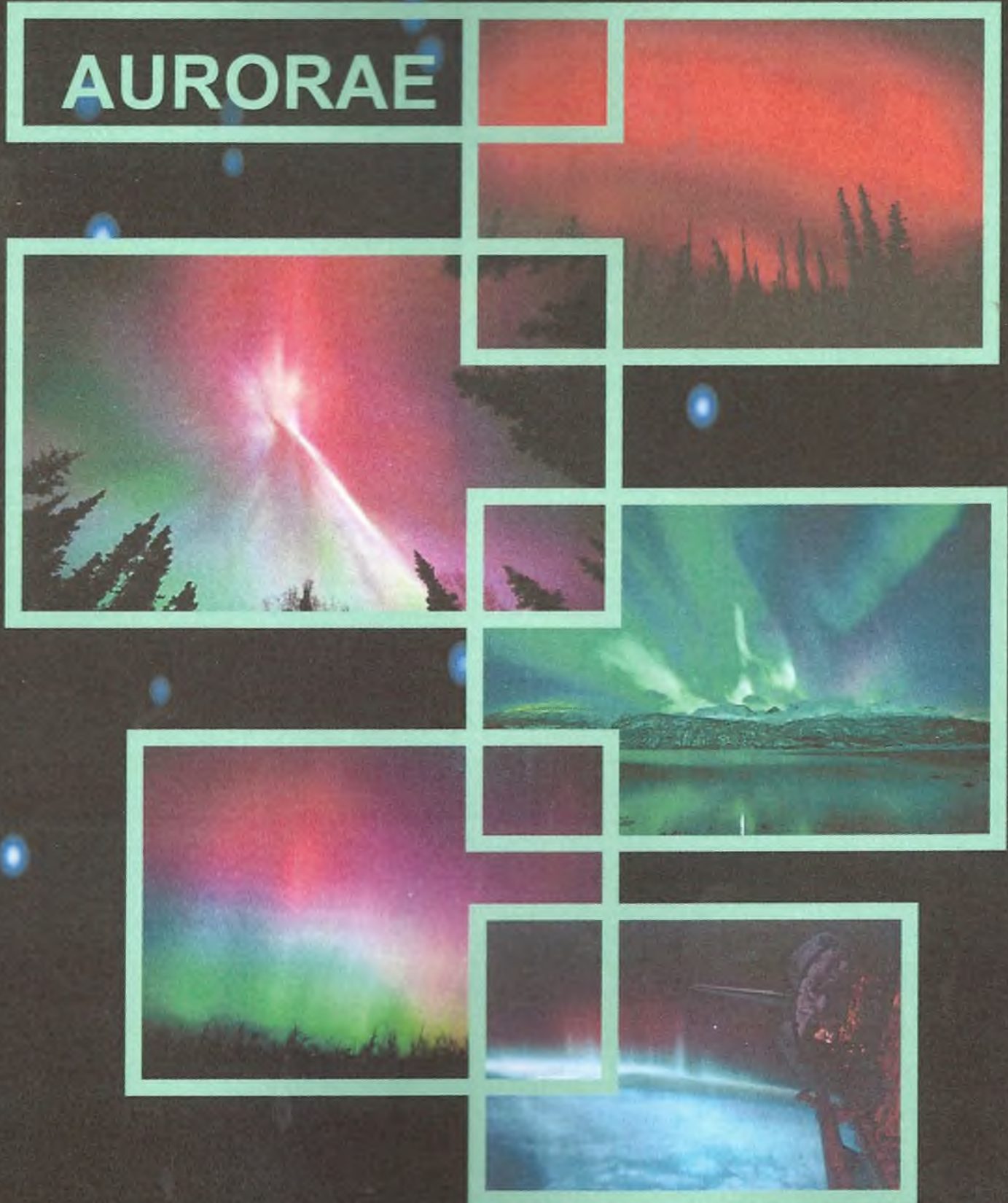


# ORBIT

## AURORAE



## Twenty Years of Italians in Space *by Umberto Cavallaro*

### Franco Malerba

Twenty years have passed since July 31st 1992, when Franco Malerba was launched from the Kennedy Space Center onboard Shuttle *Atlantis* STS-46 and became the First Italian Astronaut in Space. Since then five Italian astronauts have flown on eight different missions, departing on Shuttle or Soyuz spacecraft.



