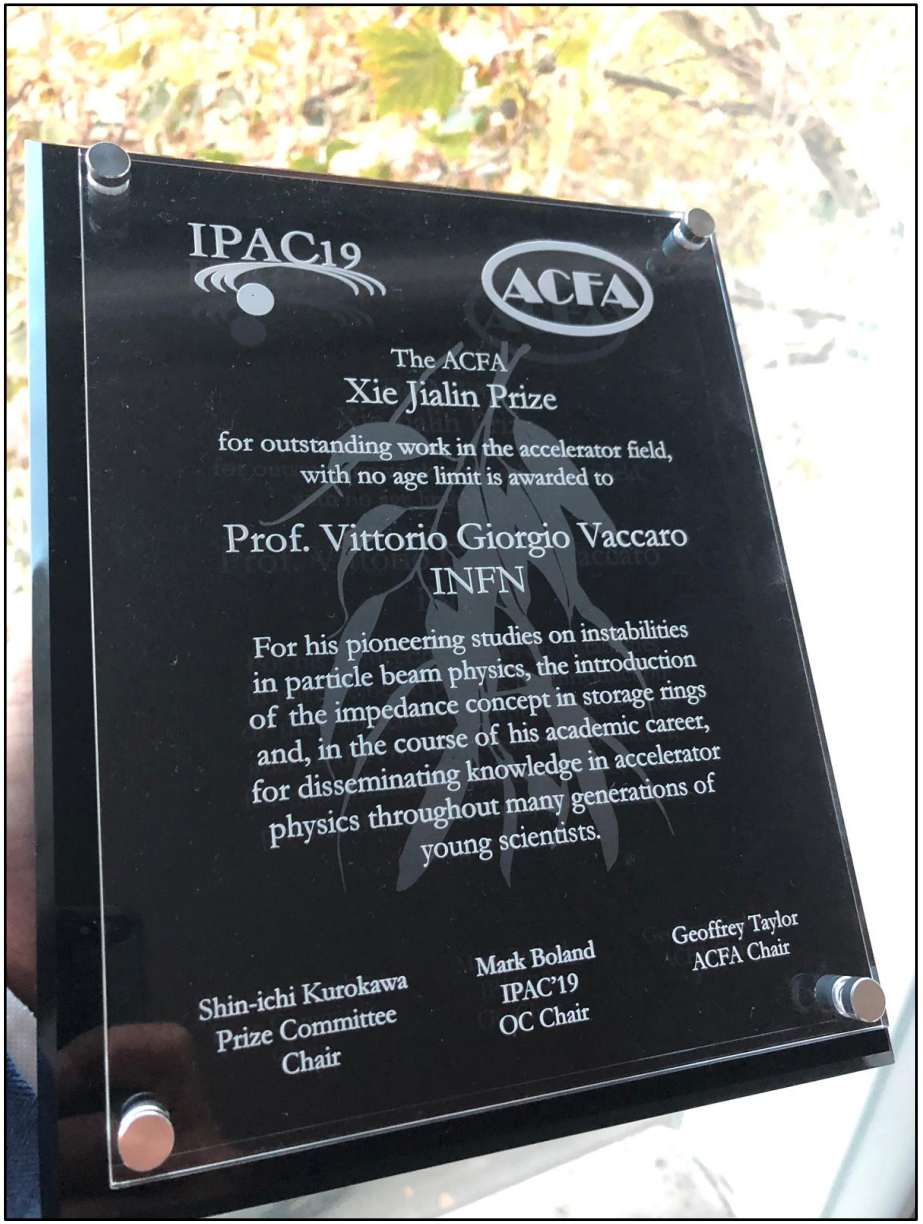
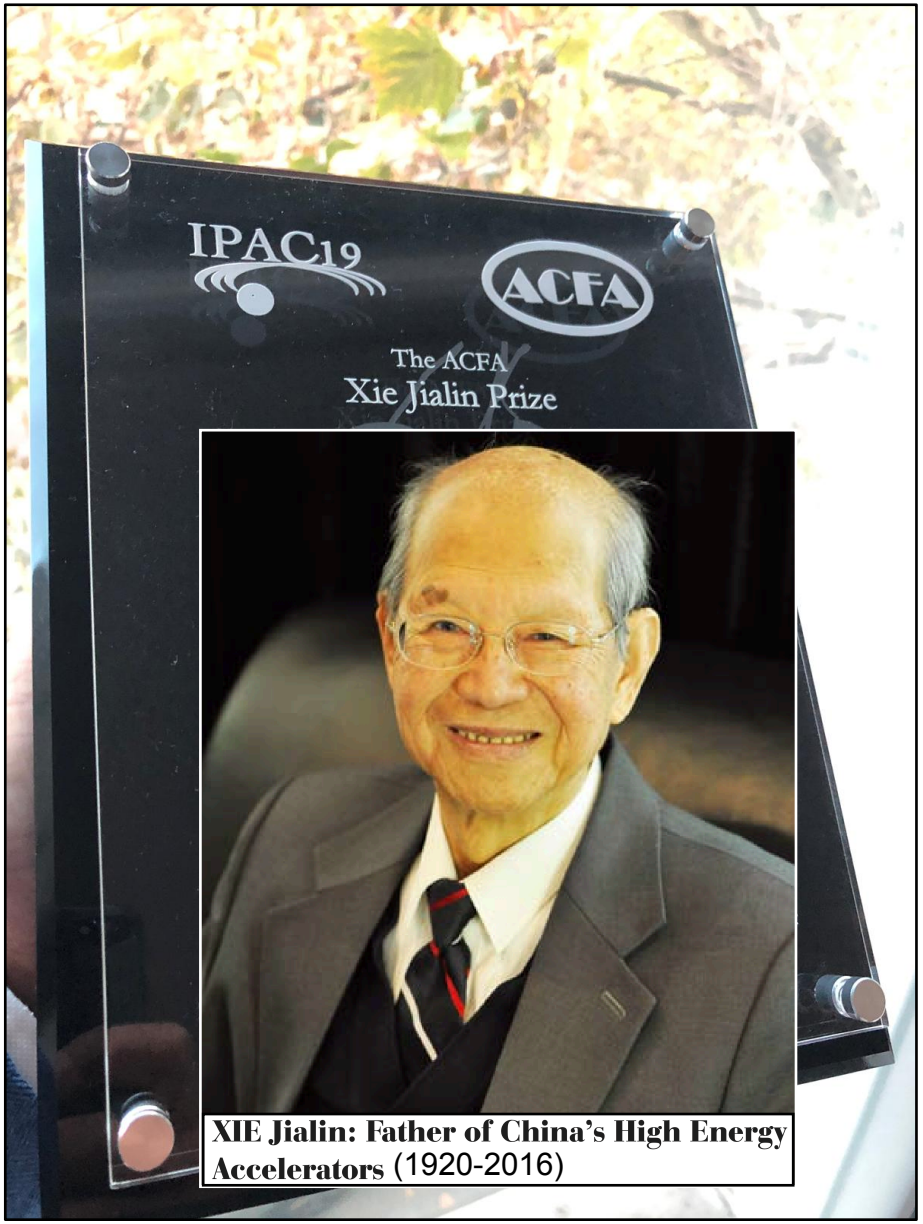

IPAC19
ACFA
The ACFA
Xie Jialin Prize
for outstanding work in the accelerator field,
with no age limit is awarded to
Prof. Vittorio Giorgio Vaccaro
INFN
For his pioneering studies on instabilities
in particle beam physics, the introduction
of the impedance concept in storage rings
and, in the course of his academic career,
for disseminating knowledge in accelerator
physics throughout many generations of
young scientists.
Shin-ichi Kurokawa
Prize Committee
Chair
Mark Boland
IPAC'19
OC Chair
Geoffrey Taylor
ACFA Chair



XIE Jialin: Father of China's High Energy Accelerators (1920-2016)

The Xie Jialin Prize for outstanding work in the accelerator field, with no age limit.

Prof. Vittorio Giorgio VACCARO

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E. Métral, IPAC'19, Melbourne, Australia, 23/05/2019

Just few words on him, as he could not join us…

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=> http://accelconf.web.cern.ch/ipac2019/talks/thaplm2_talk.pdf

