

Aaron (Arthur) Vinik

Endocrinologist/Clinician

Neuroscientist

Scholar/Author/ Educator



A Spectacular Journey in Science and Sport

Born in a little gold mining town of Van Ryan, in the Transvaal, South Africa, Aaron Vinik (known to his family, friends and classmates as Arthur) went from small beginnings to become a globally recognized physician and scientist. He was sought out for his clinical knowledge and skills, his educational dynamism, and his capacity for questioning existing theories, replacing them with novel concepts and suggestions for implementation.

Early years – Benoni – Wits

After his initial junior schooling, his family moved from the mining community to the East Rand town of Benoni. In addition to achieving the highest academic distinctions in his matric year at Benoni High School, Arthur, was the school's Victor Ludorum as a great all-round sportsman. His Medical School classmate – and later to be his brother-in-law – Max Shaff, from neighbouring town Boksburg, recalls: He was unbeatable in the 100- and 220-yard sprint and I would not be surprised if his inter-high school records still stand in those races.

In late 1954 Arthur and Max encountered each other again. This time we were both signing on as students at Wits Medical School, to commence the first-year class in 1955 (the class recognised later with some awe as the Graduating Class of 1960). Many are the students who remember fondly the ongoing bridge games with Arthur as the tutor, not to mention his prowess at pinball!

Marriage – and training in Johannesburg



Arthur got engaged to Etta Fram from Springs in March 1959 – near the start of his fifth year of Medical School. They were married that December and have been soul mates and workmates for over 60 years. Etta writes: I had graduated with BA from Wits with Majors in Latin, History of Art and Classical Life and Thought, followed by a post graduate year at Johannesburg Teachers' Training College. While Arthur was in his final year with the class of 1960, I landed my first teaching post (mainly Latin and English) at King David High School in Linksfield.



Above is a picture of Arthur's firm on their Internal Medicine Rotation in 1960

Back Row. From left: Registrar Dr Felgate, Firm members: Theodore Kretzmar, Morris Perlman, Gerald Schneider, Max Shaff, Basil Kuming, Arthur Vinik.

Front Row from left: unidentified person, ?Dr Posner (needs confirmation), Guy Abercrombie Elliot (Professor and Head of Department of Internal Medicine) Dr L.A Hurst appointed in 1959 first professor of psychiatry at a South African University, ?Dr Rabinowitz (needs confirmation). Registrar Dr Eddie Gale.

After graduation

Etta continues: After receiving his MB BCh degree from Wits in 1960, Arthur completed his residency training in Johannesburg, which included rotations in internal medicine, surgery, obstetrics and pediatrics. Our first son was born while we were living at Resdoc and Arthur was doing a surgery residency with Professor Du Plessis at the Johannesburg General Hospital.

He would be away most nights on call and come back exhausted at 6am to shower and change into clean clothes especially a well ironed shirt and neat tie. That was the rule. Du Plessis didn't care if the residents had no sleep. They had to look good and have clear minds to answer the knife-like questions he would often hurl at them, demeaning them for incorrect answers. Du Plessis was definitely not interested in a newborn baby in the care of an inexperienced mother.

Etta goes on: During the **Baragwanath years**, another son arrived (surprise) and our evenings were nightmares of constant crying disturbed only by calls from the night nurses from Bara to inform the doctor that the patient was 'late' – their way of saying that the patient had died! Those early years gave us the capacity to cat nap when needed, anywhere and anytime.

Interest in gastrointestinal hormones – and inspiration from Wits teachers

Arthur's interest in gastrointestinal hormones was sparked when he worked with Professor **Harry Seftel** at Baragwanath Hospital. Later, working on a research project with a member of the surgery department, Dr **Richard Fiddian Green**, he developed a lifelong fascination in this field where he has made seminal contributions. It was also this interest that provided the opportunity later, to join the faculty at the University of Michigan as Professor of Medicine and Surgery in 1979.

Arthur has carried into his profession, both as a physician and also into everyday life, many of the diagnostic lessons he learned from his teachers at Wits. He has incorporated the clinical skills he learned from the likes of **Mosie Suzman** at the Johannesburg General Hospital. From Doctors **Barlow** and (later Professor) **Bothwell** he learned to eavesdrop on conversations three tables away in restaurants and employ that listening technique to perfect hearing heart sounds; to observe people in everyday situations and notice how they walked, held their heads, and detect any unusual deformities. The pressed shirt also remained an obsession with Arthur. He learned to use the Black and Decker iron (reminiscent of his woodwork tools) and re-ironed the shirts that came back from the laundry, and definitely, the shirts that I ironed.