Born in Busalla, Genoa in 1946, Franco Malerba graduated in Electronic Engineering and then in Physics at the University of Genoa, before joining, with different roles and responsibilities, research institutions and high tech industries both in Europe and in the States.

Malerba flew as a Mission Specialist in one high profile mission that generously publicized products of Italian science, technology and high-tech Industry: the Tethered satellite conceived and implemented in Italian universities and industries and tested for the first time during the STS-46 mission, and the EURECA platform, first example ever of a microgravity free-flyer and first European reusable satellite.



*Malerba is shown as part of the STS-46 crew in this 2010 issue from Malawi. Cheli and Guidoni are shown in a similar stamp in the series below right.*



*AS.IT.AF. commemorative card by © Alec Bartos.*



### Maurizio Cheli and Umberto Guidoni

In the second "Italian" mission Maurizio Cheli and Umberto Guidoni flew together in their first space mission aboard Shuttle STS-75 in February 1996 in which the Italian Tethered satellite TSS-1R was tested again and demonstrated the possibility of generating electrical power in space.



Maurizio Cheli (above left) with his background as a test pilot, became the first Italian astronaut – and first non-American – to play the role of Shuttle Mission Specialist, as

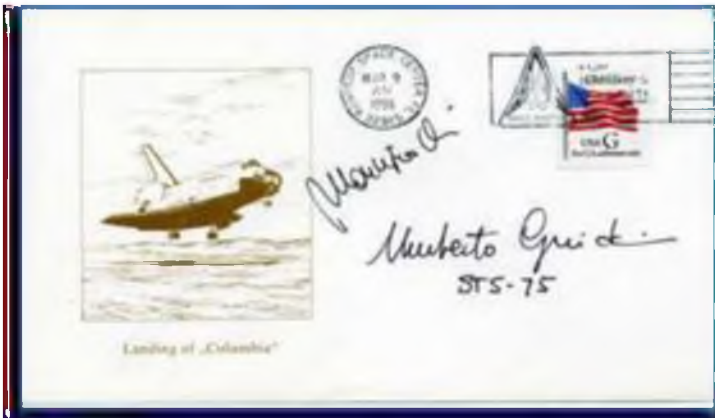
"flight engineer" in charge of board systems and Shuttle instrumentation.

The Physicist Umberto Guidoni, (above right) as with Malerba, flew as a Payload Specialist in charge of monitoring the electrodynamical experiments of the Tethered Satellite he knew well, as he had participated in its design and implementation, earlier as a researcher in the National Research Council, within the Physics Institute for Interplanetary Space, and then as the Scientific Manager of RETE (Research on Electro-dynamic Tether Effects), in charge

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Malerba's mission was officially celebrated by Poste Italiane which issued a postal stationery featuring the imprinted stamp the Tethered satellite connected to the Shuttle. The cachet bears the picture of Prof. Giuseppe Colombo who conceived the TSS experiment



"Mission Specialist" and the first European astronaut to visit the ISS.

of organizing the scientific tests of the TSS. He had also participated in the first TSS Mission as backup for Malerba and ground-coordinator of the scientific tests implemented onboard during the STS-46 Mission.

The mission delivered into space on its maiden flight the Raffaello module, one of the three Pressurized Logistic Modules (MPLM) committed by ASI (Italian Space Agency) and built in Italy by Thales Alenia Space. Raffaello, also known as MPLM-2, transferred nine tons of supplies, equipment and scientific instrumentation. Raffaello flew four missions and for the last time, was launched aboard Space Shuttle *Atlantis* on the STS-135 mission, the last ever flight of the Space Shuttle.