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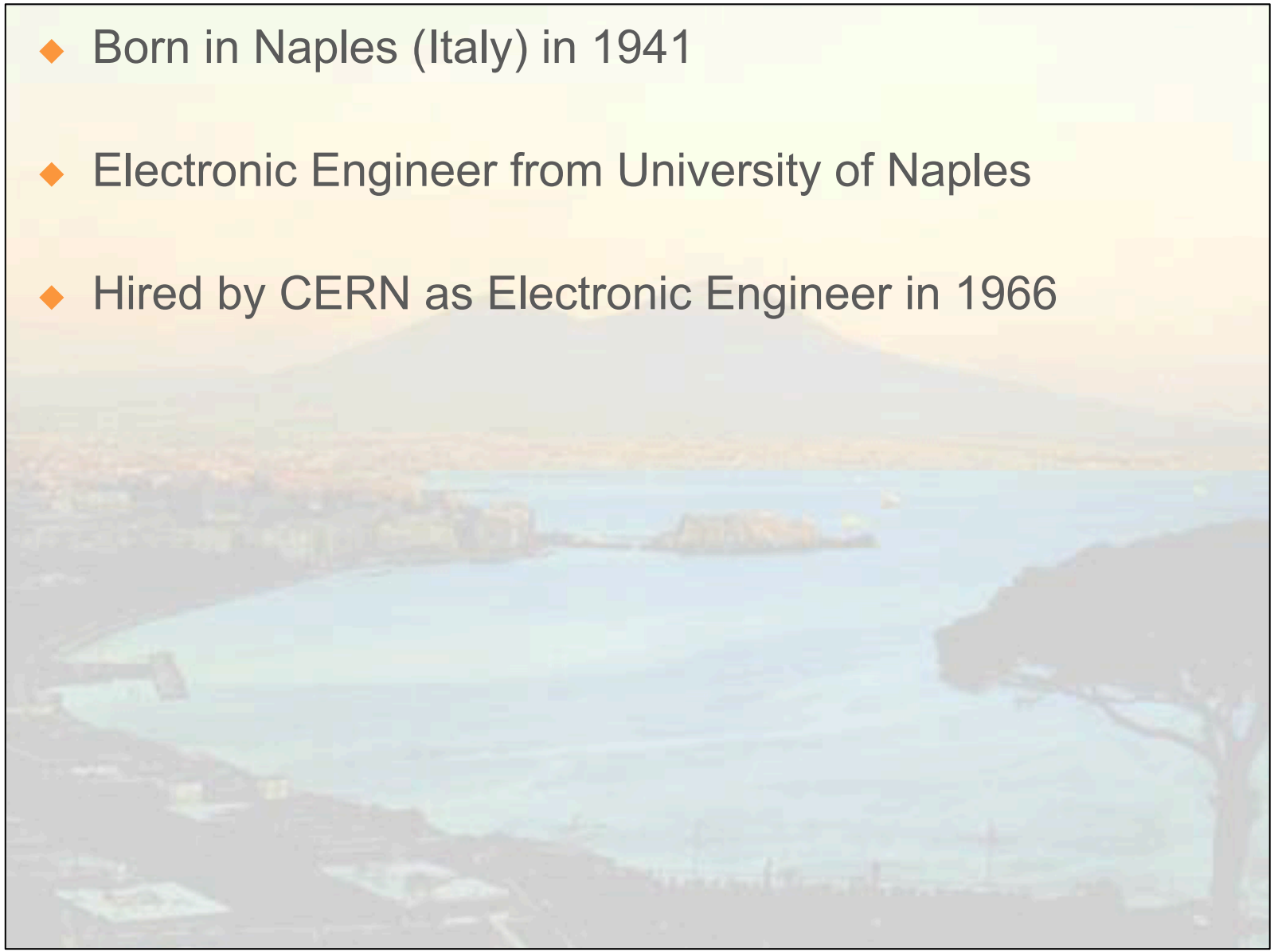

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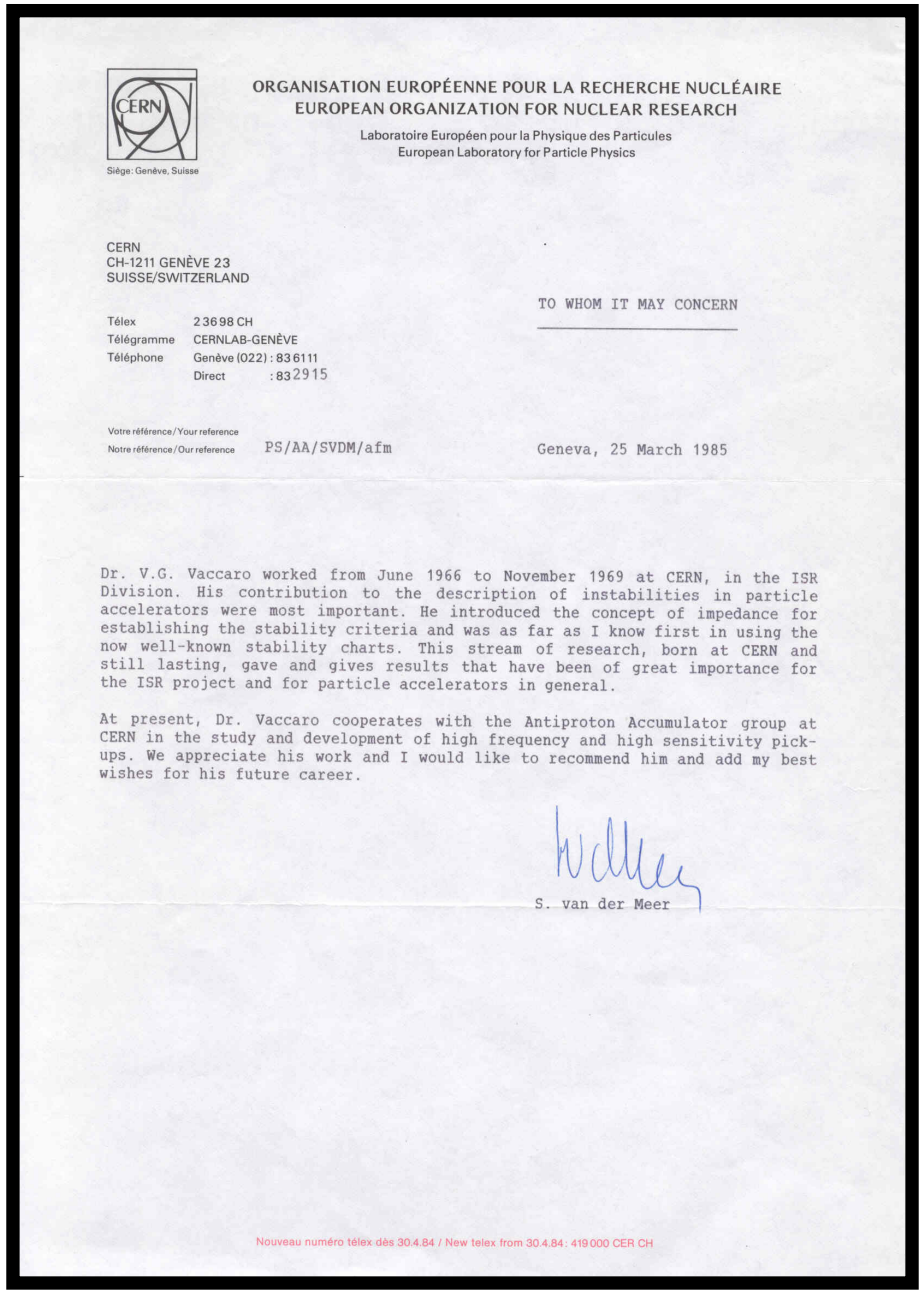

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Laboratoire Européen pour la Physique des Particules
European Laboratory for Particle Physics

Siège: Genève, Suisse

CERN
CH-1211 GENÈVE 23
SUISSE/SWITZERLAND

Télex 23698 CH
Télégramme CERNLAB-GENÈVE
Téléphone Genève (022): 836111
Direct : 832915

Votre référence/Your reference
Notre référence/Our reference PS/AA/SVDM/afm

Geneva, 25 March 1985

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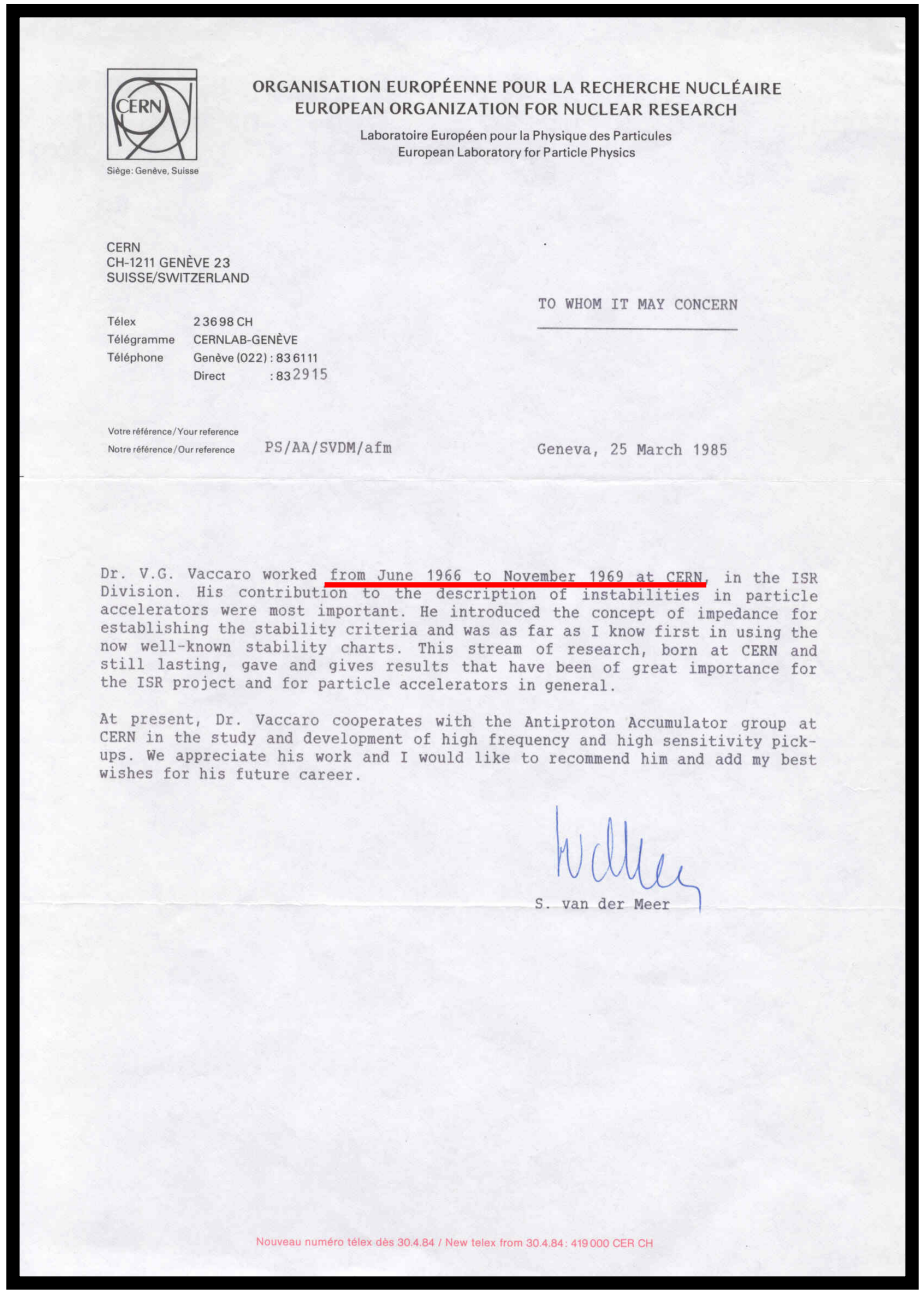