To the University of Cape Town – Endocrinology

Next, Arthur trained at the University of Cape Town as a fellow in Endocrinology and Metabolism under the preceptorship of William Hoffenberg (now Sir Raymond) and Professor WPU (Pete) Jackson the revered endocrine and diabetes researcher. While in Cape Town, Arthur completed his PhD in 1970, on fatty acid metabolism studies in hyperthyroidism.



Etta says: Our third son was born in Cape Town and delivered by Arthur with no other health professionals in attendance. The obstetrician had left the hospital for breakfast and the nurses were busy elsewhere with the morning changeover. Thank goodness for the Gyne/obstetrics rotation at the Queen Vic six years earlier!

To San Francisco – Growth Hormones



With an award from the South African Medical Council, Arthur was accepted at the University of California in San Francisco (UCSF) to further his training in Pediatric Endocrinology. He was privileged to work in growth hormone research under the mentorship of the exceptional team of Drs Melvin Grumbach and Selna Kaplan

(pictured above) for one year. Selna was not only a great scientist but also a great cook. She knew that we, and the rest of the group were impoverished fellows from other countries with failing currencies and always hungry so she put on her Jewish mother apron for us and made delicious meals! He then returned to Cape Town to the Division of Endocrinology and Metabolism.

1979 To Michigan – and Neuroendocrine Tumors

Arthur's interest in gastrointestinal hormones provided the opportunity to join the faculty at the University of Michigan as **Professor of Medicine and Surgery in 1979**.

In the early 1980s in Michigan, he developed assays for the detection of neuropeptides in the diagnosis of carcinoids and other **neuroendocrine tumors**. He led the team that improved the surgical resection of these tumors as well as the use of somatostatin analogues in the medical treatment of carcinoids.

At a time when this class of tumors was considered exceedingly rare and thus largely ignored by mainstream oncology, gastroenterology and endocrinology, he was one of the major driving forces transforming the field from the ignored periphery into the mainstream of modern medicine.

Subsequently, Arthur initiated the use of somatostatins that are still used today in the treatment of gastro-entero pancreatic tumors, other than carcinoids. He went on to measure octreotide levels in these patients as an indicator of therapeutic value and outcomes. These results were confirmed in randomized control trials using long-acting somatostatin analogues.

1990: From freezing Michigan to sunny Virginia



In 1990, Arthur was lured from cold Michigan to warmer Virginia to develop a state-of-the-art Diabetes Center and Research Program at Eastern Virginia Medical School (EVMS). (left)

He exceeded the original goal of building a local diabetes center by creating instead a national Center of Excellence for Diabetes and Endocrine Treatment with a unique neuropathy treatment program. This prolonged and enriched the quality of thousands of lives thereby gaining national and international recognition for the institution.



Furthermore, he pioneered the establishment of a Neuro-endocrine Unit, able to offer state of the art diagnostics and therapies to patients with neuroendocrine tumors globally, and also provide a unique educational environment for students, residents and fellows.

(left Arthur with his students at EVMS)

As a 'man for all seasons' he had the opportunity to pursue his passion for sailing, windsurfing, and water skiing during long summer week-ends,

enjoying the easy access to the Atlantic Ocean, the Elizabeth River and other waterways

Our Family



Etta writes: Here we are in the mid-1980s after we received our American Citizenship in Detroit, with our three sons from Left, Howard, Steven and Bryan. By 1990, when we moved to Norfolk, Virginia, all three had graduated from the University of Michigan. Howard and Steven took degrees in Economics and Bryan, became a doctor. He elected to do his residency at Vanderbilt, and then an Endocrine Fellowship at Chapel Hill in North Carolina. He went on to join a large endocrine practice, where he is now

the prime consultant. Steven worked at major world banks as a Fund Manager in Asia, mainly in Hong Kong and Singapore. Howard is an innovative business builder in a cable telecommunications company, then in early computer-based sales and auction companies - "Z-Auction", "E- pills". He is also musician and songwriter.

We have four grandchildren; two female aged 31 and 21; and two male aged 26 and 11. The two older ones live in San Francisco and have jobs – our granddaughter produces video presentations for companies by day, and is a stand-up comedian at night. Her brother is a chemical engineer.

