



EMALCA – Venezuela 2018  
XXXI Escuela Venezolana de Matemáticas  
Mérida, September 2 to 7, 2018

## Academic report

The EMALCA – Venezuela 2018 (XXXI Escuela Venezolana de Matemáticas) took place from 2nd to 7th September 2018 at Facultad de Ciencias of the Universidad de Los Andes in Mérida, Venezuela.

**Scientific Committee:** Carlos Carpintero (Universidad de Oriente, UDO), Carlos Di Prisco (Instituto Venezolano de Investigaciones Científicas, IVIC, y Universidad de Los Andes, Bogotá), Hannen Hanna (Universidad de Carabobo, UC), José Hernández (Universidad Central de Venezuela, UCV), Abelardo Monsalve (Universidad Centroccidental Lisandro Alvarado, UCLA), Ramón Pino (Universidad de Los Andes, ULA), Carmen Vanegas (Universidad Simón Bolívar, USB).

**Organizing Committee:** Oswaldo Araujo (ULA), Stella Brassesco (IVIC), José Nieto (Universidad del Zulia, LUZ), Luis Rodríguez (UC), Neptalí Romero (Coordinator, UCLA).

### Participantes.

A total of 42 participants were registered: 28 undergraduate students, 10 graduate students, 2 postdoctoral fellows and 2 mathematics teachers from national universities, almost all from different cities of the country. Of that total, 18 received financial support from CDC-IMU; the rest was supported by national institutions and CIMPA. Six undergraduate students from Honduras (5) and Colombia (1) had applied for support to participate, but they did not come, even if their applications were approved, and partial support for travel expenses was granted. It is necessary to mention that in thirty-one editions of the Escuela Venezolana de Matemáticas, this has been the school with the lowest number of participants. Certainly the economic and political situation of the country, as well as the difficulties of mobility from one city to another have affected this decline in participants. The list of participants that received support from CDC-IMU is enclosed.

**Courses:** The three scheduled courses were carried out as planned. Each course consisted of 7 sessions of 2 hours: Monday, Tuesday, Wednesday and Thursday from 9 am to 11 am, and Monday, Tuesday and Thursday from 3 pm to 5 pm), Friday morning was dedicated to evaluation activities.

**Course 1 (C1):** Introducción a la solución numérica de ecuaciones no lineales.

**Professor:** Carlos Cadenas (Universidad de Carabobo).

**Participants registered:** 16.

**Examination:** According to the professor's report, 6 received grade A, 7 B, 2 C and 1 D.

A: Outstanding; B: Excellent; C: Good; D: Approved.

A list of participants is attached.

**Course 2 (C2):** Programación Polar.

**Professor:** Victor Griffin (Universidad de Carabobo).

**Participants registered:** 9.

**Examination:** In addition to the two postdoctoral fellows, the professor highlighted the participation of 3 other participants: 2 graduate students and one undergraduate student.  
A list of participants is attached.

**Course 3 (C3):** Dinámica de cubrimientos del anillo.

**Professor:** Álvaro Rovella (Universidad de la República, Uruguay).

**Participants registred:** 17.

**Examination:** Several exercises were proposed and discussed in some of the lectures. According to the professor's report, 12 of participants fulfilled the task, of which 7 were highlighted.

A list of participants is attached.

Each course was accompanied by a text written by its professor, its edition was under the responsibility of Ediciones IVIC. The edited titles are:

- Introducción a la solución numérica de ecuaciones no lineales (ISBN: 978-980-261-192-8)
- Programación Polar (ISBN: 978-980-261-194-2)
- Dinámica de cubrimientos del anillo (ISBN: 978-980-261-193-5)

The three books, in pdf format, were sent (via email) to the participants a few days before starting school. Each book can be downloaded from <http://evm.ivic.gob.ve/>

**Plenary conferences:** Initially four conferences had been scheduled, unfortunately for several reasons (see below) only two could be carried out:

**Conference 1:** Euclidianidad y nociones geométricas euclídeas de polígonos en planos de Minkowski.

**Professor:** Tobías Rosas (LUZ, Maracaibo)

**Date and Time:** Monday 03/09/2018 – from 11:30 am to 12:30 pm

**Conference 2:** Una introducción a la Teoría de Brouwer.

**Professor:** Juliana Xavier (Universidad de la República, Uruguay)

**Date and Time:** Tuesday 04/09/2018 – from 11:30 am to 12:30 pm

The inaugural conference (Sunday 02/09/2018) was in charge of Professor Yamilet Quintana (USB, Caracas), unfortunately on Friday 31/08/2018 the Polar Foundation, the organization that had assumed the air transfer (Caracas-Mérida-Caracas), food and lodging of Professor Quintana, reported the impossibility of buying the air ticket; this forced the suspension of the opening lecture. The conference on Tuesday 04/09/2018 that would dictate Professor Daniel Morales (ULA, Mérida) was not possible due to illness a few days before the start date of the school; it did not allow its replacement. The conference on Wednesday 05/09/2018 that would dictate Professor José Giménez (ULA, Mérida) could be replaced by the lecture of Professor Rosas; this was possible because Professor Giménez announced, at the beginning of July, that for job reasons he could not be in the country for the school date.

### **Conversation about postgraduate programs.**

On Thursday 06/09/2018, between 11:30 am and 12:30 pm, a meeting with the participants of the school and several professors was held, as planned. In this special meeting different postgraduate programs in mathematics of the country were reported. There was also important informations and comments about: the postgraduate program in mathematics of the Universidad de la República (Uruguay), the national experiences with the “Prova Extramuros” (program of some Brazilian universities) and some Mexican institutions such as CIMAT and UNAM.

**Final remarks.**

As in some previous years, in this edition of the school there were also several inconveniences, many of which caused by the complicated political and economic situation that the country is going through, which have increased due to the intensification of the blockade against Venezuela. In these conditions, coupled with the extraction of the monetary cone and the high inflationary rate, the financial support of the traditional Venezuelan institutions was hindered. In addition, this year there was an additional difficulty (product of the same factors): the land and air mobility between the different cities of the country is really a big problem. These facts forced the Organizing Committee to carry out special actions to guarantee the transportation of students and professors from universities and institutions in cities outside the state of Mérida and located at a distance (approximately) between 400 and 1000 kilometers from the Mérida city.

Despite this deplorable context, the participants of the courses, their professors and plenary speakers showed great satisfaction for the completion of the school. It is necessary to highlight the fraternal support of colleagues Juliana Xavier and Álvaro Rovella, who, in addition to covering expenses in air transport between Uruguay and Venezuela, they were a great example of solidarity and collaboration with the mathematics in our country. Naturally, our thanks to colleagues Carlos Cadenas, Tobías Rosas and Victor Griffin for their invaluable support in the development of the school's academic activities. Finally, it is also necessary to mention that without the support of the Committee of the EMALCA, CIMPA and CDC-IMU the event would not have been possible.

On behalf of the Organizing Committee, our sincere words of thanks.

A handwritten signature in black ink, appearing to read 'Neptalí Romero', with a stylized flourish at the end.

Neptalí Romero