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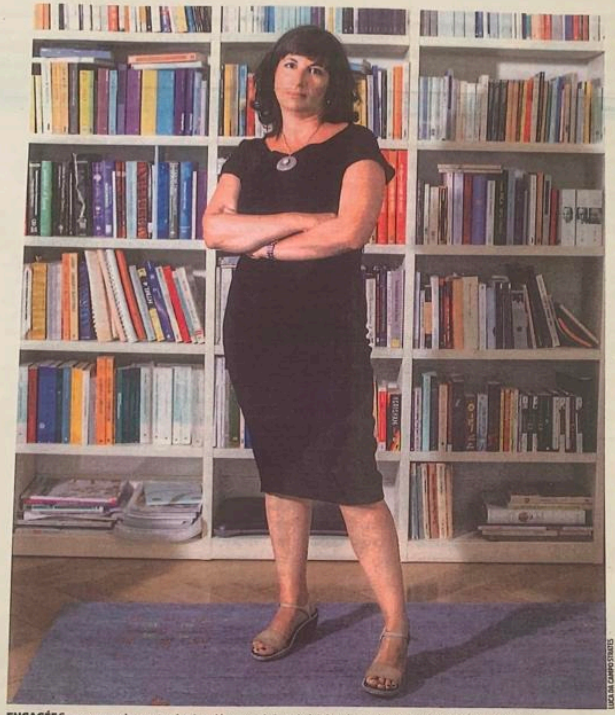
26 | PORTRAIT



ENGAGÉE Son parcours le montre, Luciana Vaccaro n'a jamais fait les choses à moitié. Sa personnalité affirmée et ses connaissances sont de bons atouts pour sa nouvelle fonction.

UNE ÉNERGIE VOUÉE À L'INNOVATION

LUCIANA VACCARO. La première rectrice de la Haute Ecole spécialisée de Suisse occidentale prendra officiellement ses fonctions le 1er octobre. Rencontre avec une Italienne aux multiples facettes.

SOPHIE BADOUX

Toujours en mouvement, Luciana Vaccaro nous reçoit chez elle, entre deux voyages, dans son lumineux appartement familial non loin de la place Chauderon, à Lausanne. Ses deux filles de 7 et 10 ans regardent sagement un film dans le salon alors que nous nous installons dans sa cuisine autour d'un café à l'italienne. La nouvelle rectrice de la HES-SO, la première haute école spécialisée de Suisse de par sa taille (27 sites dans sept cantons, totalisant 18 200 étudiants, ce qui en fait la deuxième institution académique de Suisse derrière l'Université de Zurich et ses quelque 26 000 étudiants), fait preuve d'une grande simplicité et a le contact facile. Elle rentre de trois semaines à Berlin, où elle a passé sept heures par jour avec des «gamins de 25 ans» à apprendre l'allemand. «Maintenant, je peux tenir une conversation. Ça fait partie du contrat que j'ai passé en acceptant le poste. Je me suis acheté des séries TV en allemand – *Dr. House* – pour ne pas perdre au retour», raconte en souriant cette mère de 44 ans, qui maîtrise déjà parfaitement le français, l'anglais et l'italien, sa langue maternelle. Autant de langues qui lui seront utiles dans sa nouvelle fonction.

Un parcours entre physique et management. Luciana Vaccaro succède à Marc-André Berclaz, président du comité directeur de la HES-SO pendant dix ans, et inaugure ce nouveau statut de rectrice, né de l'entrée en vigueur, au 1er janvier, de la convention intercantonale des HES visant à leur donner une gouvernance centrale forte afin de mettre en œuvre une stratégie commune pour améliorer leur rayonnement.

Originaire de Naples, où elle grandit dans les années 70, Luciana Vaccaro arrive en Suisse

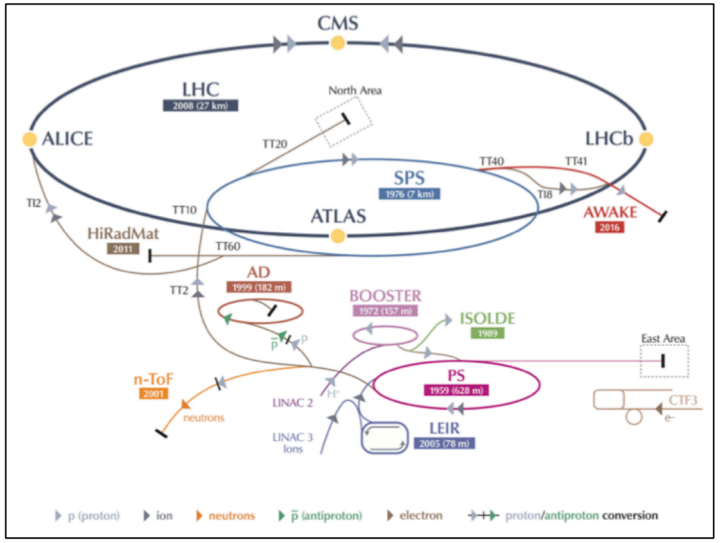
L'HEBDO 19 SEPTEMBRE 2013

Alex Chao Symposium

E. Métral (Elias.Metral@cern.ch)

- Section leader of the CERN BE-ABP-HSC section
(Hadron Synchrotron Collective/Coherent effects)
- Deputy director of the JUAS school (Joint Universities Accelerator School)

https://conf.slac.stanford.edu/alexchaosymposium/agenda



E. Métral, Alex Chao Symposium, SLAC, CA, USA, 25/10/2019

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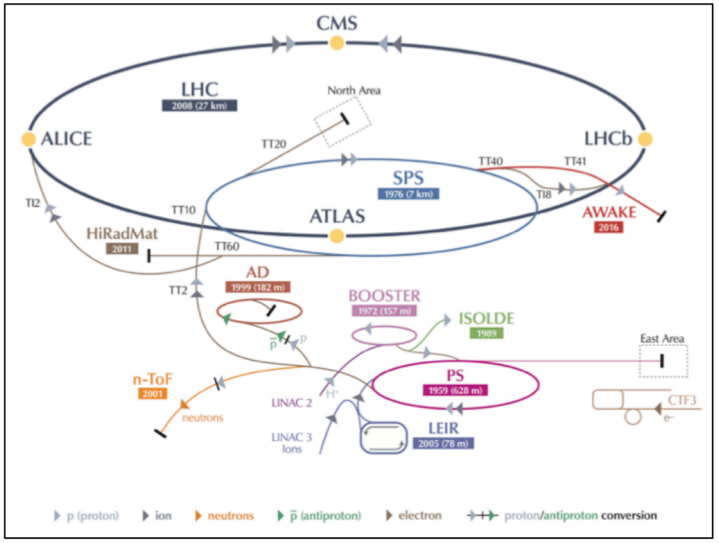

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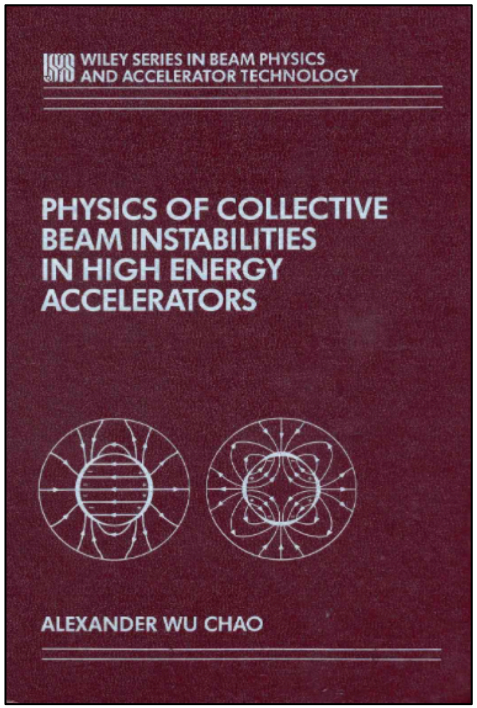