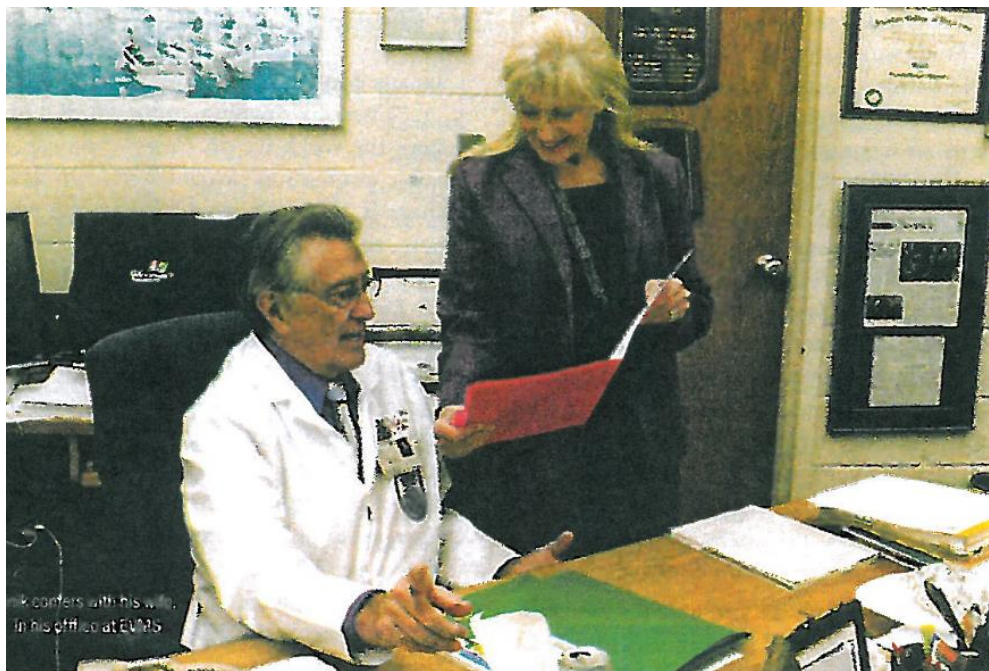
Working on a project for Apple. The other two grandchildren live in Boca Raton, Florida. One is at college (interested in several therapy-related disciplines) while her young brother is still at school.

Home skills and resilience – learned at Wits

From his esteemed surgery and laboratory professors and experiences at Wits, Etta says that Arthur, is a fanatic about hygienic kitchen surfaces – just like a lab - and organizing everything into its right place. I am so grateful to those teachers for developing in Arthur what have become almost obsessive-compulsive home skills. Also, we are grateful to those great thinkers who became mentors, prompting him to challenge common theories and existing science. Arthur has courageously withstood onslaughts as a heretic for promoting the possibility of both islet cell and nerve regeneration as well as novel innovations in the gastrointestinal hormone field.

Arthur or Aaron?

Etta continues: People always ask, ‘Why is Dr Vinik called Arthur when his name is Aaron?’



My response is that he has the energy for two people, so he needs two names, one for work (Aaron) and one for play (Arthur)!

Here above is Aaron Vinik at work in 2010 and right, Arthur at play!



Scholar, Author, Educator in Three Medical Disciplines

Aaron/Arthur Vinik has authored 11 books, one devoted to islet regeneration. He has published 140 book chapters, and more than 600 papers in peer-reviewed, highly reputable journals. He has mentored innumerable local and international students and given them the opportunity to participate in basic and clinical research. He has also guided them through the writing process and included their names on publications. He has lectured annually at many of the major universities in USA, and at the National Institutes of Health. He has been an invited speaker at numerous European, Asian, South American, Australian and South African conferences.



Arthur lecturing in India.

Grants/Patents and Copyrights.

Vinik has received research funding for his studies from the National Institutes of Health, the National Cancer Institute, the Kroc Foundation, the American Diabetes Association, Department of Housing and Urban Development (HUD) Department of Health and Human Services (DHHS) National Aeronautics and Space Administration (NASA), the Diabetes Institutes' Foundation, and from many pharmaceutical industries. He always said that he wanted an NIH grant when he was 80 years old. Just this month (November 2020) the award was announced of a three million dollar grant from the MH-NIDDK for Small Business Innovation Research (SBIR) to study a potentially revolutionary treatment for diabetic neuropathy. He made this application together with a team of San Diego and Canadian investigators when he was 80!

Vinik has three issued patents on the islet neogenesis peptide (INGAP) and a patent for the antioxidant neuropathy elixir, Nutrinerve.

