History of the IEEE in Latin America:

100 Years of Electrical Engineering

Juan Carlos Miguez,
Past Director Region 9
IEEE History Conference
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Outline of the Presentation

• Before the Formation of the IEEE
• Growth of Region 9 Latin America
• Directors
• Publications
• Conferences
• Awards and Recognitions
Early Sections: AIEE

- **1910 in Mexico**
  - H.S. Foley and J.W. Hale form a group of AIEE Members interested in local activities and forming a Section. World War I interrupts the process.

- **1922 in Mexico City:**
  - Section approved June 29
  - G. H. Paget first Chair

- **1930** AIEE President H. B. Smith visits Mexico (D. E. Arias Mexico Section chair)

- **1948** AIEE Annual Meeting in Mexico, (O. E. Enriquez, Mexico Section chair)

- **1932** On Dec, 6th the AIEE approves the formation of a Student Branch in the University of Puerto Rico at Mayaguez. Always active, this is the oldest Student Branch in the Region

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Early Sections: IRE (1)

- **1939 in Buenos Aires (Argentina)**
  - May 2: 34 IRE Members decide to form an IRE Section: Meetings and paperwork

- **1939 in Buenos Aires:**
  - Section approved October 4
  - Adolfo Cosentino first Chair
  - First IRE Section outside North America

- **1960** University of Buenos Aires, First IRE Student Branch (#193) outside North America
Early Sections: IRE (2)

- **1956** in Rio de Janeiro (Brazil)
  - Formed August 22
  - First Chair Walter Heiniger

- **1958** in Bogota (Colombia)
  - Formed January 7

- **1961** in Santiago (Chile):
  - Julio Del Rio First Chair
  - Formed January, 3

Formation of the Region 9

- The **Region 9 Latin America** was approved by the IEEE, effective January 1st, 1967
- The territory included all the Americas “excepting Canada and the United States” : from Mexico to Tierra de Fuego including Puerto Rico and the Caribbean
- Originally 4 active Sections in **Mexico, Argentina, Rio de Janeiro and Chile**, 2 more were being formed in Sao Paulo and Venezuela; Colombia was in re-activation.
- First Regional Director: **Guillermo Andrews** (Argentine); Vice-Director and Treasurer Francisco Hawley (Mexico); Secretary Rainer Plugovel (Chile); Student Activities Alberto Rodriguez (Venezuela), Editor of Electrolatina Eric Wallsten (Mexico)
- First Regional Meeting in Buenos Aires in 1967. Since them every year, rotating in different countries.
Some of the First Directors

Argentina                                Mexico                 Brazil

Guillermo Juan Andrews                      Francisco Hawley               Jose R. Costa de Lacerda

100 Years of Electrical Engineering in Latin America
The Regional Directors

<table>
<thead>
<tr>
<th>Year</th>
<th>Director</th>
<th>Country</th>
</tr>
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<tbody>
<tr>
<td>1966/67</td>
<td>Guillermo Andrews †</td>
<td>Argentina</td>
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<tr>
<td>1968/69</td>
<td>Francisco Hawley †</td>
<td>Mexico</td>
</tr>
<tr>
<td>1970/71</td>
<td>Carlos Lohman</td>
<td>Brazil</td>
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<tr>
<td>1972/73</td>
<td>Ernesto Obregon</td>
<td>Colombia</td>
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<tr>
<td>1974/75</td>
<td>Jose R. Costa De Lacerda</td>
<td>Brazil</td>
</tr>
<tr>
<td>1976/77</td>
<td>Luis Ruperto Jimenez</td>
<td>Peru</td>
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<tr>
<td>1978/79</td>
<td>Carlos Rivera Abrams</td>
<td>Puerto Rico</td>
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<tr>
<td>1980/81</td>
<td>Oscar C. Fernandez</td>
<td>Argentina</td>
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<tr>
<td>1982/83</td>
<td>Eduardo Bonzi †</td>
<td>Chile</td>
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<tr>
<td>1984/85</td>
<td>Ramiro Garcia Sosa</td>
<td>Mexico</td>
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<tr>
<td>1986/87</td>
<td>Sergio Fronterotta</td>
<td>Brazil</td>
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<td>1988</td>
<td>Carlos Rodriguez</td>
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<td>1989/91</td>
<td>Luis T. Gandia</td>
<td>Puerto Rico</td>
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<tr>
<td>1992/93</td>
<td>Eduardo Arriola</td>
<td>Mexico</td>
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<tr>
<td>1994/95</td>
<td>Hugo Fernandez Versteggen †</td>
<td>Argentina</td>
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<td>1996/97</td>
<td>Antonio Bastos</td>
<td>Brazil</td>
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<tr>
<td>1998/99</td>
<td>Juan Carlos Miguez</td>
<td>Uruguay</td>
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<td>2000/01</td>
<td>Pedro Ray</td>
<td>Puerto Rico</td>
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<td>2002/03</td>
<td>Hugh Rudnick</td>
<td>Chile</td>
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<td>2004/05</td>
<td>Francisco Martinez</td>
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<td>Luis Pilotto</td>
<td>Brazil</td>
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<tr>
<td>2008/09</td>
<td>Enrique Alvarez</td>
<td>Peru</td>
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<tr>
<td>2010/11</td>
<td>Tania Quiel</td>
<td>Panama</td>
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More IEEE Sections

