

## **MY 21 Years AT THE NIA: RESEARCH DIRECTIONS - PAST, PRESENT AND FUTURE**

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In 1984 when I joined the NIA, most of the basic gerontological research applications submitted for funding by the NIA were focused on describing aging systems in rodents, and testing possible theories of aging in various animal model systems. Use of molecular biological techniques was still somewhat of a rarity in gerontological research, although this was beginning to change. Since that time considerable progress has been made elucidating the molecular mechanisms responsible for replicative senescence, life span extension by caloric restriction, regulation of longevity and apoptosis, and their possible roles in aging tissues. Genome sequencing has been a major factor in identifying a large number of genes involved in longevity regulation. Twenty years later the field is in a much better position to identify possible interventions to slow aging in model organisms, but how well these will relate to aging in humans remains to be shown. New opportunities include understanding how tissues retain their normal function into old age through repair or turnover of damaged molecules and cells, and the potential for replacement of these cells from the existing progenitor cell pools.