Guidoni flew again in space onboard the shuttle *Endeavour* in the STS-100 mission – from April 19 to May 1st, 2001 – and became the first Italian astronaut certified as "ISS

### Roberto Vittori

Roberto Vittori, is an Italian Air Force officer, and was the first non-Russian "cosmonaut" to play the role of Soyuz Flight Engineer and the first Italian to fly with Soyuz.





Vittori has participated in three spaceflights. From April 25 to May 5, 2002, Vittori participated in the Soyuz TM-34 taxi-flight to the ISS. This "Marco Polo" mission successfully delivered a new "lifeboat" to the Station for use by resident crews in the event of an on-board emergency. Vittori returned to Earth aboard Soyuz TM-33.

On April 15, 2005, he participated in a second taxi-flight to the ISS and became the first European astronaut to visit the ISS twice. He was also the first Italian astronaut to fly twice on the Soyuz spacecraft. During his second mission dubbed "Eneide" conducted experiments in upper limb fatigue in astronauts and germination of herbaceous plant seeds for possible space nutrition



In May 2011 Vittori was a Mission Specialist for NASA Space Shuttle mission STS-134, where he conducted 12 scientific experiments. He was the last non-US astronaut to fly on the Shuttle. During this "historic" Mission Roberto Vittori met up

with Paolo Nespoli on the ISS during his long-duration Expedition "MagIStra".

### Paolo Nespoli

Paolo Nespoli flew twice to the ISS. In October 2007 he launched on board STS-120, the Space Shuttle mission which delivered to the ISS the *Harmony* module (also known as Node 2) built by Thales Alenia Space at its facility in Turin.



Paolo Nespoli

Left Lollini inspired issues relating to Vittori's first flight



After passing a very challenging selection procedure alongside 8.400 astronaut candidates from several European Countries, Luca Parmitano was recruited into the ESA Astronaut Corps in 2009. A test pilot, logging thousands of hours of flying time on more than 40 types of military airplanes and helicopters, his profile is that of the veteran pilot astronaut.

He will be the third Italian astronaut, or rather “cosmonaut” – after Vittori and Nespoli – to be launched from the mythical launch pad from where Gagarin left, and to fly on the historical Soyuz invented by Korolëv, quite basic but reliable. Currently after the retirement of Shuttle, this is the only option for everybody wanting to reach the “cosmic house”. As already outlined before, once on the Station he will deal, among others tasks, with the management of Columbus and will welcome the ATV which will arrive, presumably, in the middle of his Mission, and will take care of unloading the delivered supplies.

At the beginning of September Parmitano took a break in his intensive training programme, to award the winners of the competition “Disegna e Designa la Missione” (“Design and Designate the Mission”), organised by ASI (Italian Space Agency) to suggest the emblem of the Mission. The logo combines together the name chosen by Norberto Cioffi (32 years old – from Pantigliate, Milano) and the drawing designed by Ilaria Sardella (28 – from San Giorgio Ionico, Taranto).



In December 2010, Nespoli flew to the ISS aboard the Soyuz TMA-20 spacecraft from Baikonur Cosmodrome and served as first flight engineer for Expedition 26/27, Europe’s third six-month mission to the ISS and Italy’s first. Paolo Nespoli’s duties aboard the ISS included participating in the docking operations to receive Europe’s ATV-2, Johannes Kepler.

### Luca Parmitano flying to ISS with Mission “Volare”

Luca Parmitano, the next Italian to fly in space, is currently undergoing an intensive training programme to prepare his six-month Mission on the International Space Station during the expedition 36/37 planned to start by late May 2013.



AS.IT.AF. (The Italian astrophilatelic society) contacted him by phone while he was training in the ESA Space Operation Centre in Cologne (Germany) and he commented, *“The training is very demanding. From now on, it is spread in three different Astronaut Centres: partly in the States, partly in Germany and partly in Russia. In the States we are engaged on many fronts: on one hand we are familiarizing ourselves with daily life onboard ISS, emergency procedures and payload management.*



Particularly evocative is the name “Volare” (“Flying”), after the popular song by the late Italian singer-songwriter Domenico Modugno well known worldwide,

which suggests the desire of discovering new frontiers.