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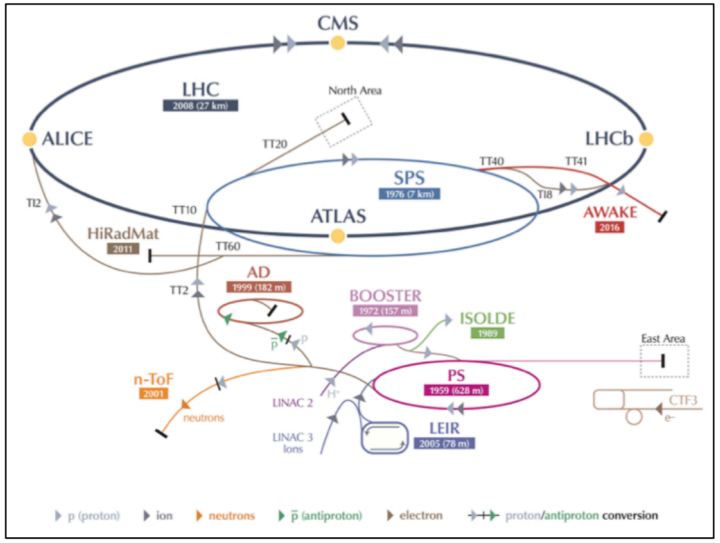

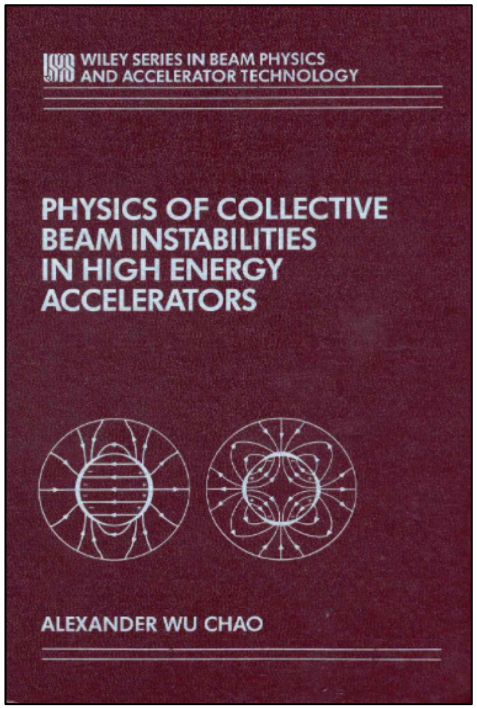

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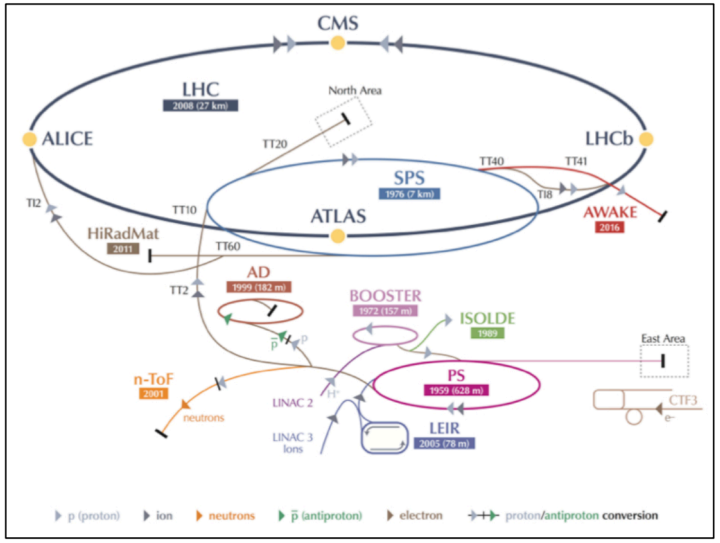

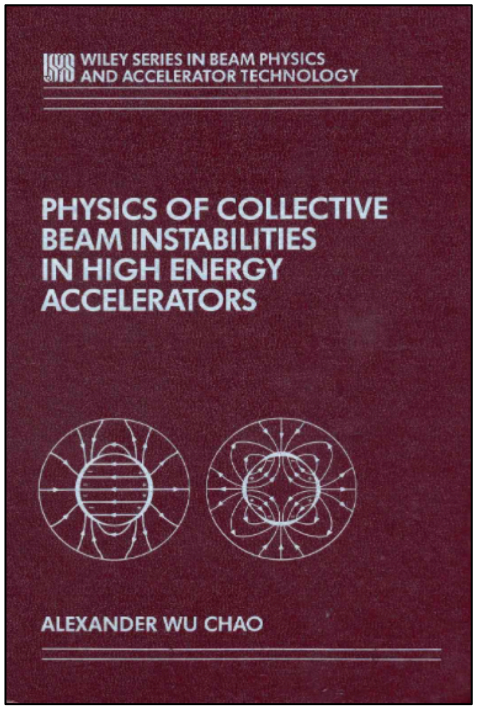

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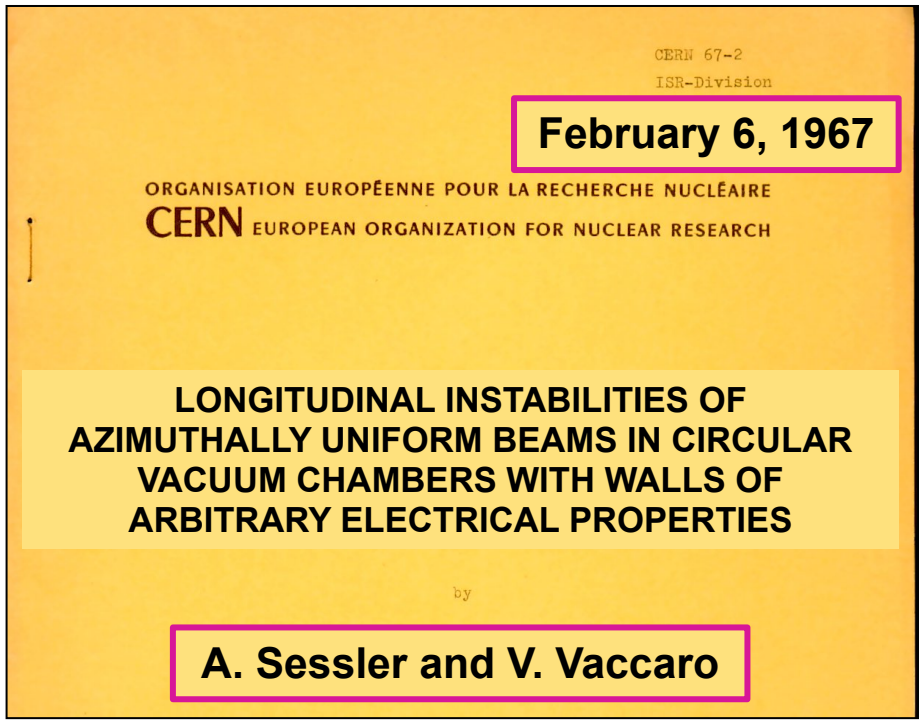

CERN 67-2
ISR-Division

February 6, 1967

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

LONGITUDINAL INSTABILITIES OF AZIMUTHALLY UNIFORM BEAMS IN CIRCULAR VACUUM CHAMBERS WITH WALLS OF ARBITRARY ELECTRICAL PROPERTIES

by

A. Sessler and V. Vaccaro

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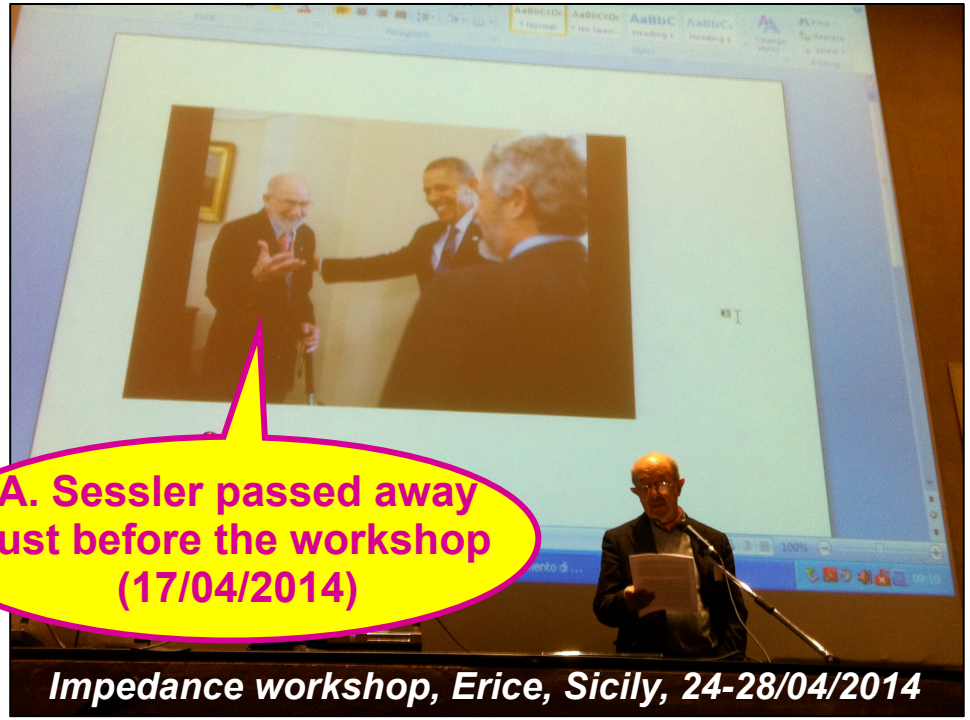
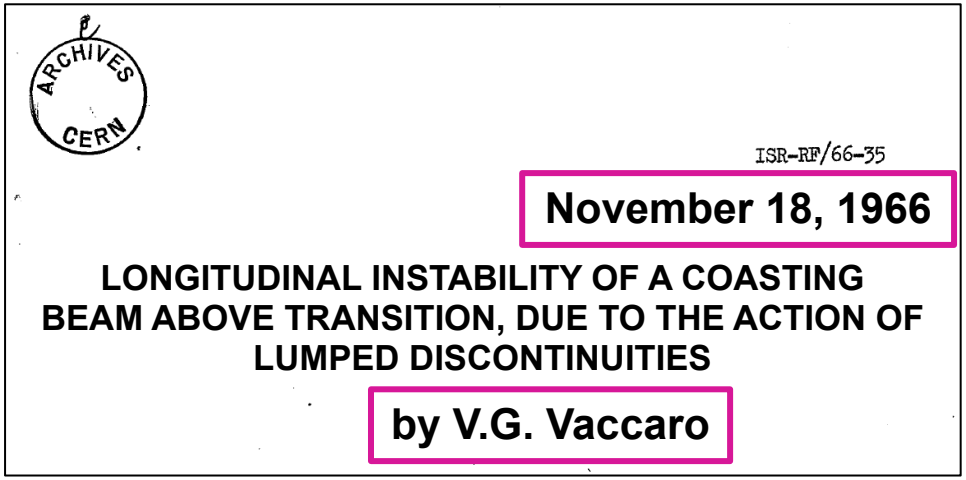


