 10) Longevity studies on invertebrate and unicellular organisms, 11) Clinical drug trial studies on age-related disorders and 12) Extending life span by regenerative medicine. These topics have been comprehensively described in the pages of the first volume of *Current Aging Science* [2-8].

The topics covered so far in *Current Aging Science* are just a few snapshots from the increasingly vast field of age-related research, and definitely more work needs to be done. Using the search word 'Aging', PubMed picked up over 9,795 publications during the last one-year period alone, and these numbers exclude other potentially important work that appeared in journals not listed in this database. *Current Aging Science* is currently abstracted in various databases, such as 'Chemical Abstracts' and 'Genamics JournalSeek'. The journal will be reviewed in 2009 for possible entry in Medline/PubMed. Moreover, the journal is being publicized through different sources, such as scientific journals, workshops and various meetings. We certainly hope that *Current Aging Science* will pass the test of time successfully.

The journal continues to publish objective reviews authored by experts actively involved in biomedical and natural science research using cellular, clinical, molecular, and animal models. In parallel to reports on the effect of aging on integrated systems, the journal also includes articles on recent research in fast-developing areas of adult stem cells, functional imaging, neuroimmunomodulation, pharmacology, regenerative medicine and preventive and clinical aspects of aging. Our aim is also to publish the advances in developmental programming of aging and the relationship of aging with cardiovascular diseases, obesity and neurodegenerative disorders. Like the previous volume, our emphasis in the second volume of *Current Aging Science* will remain on reporting cutting edge research on aging research from a holistic view. In this issue, we have selected seven articles addressing some of these aforementioned topics. We expect that *Current Aging Science* Volume 2, (three issues) will provide a critical summary of important advances in current aging related research. The scope of *Current Aging Science* will be broad, and the journal will continue to serve as an international forum for the publication of topic reviews, original research, and translational research on different aspects of aging and age-related disorders.

In its upcoming issues, *Current Aging Science* will cover a wide range of topics, as critical review articles and original research reports that advances the field. These are likely to include studies on the lifespan in simpler organisms such as

yeast, nematodes, flies and mice. These are plastic enough to be manipulated by genetic, nutritional or pharmacological intervention [9]. We also expect reports relating to fat metabolism, reproduction, and aging as intertwined regulatory axes [10]. How early environmental exposure of organisms to stresses such as pathogens and toxins, could affect gene expression in adult life and trigger late-onset disorders is another important emerging field [11] that we expect contributions from. Finally, understanding the secrets of the super old remains a fascinating goal of the field [12].

Current Aging Science maintains the same spirit and guidelines that were set forth for scientific inquiry some 126 years ago: "It must venture upon prediction with circumspection. It must take care, on the one hand, not to set too narrow limits to the possibilities of discovery; on the other, it must be quick to discern the directions of advance; and to utilize the smallest suggestion to promote discovery. It must be fruitful in working hypotheses, but it must test these with unsparing rigor before it offers them as a part of established truth" [13].

With your continued support, I am confident that the journal will make great progress, and am happy to obtain any suggestions to further improve this journal. I sincerely appreciate the excellent cooperation from the members of the Editorial Advisory Board of the journal and am grateful to Bentham Science Publishers for their constant support and advice. I also thank the Indiana University School of Medicine, Department of Psychiatry and the members of my laboratory of Molecular Neurogenetics. Again, on behalf of the Editorial Board and Bentham Science Publishers, I appreciate your continued support and hope that this journal will continue to be of service for many years to come.

REFERENCES

[1] Lahiri DK. Editorial: A New Journal with an Integrated Approach in the Study of Aging and Longevity. Curr Aging Sci 1(1): 1-3 (2008).

[2] Sanz A and Stefanatos RKA. The Mitochondrial Free Radical Theory of Aging: A Critical View Curr Aging Sci 1(1): 10-21 (2008).

[3] Sayers SP. High Velocity Power Training in Older Adults. Curr Aging Sci 1(1): 62-67 (2008).

[4] Atala A. Extending Life Using Tissue and Organ Replacement. Curr Aging Sci 1(2): 74-83 (2008).

[5] Komatsu F, Kagawa Y, Kawabata T, Kaneko Y, Purvee B, Otgon J, *et al.* Dietary Habits of Mongolian People and Their Influence on Lifestyle Related Diseases and Early Aging. Curr Aging Sci 1(2): 84-100 (2008).

[6] Fröjdö S, Durand C, Pirola L. Metabolic Effects of Resveratrol in Mammals - a Link Between Improved Insulin Action and Aging. Curr Aging Sci 1(3): 145-151 (2008).

[7] Sharman EH, Sharman KG, Bondy SC. Melatonin Causes Gene Expression in Aged Animals to Respond to Inflammatory Stimuli in a Manner Differing from that of Young Animals. Curr Aging Sci 1(3): 152-158 (2008).

[8] Zadrag R, Bartosz G, Bilinski T. Is the Yeast a Relevant Model for Aging of Multicellular Organisms? An Insight from the Total Lifespan of Saccharomyces cerevisiae Curr Aging Sci 1(3): 159-165 (2008).

[9] Vijg J, Campisi J. Puzzles, promises and a cure for ageing. Nature 454(7208): 1065-71 (2008).

[10] Wang MC, O'Rourke EJ, Ruvkun G. Fat metabolism links germline stem cells and longevity in *C. elegans*. Science 322(5903): 957-60 (2008).

[11] Lahiri DK, Zawia NH, Greig NH, Sambamurti K, Maloney B. Early-life events may trigger biochemical pathways for Alzheimer's disease: the "LEARn" model. Biogerontology 9(6): 375-9 (2008).

[12] Leslie M. Aging. Searching for the secrets of the super old. Science 321(5897): 1764-5 (2008).

[13] King M. Editorial comments. Science 1(5): 1-2 (1883).