- 1964 Puerto Rico
- 1966 South Brazil
- 1967 Venezuela
- 1967 Peru
- 1970 Central America (later divided into 5 section/countries)
- 1972 Panama
- 1974 Bahia (Brazil)
- 1976 Bolivia (later dissolved, formed again 1997)
- 1974 Ecuador
- 1975 Monterrey (Mexico)
- 1977 Brasilia (Brazil)
- 1977 Jamaica (later moved to Region 3 for language reasons)

100 Years of Electrical Engineering in Latin America
**Sections in Central America**

- 1982 The CAPANA Council is formed by the Panama Section (1972) and the former Central America Section (1970)
  Later, Sections formed in all the countries of Central America:
  - 1986 Costa Rica
  - 1986 El Salvador
  - 1986 Guatemala
  - 1987 Honduras
  - 1995 Nicaragua

**Councils in Region 9**

1970 **Brazil Council** (Rio de Janeiro and Sao Paulo)
  now 5 sections with 2721 members.

1976 **Mexican Council** (Mexico and Monterrey)
  now 10 sections with 4008 members.

1982 **CAPANA Council** (Central America and Panama)
  now 6 sections with 1151 members.

1990 **Puerto Rico Council** (dissolved 1992)

2001 **Andean Council** (Venezuela, Colombia, Ecuador, Peru, Chile and Bolivia)
  5 sections with 4921 members
  6 more sections with 2602 members (2 in Puerto Rico, Trinidad and Tobago, Uruguay, Chile and Argentina)
IEEE Entities in Region 9 (2009)

32 Sections in 5 Councils
171 Technical Chapters
27 Affinity Groups
(310 Student Branches
164 Student Branch Chapters
50 Student Branch WIE
(LM, GOLD, Consultant)

100 Years of Electrical Engineering in Latin America

IEEE Membership in Latin America

100 Years of Electrical Engineering in Latin America
Publications of Region 9 (In Spanish and/or Portuguese)

- ELECTROLATINA

- NoticIEEEro (Regional Newsletter)

- Revista IEEE Latinoamerica (Latin America Transactions)

ELECTROLATINA

- Technical Publication in Spanish or Portuguese Language
- Edited by Erick Wallsten, from Mexico
- First Issue March 1967
- Last Issue Sept/Dec 1975
ELECTROLATINA: First Issue

NoticIEEEro Regional Newsletter

- NoticIEEEro: Regional Newsletter sent to every member in the Region
- 1980's: Newspaper format, sent from Brazil to each Section [Waldyr Lukato (BRA), editor]
- 1990's Booklet format, sent by Post to Higher Grade Members [Juan C. Miguez (UY), Marcel Keschner (UY), Marcelo Mota (BRA), Francisco Martinez (MEX) Jorge Him (PAN), successive editors]
- 2003 to 2008 .pdf format sent by e-mail [Luis Arenas (COL), editor]
- Now Web-only, notification sent by e-mail [Ignacio Castillo (MEX), editor]
Revista IEEE America Latina

- Revista IEEE America Latina (Latin America Transactions)
- Promoted by Director Hugh Rudnick (F, Chile)
- Edited by Jose Jardini (F, Brazil)
- Peer-reviewed, written in Spanish or Portuguese
- Web-only
- First volume appeared 2003;
- 12 issues to the present

100 Years of Electrical Engineering in Latin America

Latin America Transactions

www.ewh.ieee.org/reg/9/etrans

100 Years of Electrical Engineering in Latin America
Regional Conferences (I)

- **LATINCON** (Biannual)
  - First time in Sao Paulo, 1974 with attendees from various countries, notably Chilean students brought by future Director Eduardo Bonzi. Modeled on Intercon.
  - Frequently followed by Regional Meeting
  - Last excellent Conference in Buenos Aires, April 1988 (Marvin Minsky, Ray Dolby, etc)
  - The model of Horizontal Conference proved not to be viable and was cancelled after 1994.

Regional Conferences (II)

- **CONCAPAN** (yearly)
  - First CONCA (CONgreso en Central America) in 1971 in Guatemala. Every year another one in a different country.
  - After the merge with Panama, named CONCAPAN
  - 1981: **CONCAPAN I** in Panama
  - 2009: **CONCAPAN XXIX** in Honduras
  - Held in Central America and rotating among their 6 countries, including Panama. Very Successful model and excellent interaction among Members.
Regional Conferences (III)

- **ANDESCON** biannual
  In the countries of the Andean Countries.
  First time in Caracas, (Venezuela) 1999
  2004 Colombia, 2006 Ecuador, 2008 Peru

- **LATINCOM** (yearly)
  co-sponsored by the Communications Society

- Transmission and Distribution (**T&D LA**) biannual
  co-sponsored by the Power and Energy Society
  First time in Sao Paulo (Brazil), 2002 and 2004; 2006 Caracas, 2008 Bogota and 2010 back to Sao Paulo

100 Years of Electrical Engineering in Latin America
Some Student Conferences

- **CONESCAPAN** in Central America (28 years)
- **INGELECTRA** in Chile
- **INTERCON** in Peru
- **Regional Student Branches Meetings:**
  First in Lima, 1997; Second in Rosario (Argentina) 1999, third in Sao Paulo 2001;
  Since then held every year

IEEE Service Awards

**Haraden Pratt Award**

2006 **Antonio Bastos** (Salvador, Brazil)

“For leadership and distinguished service in sustaining and extending IEEE’s global recognition.”