A. Sessler passed away just before the workshop (17/04/2014)

Impedance workshop, Erice, Sicily, 24-28/04/2014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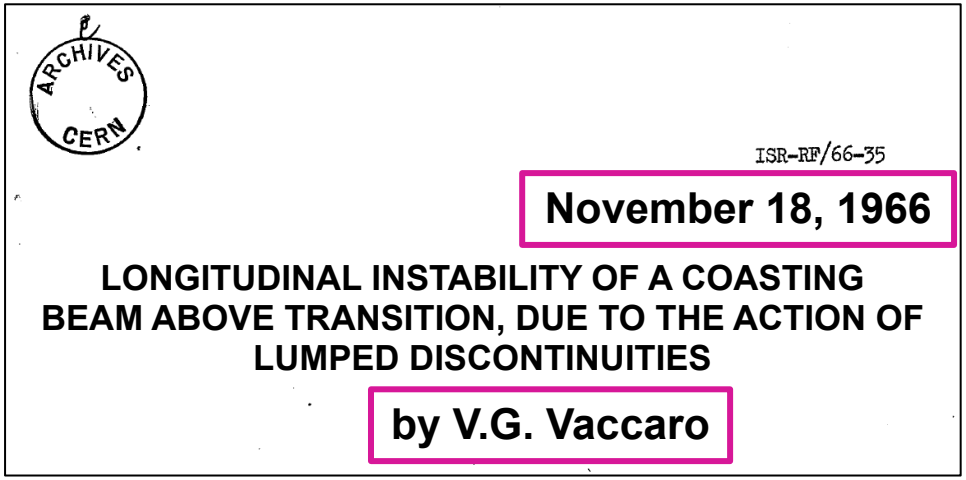
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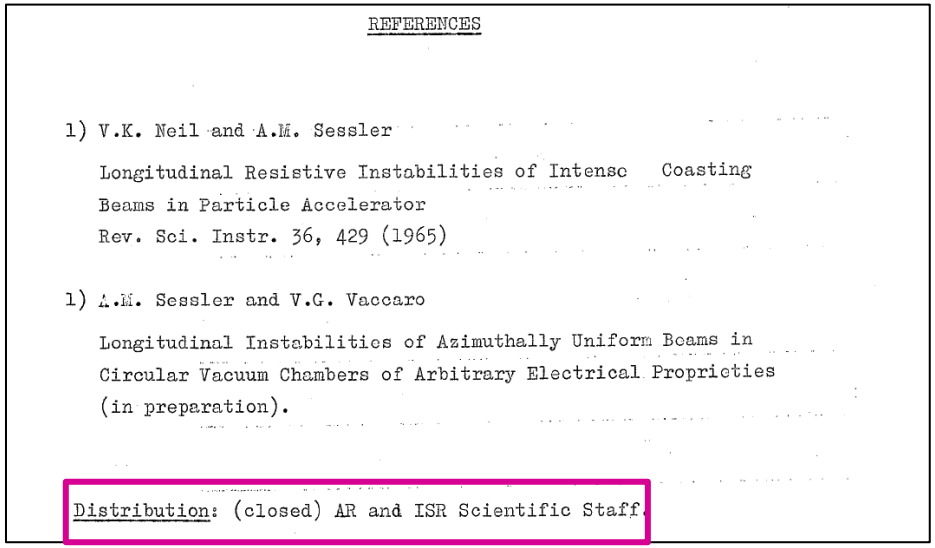
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Sophie Marceau / Date of birth

November 17, 1966

age 56 years French actress

Napoli seal first Italian football league title in 33 years

A 1-1 draw at Udinese gave Napoli the point they needed to win first league title since 1990.

Napoli fans celebrate after the match where the team ended a 33-year wait to win Italy's Serie A [Tiziana FABI / AFP]

5 May 2023

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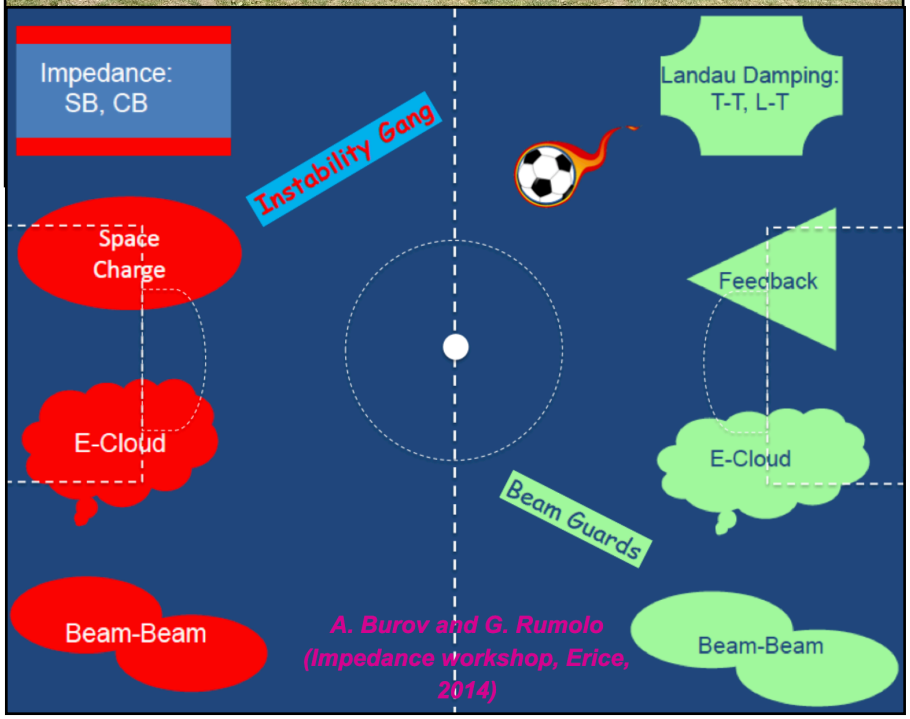

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Geneva - 1st July, 1968

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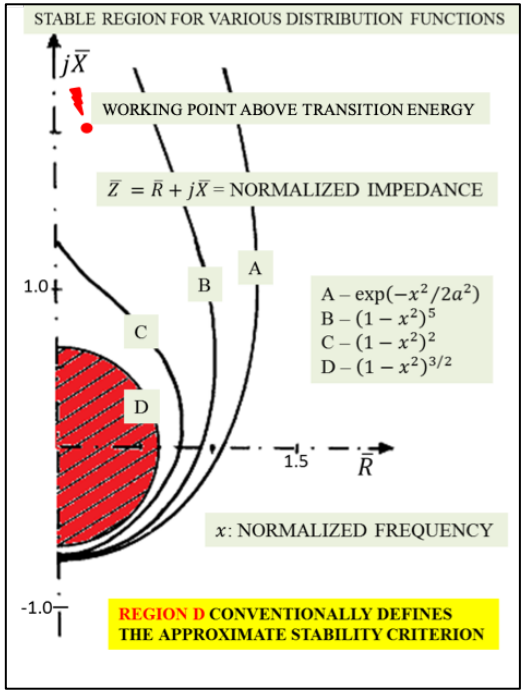