Arthur Receives National and International Recognition –

as scientist and clinician in three different areas:

- **Clinical Diabetes and endocrinology**
- **Neuropathy and neuroscience**
- **Neuroendocrine tumors**

Etta says: Arthur became nationally and internationally recognized in three different areas both as a scientist and a clinician, translating research findings into the clinic and laying the foundations for applied clinical research from the bench to the clinic. He received Life-time awards in all three areas:

Clinical Diabetes and Endocrinology

As a scientist: In his quest to find a cure for diabetes, he discovered the INGAP gene (islet neogenesis associated protein) responsible for stimulating immature cells in the affected pancreas to produce insulin. It is now in combination with an IL12 antagonist in clinical trial as a prospective cure for certain forms of diabetes.

For this discovery he received in 2002 the award of Virginia Outstanding Scientist by the Science Museum of Virginia, bringing international recognition to Eastern Virginia Medical School.

As a Clinician and Educator: In 2005, he was elected to Mastership of the American College of Physicians and received the American Association of Clinical Endocrinology (AACE) Lifetime Distinction in Endocrinology Award in recognition of advancing the understanding of endocrinology through research and education.

Neuropathy and Neuroscience

In seeking to define the heterogeneity of neuropathy, he established a need for a modular approach depending on the particular type of nerve fiber damaged, and pioneered immunotherapy for autoimmune neuropathies. In 2011, he was awarded a Lifetime Achievement Award from EASD NEURODIAB (Diabetic Neuropathy Study Group of the European Association for the Study of Diabetes) for these contributions to the understanding of neuropathies.

Neuroendocrine Tumors

In 2019 he received a Lifetime Award from NANETS (North American Neuroendocrine Tumor Society) for his seminal contributions to the field, earning the title 'one of the world's most prominent investigators of neuroendocrine tumors'. As we have seen on page 4, in the early 1980s in Michigan, he had developed assays for the detection of neuropeptides in the diagnosis of carcinoids and other neuroendocrine tumors and programs for their treatment.

Arthur and Etta Work Together



Etta says: We were able to create a great partnership and one of the newspapers did a feature article on our collaboration in science and the merging of our two fields of science and humanities! (Left is a picture from that article.)

Etta explains: When we moved to Norfolk, Virginia, I discovered that so many of my skills as an instructional designer were transferable. This enabled me to qualify for a position as **Associate**

Director of Diabetes Education, acquiring American Diabetes Association (ADA) recognition for our patient education program; writing diabetes education materials; organizing outreach programs for the lay diabetes population; weekly diabetes seminars and annual regional conferences for physicians and other health professionals. I later acquired a faculty position and became involved with developing Fellowship programs and became the Education Director for the Sleep Fellowship program as well as fulfilling my previous role in diabetes patient and professional education.

Three Quality of Life Questionnaires

Meanwhile, through Arthur, in 2000, I had also become involved in health-related quality of life research (QOL) and with Arthur, designed three questionnaires related to: **Diabetes Neuropathy** (Norfolk QOL-DN); **Neuroendocrine Tumors** (Norfolk QOL-NET) and **Fatigue** (Norfolk QOL-F). I was the lead author for the published articles on the development of all three questionnaires, as well as subsequent articles on the use of the Norfolk QOL-DN. I gave poster and platform presentations and was invited to present these nationally and globally.

The **neuropathy questionnaire** has been translated into about 70 languages and is used in multicenter and multinational trials. My experience in the fields of education and research as well as in quality of life have provided platforms for me to mentor students and guide them through the process of designing, implementing and evaluating research projects and educational programs. I retired in 2018 but still retain a Community Faculty position and continue publishing and research.

Arthur holds the copyright for the Norfolk Quality of Life Questionnaire for Diabetic Neuropathy, (Norfolk QOL-DN) that we developed together. It has been used as a screening tool for Diabetic Neuropathy, a discrimination tool for different types of neuropathy and an end-point for clinical trials in diabetic and other forms of neuropathy. He also holds the copyright for the questionnaire we developed for assessing Quality of Life in patients with neuroendocrine tumors, Norfolk QOL-NET.

Professor Emeritus

On his retirement in 2019, Arthur was awarded the title of Professor Emeritus, for his contributions to Eastern Virginia Medical School.

Sports and other activities

Sport was always very important to Arthur. Still at school, he played professional soccer for Benoni, and was recognized for his historic sprinting records. At Medical School he continued with soccer, playing for Wits. During his clinical years, when he was no longer traveling daily from home to Wits by train or car with his lifelong friend and now brother-in-law Max Shaff, he found time for building model airplanes to fly from the roof of Resdoc!