2007 **Luis T. Gandia** (San Juan, Puerto Rico)

“For outstanding leadership in promoting technical activities at the regional level and the transnational character of the IEEE at the Board level.”
RAB / MGA Awards

William W. Middleton Distinguished Service Award
2002 Antonio C. Bastos, Brazil
“For inspiring leadership and dedicated service in promoting IEEE Region, Section and Chapter activities in Region 9, and at the international level.”

Larry K Wilson Transnational Award
2003 - Hugo Maria Fernandez-Versteggen, Argentina
“For his significant contributions to making IEEE a truly global Society”
1995 - Luis T. Gandia, Puerto Rico
“For a full professional life dedicated to serving and stimulating others, through his example, to live and support the principles and ideals of the IEEE.”
1986 - Carlos Rivera Abrams, Puerto Rico
“For creative accomplishments and exemplary efforts in expanding the Student, Chapter Section and Region activities in Latin America.”
1985 - Jose Valdez, Peru
“For exceptional leadership and creativity in successfully integrating all of the RAB Objectives into the operations of the IEEE Peru Section.”

Regional Awards

• Ingeniero Eminente
  Established 1974 (Aproved by IEEE BoD)

• Voluntario Sobresaliente “Oscar Fernandez”
  Established 1994

• ELEKTRON (Peru) established 2000
  Joint IEEE Award with the Asociacion Electrotecnica Peruana
IEEE Milestones

• **Chivilingo Hydroelectric Plant, 1897**
  The 1897 430 kW Chivilingo Plant was the first hydroelectric plant in Chile and the second in South America. It represented a new key technology and a new source of electrical energy in the region. *(CHILE, October 24, 2001)*

• **Panama Canal Electrical and Control Installations, 1914**
  The Panama Canal project included one of the largest and most important electrical installations in the world early in the 20th century. The use of 1022 electric motors with an installed capacity of 28,290 horsepower largely replaced the steam and water powered equipment then in common use. Reliability and safety were also engineered into the innovative electrical control system, enabling remote lock operation from a central location. *(PANAMA, April 4, 2003)*

• **Arecibo Radiotelescope, 1963**
  The Arecibo Observatory, the world's largest radiotelescope, was dedicated in 1963. Its design and implementation led to advances the areas of antenna design, signal processing, and electronic instrumentation, and in the mechanical engineering areas of antenna suspension and drive systems. *(PUERTO RICO, Nov. 2001)*

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R9 in the IEEE Board (1)

• **Secretary of the IEEE:**
  – 1987 Ramiro Garcia Sosa (Mexico)
  – 1991 Hugh Rudnick (Chile)
  – 1994 Luis T. Gandia (Puerto Rico)
  – 1998 Antonio C. Bastos (Brazil)
  – 2001/2 Hugo Fernandez Versteggen † (Argentina)
  – 2006 Roberto Boisson de Marca (Brazil)

• **Treasurer:**
  – 2003/4 Pedro Ray (Puerto Rico)

• **Vice President Regional Activities:**
  – 1992/3 Luis T. Gandia (Puerto Rico)
  – 2000 Antonio C. Bastos (Brazil)
  – 2006/7 Pedro Ray (Puerto Rico)
R9 in the IEEE Board (2)

- **Vice President Technical Activities:**
  - 2006  Roberto Boisson de Marca (Brazil)

- **Vice President Educational Activities:**
  - 2009  Teofilo Ramos (Mexico)

- **Division Directors**
  - 1999/0 VI (EMS) Luis T. Gandia (Puerto Rico)
  - 2004/5 III (Com) Roberto Boisson de Marca (Brazil)
  - 2010/1 VII (Power) Enrique Tejera (Panama)

- **IEEE President**
  - 2010  Pedro Ray (Puerto Rico)

Conclusions

- Interest in the AIEE, IRE and IEEE in Latin America dates back 100 years to 1910
- The Region 9 is a growing and very much active entity, with dynamic and motivated volunteers in all the IEEE
- Only a short collection of facts has been presented
- There is much more information in the History of the Region. It needs to be documented and saved for the next generations
Principal Sources

- **Carlos Rodriguez** (Panama) “Historia de la Region Latinoamericana”, 1984
- **Jose Roberto Costa de Lacerda** (Brazil)
- **Manuel Rodriguez Perazza** (Puerto Rico)
- Revista ELECTROLATINA
- Proceedings of the IRE
- NoticIEEEros
- Regional Meetings’ Minutes