



Van Andel Institute®

## VAN ANDEL INSTITUTE HISTORY AND MILESTONES

**1996:** Jay and Betty Van Andel found Van Andel Institute (VAI) to improve the health and enhance the lives of current and future generations through basic and translational biomedical research and science education

**1997:** Van Andel Education Institute's (VAEI) first initiative, educator forums

**1998:** Groundbreaking ceremony for VAI's facilities in downtown Grand Rapids, Michigan designed by famed architect Rafael Viñoly

**1998:** Grand opening of first Van Andel Education Technology School

**1999:** Respected cancer scientist and National Cancer Institute (NCI) administrator George Vande Woude joins as Research Director of Van Andel Research Institute (VARI)

**2000:** Grand opening of VAI facility

**2000:** VARI holds first scientific symposium

**2000:** Daniel Nathans Memorial Award established to honor the memory of Nathans, a distinguished member of the scientific community and a founding member of Van Andel Institute's Board of Scientific Advisors who died from cancer in 1999

**2000:** Scientific seminar series established, bringing speakers from around the world to present at VAI

**2001:** VAI creates Hope on the Hill to recognize donors and their charitable gifts to the Institute

**2002:** VAI researchers discover that lethal factor, a component of the anthrax toxin of *Bacillus anthracis*, can specifically kill melanoma cells

**2003:** VARI awarded its first National Institutes of Health (NIH) grant

**2003:** Researchers carry out a study to identify blood proteins that can be used in the early detection of pancreatic cancer

**2003:** Researchers characterize an important regulatory circuit in cells that govern cell shape and movement



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**2004:** VAI project is the first of its kind worldwide to use a novel viral system developed in a VAI laboratory

**2004:** Scientific seminar series named the Han-Mo Koo Seminar Series in memory of Koo, the head of the Laboratory of Cancer Pharmacogenetics at VAI who died of cancer in 2004

**2005:** XB TransMed Solutions, LLC founded; VAI developed the database technology that is the company's core and that facilitates the systematic management of pre-clinical, clinical, demographic, biomedical, and molecular information

**2005:** VARI and Nanjing Medical University establish a Gene Engineering Antibody Laboratory in China to develop antibodies for clinical diagnostic/prognostic and therapeutic applications against cancer and infectious diseases

**2005:** VARI begins collaboration with the St. Mary's Hauenstein Parkinson's Center, collecting blood samples and controls from individuals to determine the genetic causes of the disease and how these genes correlate with disease progression and drug response

**2005:** Researchers are among the first worldwide to use molecular x-ray analysis to identify the first step in reducing harmful consequences of metabolizing chemicals in the human body

**2006:** VAI and other leaders in West Michigan's life science industry establish ClinXus, a non-profit community based alliance established in West Michigan to enable biomarker driven and innovative clinical trial designs

**2006:** VARI spearheads the first Compassionate Care Protocol, a study undertaken with several clinical partners to use detailed molecular data from the tumors of advanced-stage cancer patients to determine which unique combination of drugs will have the greatest impact

**2006:** Inaugural class of the VAEI Science Academy Out-of-School-Time Cohort Program begins their three-year journey of learning through inquiry to think and act like scientists



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**2006:** Steven Triezenberg appointed as Dean of the new Van Andel Institute Graduate School, which will offer Ph.D. programs for careers in biomedical disease research

**2006:** VAI signs agreement with Michigan State University to give \$16 million to support the creation of a medical school in downtown Grand Rapids, Michigan

**2006:** VAI and Grand Valley State University receive \$5 million in grant funding to create a Good Manufacturing Practice laboratory to focus on aseptic packaging for pharmaceutical materials and drug formulation

**2006:** Researchers discover that the protein parafibromin naturally suppresses tumor formation and development, which means that the gene that results in parafibromin is probably mutated in cancer and could be a promising anti-cancer target

**2006:** Researchers find that tumors can prepare lymph nodes to become an environment where tumors can thrive in advance of the cancer spreading there; blocking this mechanism could have some therapeutic value

**2006:** Researchers find a fundamental control mechanism that affects a cell's ability to move, which could lead to therapies that limit or prevent cancer metastasis

**2007:** VARI officials and leaders from the National Cancer Center, Singapore (NCCS) establish the NCCS-VARI Translational Research Program to research the biology behind varying drug responses in Asian versus non-Asian patients with specific types of cancer

**2007:** VAI and Spectrum Health form joint venture to create Center for Molecular Medicine, a clinical diagnostics laboratory

**2007:** Groundbreaking ceremony for Phase II of VAI facility, a \$170 million, 240,000 square-foot, eight-story building expansion that will triple laboratory space and have the capacity to create more than 500 new jobs

**2007:** First students begin at VAI Graduate School

**2007:** VAEI Science Academy launches professional development program Classroom Science Investigations in which teachers learn alongside their students, and community