Always in action!

In Cape Town he took up sailing, woodwork and gardening and later on in Ann Arbor, waterskiing and windsurfing, too, when it became a popular water sport, and the weather permitted a few sunny weekends. In Virginia and nearby North Carolina, his water sports included kayaking. Latterly, at 80 years old, he was the oldest kite-boarder on the water.

Always a fitness fanatic, 'he walked the talk' encouraging his patients to be active by his example, to do whatever they enjoyed – walking, cycling, and dancing. He became a member of 'Dancing out Diabetes', a San Francisco based organization where patients with diabetes danced Zumba and whatever other dances they enjoyed. He promoted 'movement' in the diabetes community rather than the term 'exercise'.



This picture of Arthur and Etta was taken at a Physicians dancing for Peace Fundraising event

On his 80th birthday, Etta wrote this poem for Arthur

A Man for all Seasons

Although at 80 he acquired a bionic knee
Lethargic and still he could never be
This guy who moves so swiftly
Who hails from a town called Benoni
As he awakes, he lands on his feet
And immediately into the aerobic beat
Revved up with metabolism all a-boil
He rushes right into his daily toil

From running track and playing soccer
Held all records till he came a cropper
With alternate arms and legs in plaster
At tennis and squash a menacing foe
In both he wielded a mighty blow
At bridge and pinball he became the master
As pinball champ he was highly acclaimed
Electrifying talent for which he's famed
But made his wife very displeased!

A man for all seasons is our Arthur
In music, too, from jazz to Mahler
At Wits he played the piano accordion
A repertoire from sweet to maudlin
Serenading the pre-eclamptic ward
May just have hastened the untoward
As his music mentor and friend to wit
Pulled him away ere patients did fit
A concert audience later waited in vain
While this maestro left to catch a train
His hasty retreat the concert did spurn
Too impatient to wait his turn

Although in music now a mere spectator
His role in life is an ardent participator
Plays and works with equal intensity
For science and sport the same propensity
Churning out papers in his inimitable fashion
Loving his water toys with equal passion
On his boards he cuts through sound and lake
Leaving others behind in his wake
Windsurfing became his confirmed religion
Engaging it with his usual obsession
Every jibe a step in life's dance
Always perfecting and trying to enhance

Fun-loving, warm and electric
Absent-minded, and often eccentric
An inspiration to his peers
Exhorting them beyond their fears
With friends, a spark, a wildfire, a leader
He'll lift you up to heights transcendental
On his boats you'll reach your potential
You'll be cutting through the surf and skies
With the same abandon he applies



When Argentinean tango became his passion
 He practiced it with characteristic obsession
 Totally focused on each individual sequence
 Swirling and twirling through every cadence
 Movement for him an exhilarating tonic
 Invigorating, intoxicating and filled with magic.
 Definitely a larger than life character
 Loved by his patients as a compassionate doctor
 Hailed by students as a great teacher
 Globally recognized as an innovative researcher
 Totally untraditional – yet greatly respected
 With Arthur – always expect the unexpected!
 The whole is much more than the sum of the parts!!



A bolt from the blue!

Two years ago, in late 2018, Arthur sadly suffered a severe stroke. He was initially unable to move and speechless. After a month in hospital undergoing surgery and then with ongoing rehabilitation, he has made a remarkable recovery. Etta says: He is physically independent doing everything except driving – but is a very good backseat driver with me as actual driver! He can go for walks unaided - but is not able yet, to engage in the sports he so loved. He reads aloud perfectly - no slurring. He understands everything and watches movies, soccer games, reads books, and listens to online lectures responding appropriately with single words or short sentences. And his speech is coming back slowly. He loves to have a program every day and be busy but gets very tired. This is so unlike the 'Eveready' battery that he was. He has come a long way, and we persevere, because we believe in the brain's plasticity. He always treated his patients with hope and that is our guiding factor for his recovery.

Here is Arthur in happier times with part of his family: From left to right: Robin Vinik (Bryan's wife) Arthur, Bryan, Howard and Steven. In front, Hannah and Etta. Etta says: None of our pictures have everyone – three more grandchildren are missing. (Someone is taking the picture, and some were not there at the time).



AARON (Arthur) I VINIK, MB BCh (Wits) 1960, PhD, FCP, MACP, FACE

Biographical sketch, poem and pictures from his life and work partner, Etta J Vinik MA Ed

Edited by Geraldine Auerbach MBE, London, December 2020