The History of SCIEX

SCIEX (Scientific Export) was founded in 1970 by J. Barry French and William Breukelman as a spin out company from University of Toronto Institute for Aerospace Studies.

Their mission was to develop analytical instrumentation based on sensor technology used in space exploration and make it available to the wider scientific community.

Both have since been appointed to The Order of Canada.

Early products were single and triple quadrupole-based analyzers for analysis of atmospheric ions.





SCIEX founders William Breukelman and Barry French

All of the early products were based on the use of a curtain gas to protect the vacuum aperture from neutral contaminants but let ions pass through.



The TAGA series of instruments included the TAGA 2000 and 3000 single quads and the TAGA 6000 triple quad mass spectrometers.



TAGA 3000 Single Quadrupole MS-1979



TAGA 6000 Triple Quadrupole MS-1980





Profiling airborne pollutants with mobile mass spectrometry: TAGA 6000EM



TAGA 6000EM: Mobile, ruggedized, fully self-contained MS/MS-c.1980

Mobile mass spectrometer monitoring put to work: On November 10, 1979 a 106-car Canadian Pacific freight train carrying chemicals and explosives including styrene, toluene, propane, caustic soda, and chlorine derailed in Mississauga, Ontario. More than 200,000 people were evacuated in what was the largest peacetime evacuation in North America until the New Orleans evacuation of 2005. There were no deaths resulting from the incident, however the chemical spill was of great concern to the safety of the community.





SCIEX TAGA 2000 mobile mass spectrometer monitoring was put in place immediately following the disaster and the environmental disasters at Love Canal and the signaled the "all clear" once the danger passed.



SCIEX mobile monitoring also played important roles in Medoc train derailment.





Development of the API III LC MS/MS system grew out of a collaboration with Cornell University in 1984. The group included Professor Jack Henion, Dr. Tom Covey, Dr. Andries Bruins, and Ed Lee of Cornell along with Dr. Bruce Thomson from SCIEX. They converted the atmospheric pressure ionization source of a TAGA 6000 to a nebulizer-assisted electrospray ion source. The cryogenic vacuum system proved to be perfect for the new ion source without any differential pumping. Introduced in 1989, the API III was the first commercial dedicated LC-MS/MS system.



from Jack Henion, Ed Lee, Tom Covey, and Andries Bruins at Cornell. This group pioneered The early development of the API III included contribution nebulizer-assisted electrospray, later dubbed "Ion Spray".



The SCIEX R&D team that brought the API III to PittCon 1989, Atlanta, including Tom Covey, Bruce Thomson, Ron Bonner, and Bori Shushan. The development was in part possible through a \$17 million grant from the Premier's Council Technology Fund of Ontario.

LC-MS/MS System

SCIEX Innovation in Mass Spec Continues into the New Millennium...

Technologies for the new millennium were developed in the 1990's, including collisional focusing discovered by Don Douglas, which made much smaller vacuum systems possible, greatly reducing the cost of electrospray mass spectrometers. The fundamental science done in the early 90's established the framework for the mechanical, electronic, ion optic, and vacuum systems that are still used, fundamentally unmodified, until today.



Quadrupole-time-of-flight instruments were also developed in the 1990's through a collaboration with Professor Ken Standing's group at the University of Manitoba.





of Manitoba scientists Igor Chernushevich, Andre Shevchenko, and Ken Standing, together with Bruce Thomson of SCIEX, were responsible for the company's first Q-TOF product, the QSTAR instrument.