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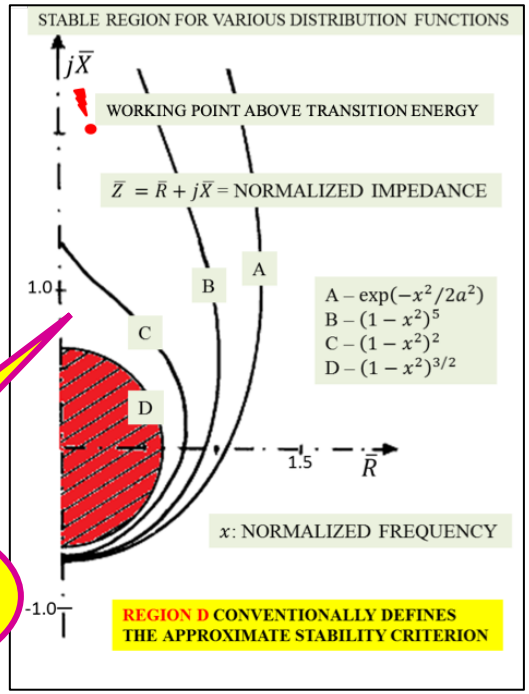

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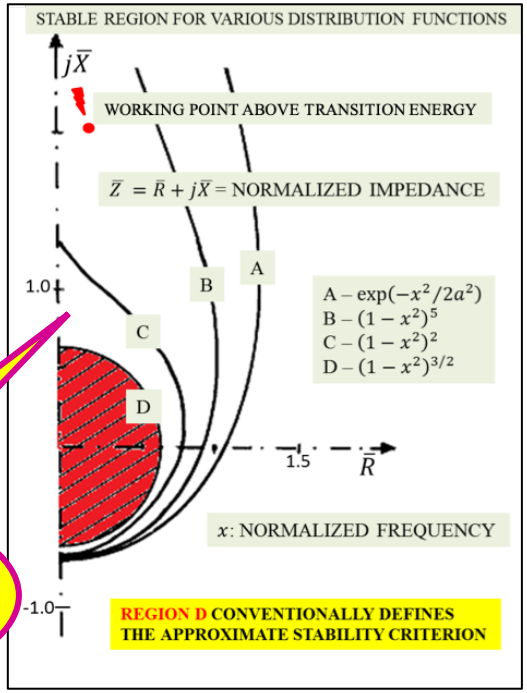

CERN Yellow Reports: Conference Proceedings, CERN-2020-009

Space Charge Effects for Transverse Collective Instabilities in Circular Machines

A. Burov*
Fermilab, PO Box 500, Batavia, IL 60510-5011
(Dated: May 18, 2020)

A brief historical review is presented of progressing understanding of transverse coherent instabilities of charged particles beams in circular machines when both Coulomb and wake fields are important.

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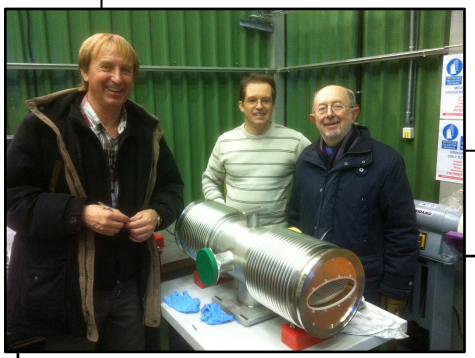

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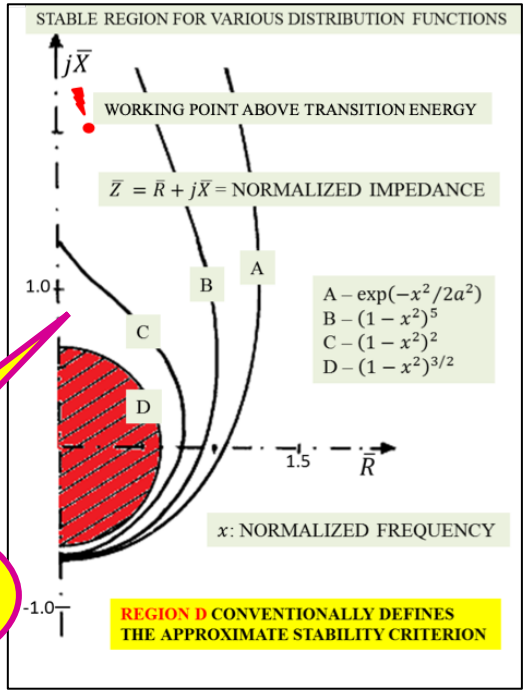

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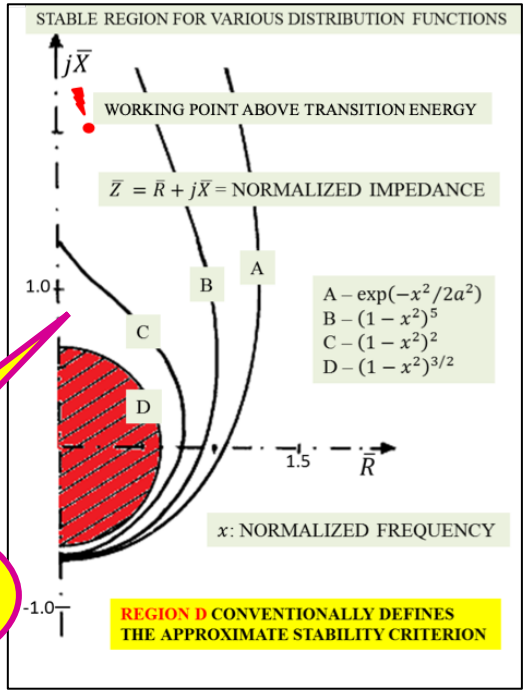

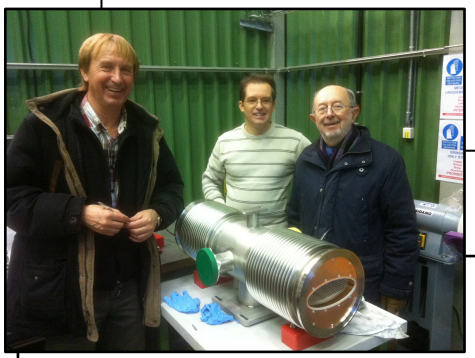

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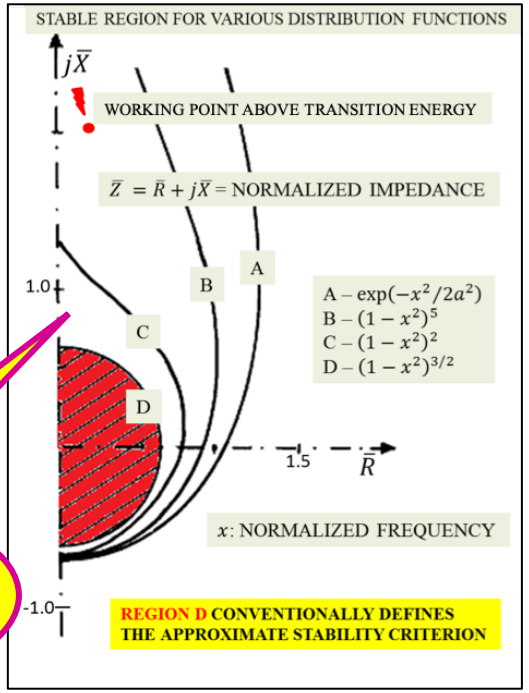

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Has been an outstanding collaborator (replaced Luigi at JUAS) for many years

2nd generation

3rd generation

Vittorio was the MENTOR of many students who have now important positions in various accelerator centers

1st generation

Was my JUAS-1996 lecturer on "Instabilities and space charge"

My best scientific production

- Luigi Palumbo (U. Rome)
- Godehard Wuestefeld (Bessy)
- Caterina Biscari (Alba)
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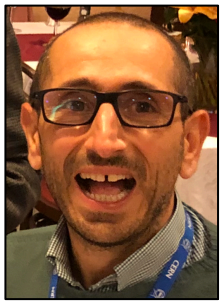

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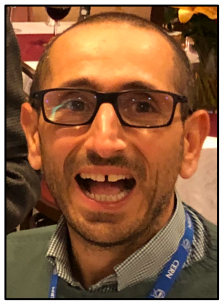

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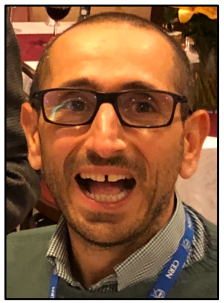

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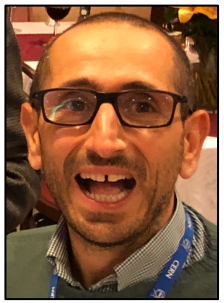

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IPAC'19 Prize

IPAC'19 Prize


Sortie


IPAC'19
ACFA
Prof. Vittorio Giorgio Vaccaro
INFN

Message from the JUAS for the IPAC'19 Prize

- "All of the JUAS team in Archamps join together in congratulating you on winning the ACFA/IPAC 2019 Xie Jialin Prize. This award comes as a fitting and fully-deserved tribute to your lifelong contribution to the field of particle accelerators. Your commitment to JUAS over the years is a perfect illustration of this."

ALBA

On the 15th and 16th of April 2019, the ALBA Synchrotron brought together teachers that are members of the advisory board of the Joint Universities Accelerator School (JUAS), a training programme in partnership with CERN and 16 European universities.

