

GUEST EDITOR

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Dr Arun Seth

Dr Seth obtained his PhD degree in Molecular Biology (1981) from the University of New Brunswick, Canada, followed by postdoctoral research (1982–1987) at the National Cancer Institute in the Laboratory of

Molecular Oncology directed by Dr George Vande Woude. His work on the *mos* oncogene contributed to elucidation of the role of oncogenes in cancer. From 1987 to 1994, Dr Seth formed his own group and established the importance of the ETS gene family in areas as diverse as oncogenesis and bone development. After receiving tenure at the NIH in 1992, he conducted a major breast cancer project in the NCI's Laboratory of Molecular Oncology. This work led to the identification of >1000 breast cancer-associated cDNAs and isolation of more than 30 novel breast cancer-associated genes.

In 1995, he established and is also director of the Laboratory of Molecular Pathology, Department of Anatomic Pathology at Sunnybrook & Women's College Health Sciences Center in Toronto, Canada, developing high throughput diagnostic tools for molecular staging of breast tumors. He discovered that two of the breast cancer-associated genes cloned at the NIH encode RING finger proteins. Both are overexpressed in breast tumors, thereby affecting oncogenesis through dysregulation of associated proteins within ubiquitin-mediated protein degradation pathways. His work has shown that one of these proteins is involved in TGF β signaling, where it interacts with both E2 and E3 ubiquitin pathway enzymes. The second breast cancer-associated RING finger protein has auto-ubiquitination activity. Ongoing investigations with these RING finger proteins will provide testable targets for future molecular diagnostics and mechanism-based therapies.

Currently, he holds a full professorship in the Department of Laboratory Medicine and Pathobiology at the University of Toronto, is a Senior Scientist in Molecular and Cellular Biology Research and head of the Centre for Genomic Studies at Sunnybrook and Women's College Health Sciences Centre. He is also a member of the CIHR Group in Matrix Dynamics at the University of Toronto, where he continues investigation of the roles of Ets1, Ets2 and target genes in osteogenesis and oncogenesis.