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program Science on Saturday in which students and adults in their lives can spend two hours learning at the Science Academy

**2007:** VAI staff installs technology that will better enable clinicians at the VA Ann Arbor Healthcare System to track and study human tissue samples, such as saliva samples in a study of U.S. Army Reserve and National Guard patients suffering from Post Traumatic Stress Disorder (PTSD)

**2007:** Launch of VARI International to establish VARI laboratories in strategic overseas locations to develop a worldwide network of laboratories, research centers, and academic collaborations

**2007:** Researchers find a gene that could be crucial to the development of myeloproliferative disease (MPD) and myelodysplastic syndrome (MDS), which could have significant diagnostic and prognostic value for clinicians and could provide a novel target for therapy

**2007:** Researchers discover that an enzyme that prostate cancer cells are dependent on for survival is not necessary in normal prostate cells, validating the therapeutic potential of targeting this enzyme in the treatment of prostate cancer

**2007:** Researchers develop a method to study carbohydrates linked to pancreatic cancer and other diseases and identify and quantitatively measure alterations in carbohydrate structures on proteins which are thought to play a role in diseases such as cancer

**2007:** Researchers discover that a naturally occurring cellular protein can trigger “blebbing” – cell bubbling that has recently been linked to cancer cell metastasis

**2007:** Researchers increase bone density in mice through manipulation of the Pten gene, which may ultimately prove beneficial in treatment of human osteoporosis and bone fracture

**2007:** VARI awarded full accreditation by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC), recognizing VARI’s commitment to responsible and ethical animal care beyond the standards required by law



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**2008:** ClinXus is the first non-profit organization to be asked to join the Critical Path Institute's Predictive Safety Testing Consortium (PSTC), which brings pharmaceutical companies together to share and validate each other's safety testing methods to safely bring drugs to market more quickly

**2008:** VARI is one of nine top U.S. institutions collaborating on the newly-formed Ivy Genomics-Based Medicine Project (Ivy G.B.M. Project) to identify how brain tumors with different genetic features respond to different treatment regimens to ultimately provide physicians with the tools they need to offer patients personalized medicine

**2008:** VAI enters into a multi-year licensing agreement with Children's Memorial Research Center of Chicago for use of its XenoBase software and database system to explore the molecular and clinical basis for disease and to support the discovery of novel approaches to alleviate pain and suffering due to disease

**2008:** Formation of VAI Green Team to promote "green" initiatives at the Institute

**2008:** First cohort graduates from the VAEI Science Academy's inaugural program, the Out-of-School-Time Cohort Program

**2008:** San Diego-based Sequenom acquires the Center for Molecular Medicine

**2008:** Topping Off Ceremony for Phase II expansion of VAI facility; employees, trustees, and special guests look on as the topmost beam is placed

**2008:** VAEI Science Academy begins to meet with workforce partners in the life sciences industry to prepare for Partners for Sustainable Innovation, a new professional development program

**2008:** Researchers identify an important enzyme required for cancer cell survival that could be new anti-cancer target

**2008:** Researchers determine how the parathyroid hormone (PTH), currently used to treat osteoporosis, precisely binds to its receptor, which could improve drug design

**2008:** Researchers slow the growth of human tumors in a mouse model of a common form of kidney cancer by using lethal toxin, the toxin that causes anthrax



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**2008:** Researchers find that looking at the protein E2F3 could have prognostic value for clinicians treating patients with Wilms' tumor, the most common type of kidney cancer that affects children; they also find a potential drug target

**2008:** Researchers find that lowering levels of the enzyme PI3K-C2alpha causes a wide variety of cancer cells to die, reduces proliferation of cancer cells, and sensitizes cancer cells to commonly used chemotherapeutic agents, such as the drug Taxol

**2008:** Researchers find that curcumin, a component of the curry spice turmeric, blocks herpes simplex virus (HSV-1) infections that commonly result in facial cold sores

**2008:** Researchers identify unique DNA changes in each of several types of renal cell carcinoma (RCC) which could aid in the diagnosis of these cancers

**2008:** Researchers identify a possible cancer drug target that could be common to many types of cancer

**2008:** Researchers determine how the hormone corticotrophin releasing factor (CRF) precisely binds to its receptor, which could help drug developers design new drugs for anxiety, depression, and related disorders

**2008:** Researchers are the first to apply the latest RNA technology to measure on a large scale the presence of genes in blood spots - the blood drawn from newborn infants to screen for health-threatening conditions; this type of testing and data could be used for the retrospective study of disease

**2009:** VAEI Director Gordon Van Harn retires; VAI Graduate School Dean and VARI Scientific Investigator Steve Triezenberg assumes post

**2009:** The first group of middle school teachers participates in the VAEI Science Academy's Partners for Sustainable Innovation to deepen teacher understanding of the connections between biodiversity, human health and life science careers and to provide training in the use of inquiry-based learning to engage students in science