ABOUT US | BEAMLINES | ACCELERATORS | SAFETY | US

HOME / MEDIA / NEWS / EXPERTS ON PARTICLE ACCELERATORS MEET IN ALBA

Many good memories

Many good memories: In my house

With the section

During the workshop we co-chaired in 2014 in Erice (Sicily)

ETTORE MAJORANA FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE

ICFA mini-Workshop on "Electromagnetic wake fields and impedances in particle accelerators"

23–28 Apr 2014
Europe/Zurich timezone

Enter your search term

- Overview
- Motivation
- Scientific programme and timeline
- International Advisory Committee (IAC)
- List of items to be discussed
- Contacts
- List of participants
- Timetable
- Erice - Get there
- Excursions
- Application form
- Flyer
- Picture of the workshop

Support
Delphine.rivoiron@cern.ch
004122 767 25 23

ICFA mini-Workshop on "Electromagnetic wake fields and impedances in particle accelerators" to be held in Erice, Sicily, in 2014 from April 24th to April 28th. The Workshop will be hosted by "ETTORE MAJORANA FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE".

THE ROOTS OF WESTERN CIVILIZATION

The quadrilingual gravestone in Ziza Museum in Palermo, Sicily. The languages are Latin, Greek, Arabic and Hebrew. The dates appearing in the four languages, each computed in its own calendar, correspond to 1148 a.d. .

Starts 23 Apr 2014, 21:00
Ends 28 Apr 2014, 18:00
Europe/Zurich

Elias Metral
Vittorio Giorgio Vaccaro

There are no materials yet.

During the JUAS-2016 Advisory Board meeting in Naples

Welcome

by Vittorio Vaccaro

juas

Not all, but a bit of all about Napoli

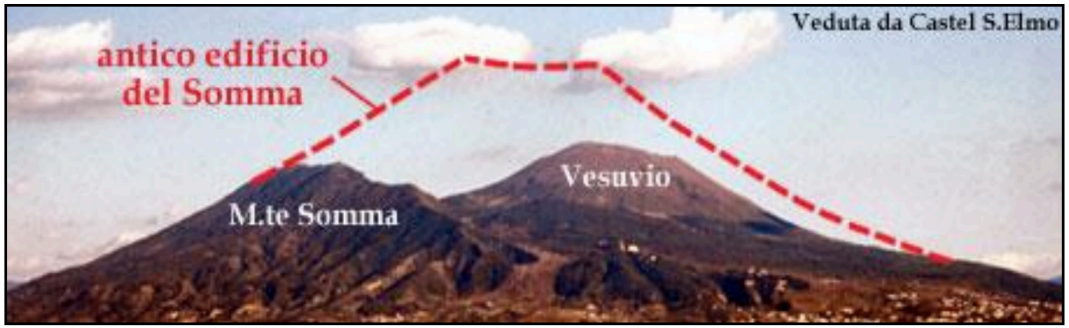
Vittorio G. Vaccaro. University of Naples "Federico II" and INFN

5

The First settlement: Parthenopes

- The first settlement (760 bC), for security reasons, was on the behind us and on the small isle in front of us.
- Parthenopes-Neapolis is one of the oldest continuously inhabited cities in the world

8



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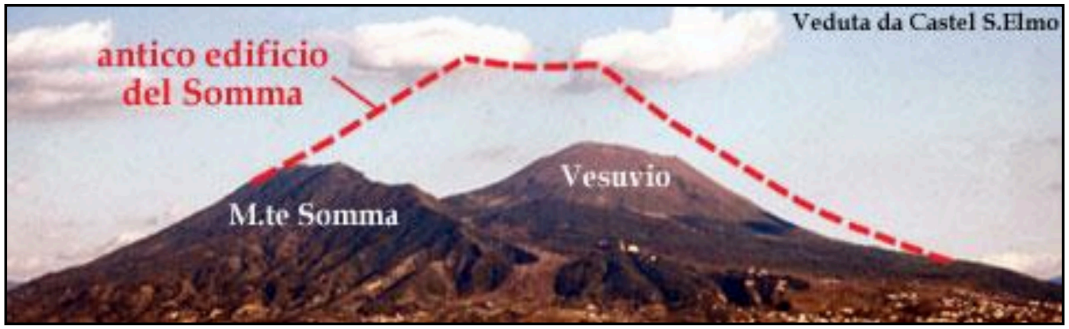

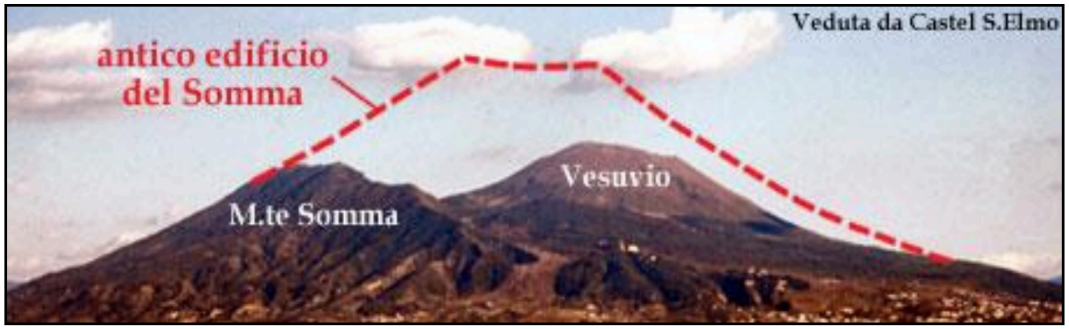

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CUMAE

Cumae was founded about 750 bc by Greek colonists from Chalcis and Cyme. According to the Greek geographer Strabo, Cumae was the earliest Greek colony established in Italy and Sicily. It became a powerful commercial centre with valuable maritime trading routes and an extensive trade with the interior of Italy.

The **Cumaean alphabet** was a special **Greek alphabet**, developed in classical times (ca 9th century BC) and passed down to the present. Cumae, fortified coastal city of ancient Campania, a region in south-western Italy.

In the Cumae alphabet, the Greek letter **Σ was written as S, Δ as D, Ξ as X, P(rho) as R and Y as V (pr. French ou?) .**

Fire in temple where sybillin books were kept in Rome. A delegation of roman priests leaves for Cumae and copies the cuman sybillin books.

Latin alphabet is born!

12

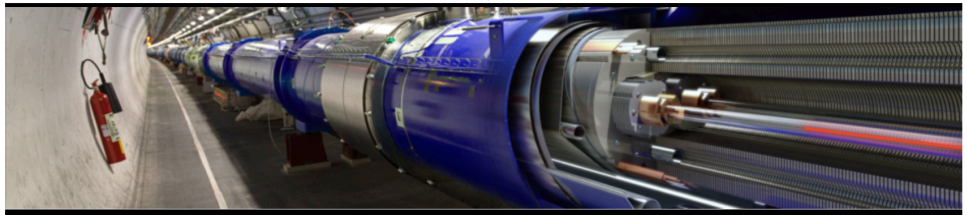
During the workshop in Benevento in 2017 organised by G. Rumolo, S. Petracca and M.R. Masullo

The recent MOOC on EM

(see http://mooc.particle-accelerators.eu/electromagnetism/)

An online course about particle accelerators

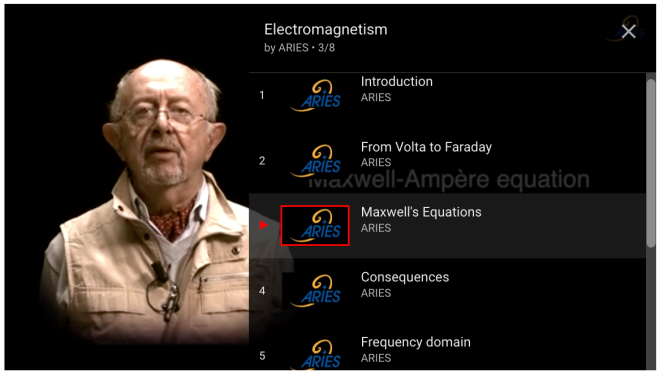
Massive Online Open Course on Accelerator Science and Technologie



About Organisation Guidance Resources

Electromagnetism

Previous: Introduction to Particle Accelerators



Note: In these videos the lecturer refers the LHS and RHS. LHS is the abbreviation for the "Left Hand Side" term in an equation and RHS is the abbreviation for the "Right Hand Side" term in an equation.

Next: Special Relativity

More advanced course on the same topic: Radiofrequency

Work funded by ARIES

This work is funded by the ARIES project. ARIES is co-funded by the European Commission Grant Agreement number 73087.

Search

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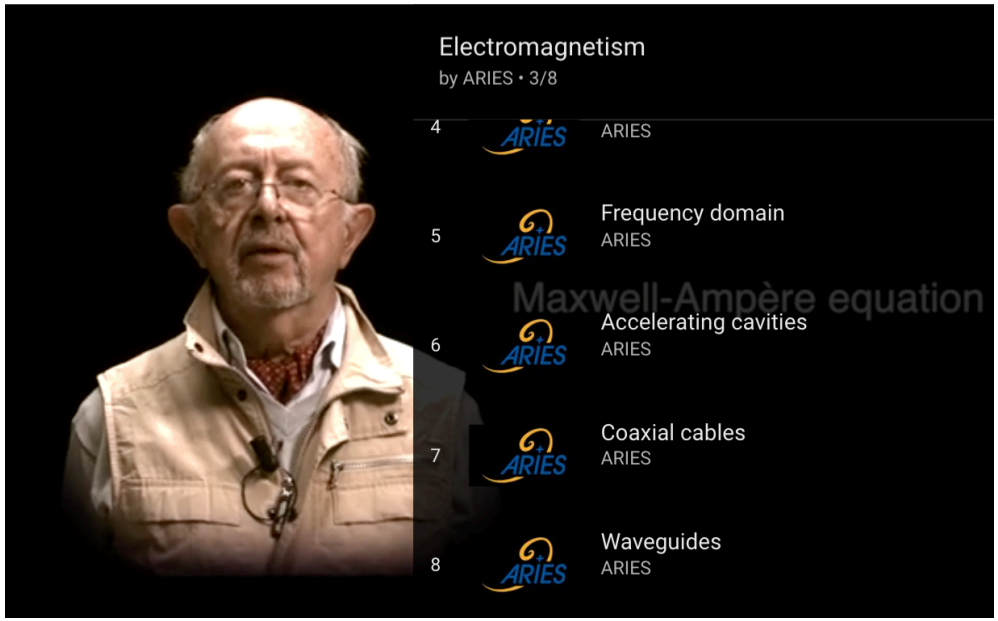
An online course about particle accelerators *Proudly powered by WordPress.*

Prepared by Vittorio Vaccaro and Andrea Passarelli.



