

**FRANCE LMAG contribution to IEEE Milestones Activities**  
**R8 LMAGs Meeting** **Prague 27 October 2022**

- ***Victor Fouad Hanna***
  - **Member of R8 LMs Committee (2021 -2022),**
  - **Past Chair of R8 LMs Committee (2018 – 2020),**
  - **Past Chair of France LMAG,**
- ***Jean Gabriel Remy***
  - **Member of France LMAG Bureau Responsible of History Activities**
  - **Past R8 Director**

# FRANCE LMAG contribution to IEEE Milestones Activities

- **Role of France LMAG in Milestone activities :**
- \* There is an officer responsible in France LMAG Bureau of History activities.
- \* **Propose numerous possible Milestones in France**
  - Milestones could be based on the scientific discoveries of well known scientists
  - Preparing entirely the proposal and submitting it to IEEE History Committee with the help of experts in the concerned field related to the discovery , They could be LMs, IEEE Members, Non IEEE members belonging to French engineering associations (professional, academic or industrial ones), Find the appropriate location for the Milestone plate
  - After the approval of the Milestone proposal , organization of the ceremony ,
  - According to demand of the IEEE France Section chair, LMAG could evaluate proposals that are entirely prepared by another organization for a scientific French discoveries (Advocat for the Section),

# FRANCE LMAG contribution to IEEE Milestones Activities

- **Examples of Previous Milestones having been very successful**

## I-First Transatlantic Reception of a Television Signal via Satellite, 1962

Pleumeur-Bodou, France, Dedicated 1 July 2002 - IEEE France Section

\* This village located close to the Channel had been chosen for the building of communication antennae connected via satellites with US equivalent stations as a first trial, and then generalized to satellite links worldwide.

\* Therefore a very particular antenna has been designed, then installed in a radome (in Brittany, the climate is quite humid). This device allowed to establish the first satellite link between France and USA. The realization has been done by Bell Labs and CNET.

\* Now this antenna is kept in a museum.

\* For the Milestone ceremony, the American experts of the sixties have been invited as well as their French colleagues. It has been a very friendly meeting of old experts at the seaside in Brittany

# FRANCE LMAG contribution to IEEE Milestones Activities

- **Examples of Previous Milestones having been very successful**

## **II - Discovery of Radioconduction by Edouard Branly, 1890**

### **Paris, France, Dedicated 23 September 2010 - IEEE France Section**

\* Branly has been the specialist of radio communications in France, having a special solution for the reception of electromagnetic waves.

\* Some others, alike Ducretet, have also important contributions to the development of radiocommunications in France,

\* Branly is the only one who has been honored by giving his name to an important street in Paris.

- The laboratory of Branly is located inside the Catholic University of Paris, in the center of the city. Therefore, the inauguration (unveiling) of the Milestone plaque has been a very high level event.

\* The location was visited in 2015 by a group of 45 LMs from all USA

# FRANCE LMAG contribution to IEEE Milestones Activities

- **Ampere Milestone Proposal**
- *IEEE History Committee has voted to recommend approval of Ampere milestone proposal to the IEEE Board of Directors (for its November 2022 meeting)*
- ***The Birth of Electrodynamics 1820-1827***
- *Stimulated by experimental reports that an electric current could deflect a compass needle, André-Marie Ampère discovered the fundamental law of electrodynamics, the science of interactions between electric currents. He then developed the theory that electric currents are responsible for magnetism. These achievements formed the basis for electrical technologies, including electric motors and generators. In 1881, the International Electrical Congress named the unit of electric current the ‘ampere’ (A).*
- **Proposed Milestone Plaque to be fixed on the wall in “College de France” in Paris, where Ampere was the head of the Chair of Experimental Physics**

# FRANCE LMAG contribution to IEEE Milestones Activities

- **Invention of Sonar, 1915-1918**
- *The IEEE History Committee recommend to the IEEE Board of Directors that the proposal: “Invention of Sonar, 1915-1918” to be approved by the IEEE Board of Directors (for its November 2022 meeting)*
- *At this location, from 1915 to 1918, Paul Langevin designed a submarine detector using piezoelectric quartz crystal transceivers, following the idea by Constantin Chilowsky of using ultrasounds.. This improved method for submarine ultrasonic echo detection (later known as sonar) obtained 4000-meter echo soundings from the cable ship Charente in the Bay of Biscay, and was later successfully used during World War II. Echo sounding led to other applications such as medical echography.*
- **Proposed Milestone Plaque to be fixed on the wall in the prestigious Engineering School ESPCI « École supérieure de physique et de chimie industrielles**
- **10 Rue Vauquelin, 75005 Paris**

# FRANCE LMAG contribution to IEEE Milestones Activities

- **CONCLUSION :**

*FRANCE LMAG IEEE Milestones Activities help to:*

- \* Enable Life Members to retain active IEEE associations;
- \* Advance the professional interests of IEEE;
- \* Enable cooperation with Non IEEE members belonging to French engineering associations (professional, academic or industrial ones), **Increasing visibility of IEEE in France.**
- \* Source of interesting subjects for successful LMAG technical meeting, for example, 86 participants from all Europe in the technical meeting that was held in conjunction with the preparation of the Ampere Milestone proposal,
- \* Help to build a detailed file for Life Members capabilities in order to ask them to propose new possible Milestones
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