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Medical Advancements in Aging and Regenerative Technologies: Clinical Tools and Applications

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Studies of developmental biology are now benefiting the advancements made in the field of regenerative medicine. Current research on aging will attempt to reverse visible aging characteristics of somatic cells using cellular reprogramming to by-pass senescence.

Medical Advancements in Aging and Regenerative Technologies: Clinical Tools and Applications aims to translate basic science discoveries into regenerative therapies with the application of clinical tool in aging and tissue regeneration. The understanding of the characteristics affecting the aging process is an effort to guide approaches for preventing and treating age-related diseases.

Topics Covered:
- Age Related Diseases
- Aging
- Gene Expression
- Immunotherapy
- Regeneration and Aging Applications
- Regenerative Medicine
- Stem Cell Research

Andriani Daskalaki presently works in the field of molecular medicine and bioinformatics at the Max Planck Institute for Molecular Genetics in Berlin. She completed her PhD in 2002 on working in the applications of photodynamic therapy in the area of oral medicine from the Free University of Berlin. She received a two-year DAAD scholarship (1996-1998) for her research in the field of PDT. Dr. Daskalaki received a MS in Medical Informatics from TFH Berlin with her work in “Development of a documentation software for robot-assisted intraoral operations” and a MS degree in bioinformatics with her work in “Variance analysis of multifactor models in gene expression experiments with application to the identification of genetic markers for hypertension.” She received a poster prize for her participation in the International Photodynamic Association Meeting in Nantes. She is the editor of the Handbook of Research on Systems Biology Applications in Medicine and has presented many oral presentations at national and international meetings. She is a founding member and committee member of the Greek Dental Laser Association. Her research interest areas include systems biology, PDT, and laser applications in dentistry.

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Section 1: Aging and Regeneration: Basic Concepts in Medicine

Chapter 1
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Zimmer Julia (Charité-Universitätsmedizin Berlin, Berlin-Brandenburg Center for Regenerative Therapies, Germany)
Degenkolbe Elisa (Charité-Universitätsmedizin Berlin, Berlin-Brandenburg Center for Regenerative Therapies, Germany)
Wildemann Britt (Charité-Universitätsmedizin Berlin, Berlin-Brandenburg Center for Regenerative Therapies, Germany)
Seemann Petra (Charité-Universitätsmedizin Berlin, Berlin-Brandenburg Center for Regenerative Therapies, Germany)

Chapter 2
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Lambrou George I. (University of Athens, Greece)
Adamaki Maria (University of Athens, Greece)
Zaravinos Apostolos (University of Crete, Greece)

Chapter 3
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Ullah Muhkarr (University of Rostock, Germany)
Nenov Momchil (Institute of Mechanics and Biomechanics, Bulgaria)
Vera Gonzalez Julio (University of Rostock, Germany)
Rasch Peter (University of Rostock, Germany)
Wolkenhauer Olaf (University of Rostock, Germany)

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von Zoelen Everardus J. J. (Radboud University, The Netherlands)

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Schreper Sonja (University Heart Center Hamburg, Germany)

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Petzold Carleen (Center for Regenerative Therapies Dresden, Germany)
Riewaldt Julia (Center for Regenerative Therapies Dresden, Germany)
Kretschmer Karsten (Center for Regenerative Therapies Dresden, Germany)

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Lehmann Mario (Lausitz University of Applied Sciences (LUAS), Germany)
Anderer Ursula (Lausitz University of Applied Sciences (LUAS), Germany)

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Pham Tuan D. (University of Aizu, Japan)

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Wang Sheng (Tongji University, China)

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Ekland Andre (Umeå University, Sweden)
Hallberg Per (Umeå University, Sweden)

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Geurtzen Werner (Medical University of Hannover, Germany)
Koidis Petros (Aristotle University of Thessaloniki, Greece)

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Dang Loan Thi-Tung (Vietnam National University, Vietnam)
Truong Nhung Hai (Vietnam National University, Vietnam)
Phan Ngoc Kim (Vietnam National University, Vietnam)