=> Now used, with a quiz, as pre-requisite for the JUAS

PHYSICAL REVIEW ACCELERATORS AND BEAMS **26,** 042001 (2023)

Transverse impedance studies of 2D azimuthally symmetric devices of finite length

N. Biancacci,[1] A. Passarelli,[2] V. G. Vaccaro,[2] E. Métral,[1] B. Salvant,[1] M. Migliorati,[3] and L. Palumbo[3]

[1]*CERN, 1211 Geneva 23, Switzerland*
[2]*INFN Naples Unit, Via Cintia, 80126 Napoli, Italy*
[3]*Rome University "La Sapienza," Piazzale Aldo Moro 5, 00185 Roma, Italy*

(Received 22 December 2022; accepted 20 March 2023; published 13 April 2023)

The accurate calculation of the beam coupling impedance for particle accelerators is necessary to carefully assess the machine stability against impedance-driven collective effects. A first order evaluation of the beam coupling impedance is often done by means of analytical formulas and/or 2D numerical codes. The infinite length approximation is often used to simplify the calculation of the beam coupling impedance of accelerator elements. This is expected to be a reasonable assumption for devices whose length is greater than the transverse dimension but may be a less accurate approximation for segmented devices. In this work, we present the application of the mode matching method to the calculation of the transverse dipolar impedance of a cylindrical cavity loaded with a toroidal insert. By choosing different insert electromagnetic properties (permittivity, permeability, and conductivity) and dimensions, the model can represent a beam pipe, a thin insert, a lossy cavity, or a collimator for which the effect of the finite length is investigated. The method is successfully benchmarked against available analytical formulas, field-matching codes, and 3D commercial solvers. The proposed model allows for performing wide parametric scans and reaching accurate results, therefore becoming an essential tool for the impedance evaluation of accelerator devices.

DOI: 10.1103/PhysRevAccelBeams.26.042001

ACKNOWLEDGMENTS

The authors thank the late Professor Vittorio Giorgio Vaccaro for all his indispensable work in the conception of this methodology, for his infinite curiosity and humanity.

Message from K. Hübner

Dear John, dear Elias,

Thanks for the information which I got also via my son from Vittorio's daughter. This is really sad.
He has been not only one of my most long-standing colleagues but also a good friend since 1966! Our first common publication is from 1969. It was a pleasure to work with him, him being not only good physicist and engineer but a noble humanist.

I shall miss him dearly. RIP.
Best regards,
Kurt

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CERN-ISR-TH-RF-69-23 ; ISR-TH-RF-69-23

Stability of the coherent transverse motion of a coasting beam for realistic distribution functions and any given coupling with its environment

Hübner, K (CERN) ; Ruggiero, A G (CERN) ; Vaccaro, V G (CERN)

3 Jul 1969. - 7 p.

7th International Conference on High-Energy Accelerators, Yerevan, USSR, 27 Aug - 2 Sep 1969, pp.343-352

CERN-ISR-RF-TH-70-2 ; ISR-RF-TH-70-2

Concerning the stability of the ISR beam against coherent dipole oscillations

Hübner, K ; Strolin, P ; Vaccaro, Vittorio G ; Zotter, Bruno W

(CERN)

22 Jan 1970. - 37 p.

CERN-ISR-TH-70-44 ; ISR-TH-70-44

Dispersion relations and stability of coasting particle beams

Hübner, K ; Vaccaro, V G

25 Aug 1970. - 33 p.

Other messages

Dear Elias,

Thank you so much for sharing with me these sorrowful news, my friend. Since I met Vittorio in 1993, I enjoyed talking with him about everything, admiring multiple aspects of his rich personality, his knowledge of Italian and European history and his very special artistism. . .

I am shaking your hand and wishing you all the best, mon ami.

Yours, Alexey.

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Yours, Alexey.

Dear Caterina,

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As a linguist rather than a physicist, my fondest memories of Vittorio are the discussions we had at JUAS and Advisory Board meetings on romance philology, inspired by his encyclopaedia-like knowledge of the etymology of modern French words. His erudition was only matched by his kindness.

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Remarkably, even into his advanced age, he showed outstanding commitment, especially to JUAS.

His traces will remain visible for a long time.

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Etc.

A day to remember Vittorio Giorgio Vaccaro

A path to remember Vittorio through his researches, from the pioneering studies on instabilities in particle beam physics to proton therapy linear accelerators to the innovations introduced on experimental methodologies.

Speakers

Moderator: Luciano De Menna (Unina)

Andrea Vaccaro
Luigi Palumbo (Sapienza)
Giuseppe Di Massa (UniCal)
Luigi Verolino (UniNa)
Giovanni Miano (UniNa)
Eliana Gianfelice (Fermilab - USA)
Caterina Biscari (ALBA – ES)
Maria Rosaria Masullo (INFN-Na)
Daniele Davino (UniSannio)
Salvatore Solimeno (UniNa)
Roberto Losito (CERN)
Giovanni Rumolo (CERN)
Gode Wustefeld (HZB – D)
Andrea Passarelli (INFN–Na)
Carlo Zannini (CERN)
Carlo Meola (UniNa)
Elias Metral (CERN)
Luciana Vaccaro

Napoli, 29th of May 2023

Aula Azzurra del Complesso Universitario MSA
From 3PM to 6PM

Organizing committee:
Maria Rosaria Masullo
Luigi Verolino

UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

INFN Istituto Nazionale di Fisica Nucleare

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INFN Istituto Nazionale di Fisica Nucleare

Vittorio Giorgio Vaccaro (1941 – 2023)

25 APRIL, 2023

Accelerator physicist Vittorio Giorgio Vaccaro passed away on 11 February 2023 in his hometown of Naples, Italy, after a short illness.

(Image: Andrea Passarelli)

Vittorio graduated in 1965 from the University of Naples Federico II. He soon moved to CERN as a fellow, where he remained from 1966 to 1969, contributing to the design and commissioning of the first high-intensity hadron collider, the Intersecting Storage Rings. At CERN, Vittorio introduced the concept of beam-coupling impedance to model the instabilities that were experienced above transition energy, writing a seminal report (entitled "Longitudinal instability of a coasting beam above transition, due to the action of lumped discontinuities"), in which he described for the first time the action of discontinuities in the transverse section of a beam pipe as an impedance. His theory, which after his initial intuition he developed together with Andy Sessler, Alessandro G. Ruggiero and many other colleagues, has become a fundamental tool in the design of particle accelerators.

In 1969 he returned to his alma mater in Naples as professor of electromagnetic fields at the faculty of engineering, and continued teaching until he retired. He created an accelerator-physics team in association with INFN within the faculty of physics, and throughout his career remained closely linked to CERN, where he visited regularly and sent many of his students.

Vittorio collaborated with practically all the studies and accelerator projects in Europe, from the CERN machines to DAFNE, the European Spallation Source and HERA-B at DESY. The group in Naples became, thanks to him, a reference in the world of accelerators for the development of the theory of beam-coupling impedance of accelerator components and the associated bench measurements. From the mid-1990s, he became increasingly interested in the development of linear accelerators for proton therapy, participating in a large collaboration with the TERA Foundation, CERN and INFN. In 2003 he led a new collaboration between the University of Naples and several sections of INFN, which produced the first linac module at 3 GHz capable of accelerating protons from a 30 MeV cyclotron.

In 2019 Vittorio was awarded the IPAC Xie Jialin Award for outstanding work in the accelerator field "for his pioneering studies on instabilities in particle-beam physics, the introduction of the impedance concept in storage rings and, in the course of his academic career, for disseminating knowledge in accelerator physics throughout many generations of young scientists".

It is difficult to find the words to recall Vittorio's immense human qualities, his deep culture and his profound humanity. Several of his students are now scattered around the world, continuing his efforts to propose technical solutions to accelerator-physics problems based on a deep understanding of the phenomena of beam instability. Vittorio was moved by a sincere passion for science and an irresistible curiosity for everything and everyone around him, which always brought him to approach anyone with an open and friendly spirit.

We will deeply miss a passionate mentor and colleague, his wide knowledge, energy, friendship and humanity.

His friends and colleagues

https://home.cern/news/obituary/accelerators/vittorio-giorgio-vaccaro-1941-2023

I will visit Ischia tomorrow for Vittorio

(we wanted to organise a workshop there together…)

RIP: Riposi In Pace