



Mission SU

Development of a strategic partnership

Universidad Autónoma de México (UNAM)
Mexico City, MEXICO

29th February to 3rd March 2020

Chemistry Delegation

Corinne AUBERT
Anne Lise POQUET
Lydia SOSA VARGAS
Philippe GRELLIER

Goals of the Mission

- Introduction of the SU scientists of the **Chemistry, Environmental transition and Heritage** departments to their counterparts at the UNAM
- Meeting of the SU **international development** representatives with the corresponding decision-makers from UNAM

Program of visit

- Opening ceremony and presentation of the **Scientific research** and **technical** council (UNAM)
- **3 Scientific workshops** in the topics of *Chemistry, Environmental transition and Heritage*
- Various **institutional relation** workshops with UNAM's Faculty of Science, International relations, Business France, CONACYT, and others.
- Closing ceremony and presentation of workshop's results and **action plans**

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Presentation of the UFR de Chimie (numbers, infrastructure, research laboratories)
Introduction to Masters in Chemistry and International exchanges
Building bridges and international mobility for mexican students
Chemistry at the Natural Museum of Natural History (MNHN)



UNAM
Delegation

Cecilio ALVAREZ TOLEDANO
Roberto ARREGUIN ESPINOSA
Fernando CORTES GUZMAN
Marcos HERNANDEZ RODRIGUEZ
Jose Guadalupe LOPEZ CORTES
Luis Demetrio MIRANDA GUTIERREZ

Margarita RIVERA
Gabriela DIAZ

Miguel COSTAS BASIN
Alfonso Ramón GARCÍA MÁRQUEZ
Marco Polo JIMÉNEZ SEGURA

Workshop 3 - Chemistry

Institute of Chemistry
Jorge PEON PERALTA (Director)

Institute of Physics

Faculty of Chemistry
Carlos AMADOR BEDOLLA (Director)

Visits to the Institute and Faculty of Chemistry also took place, including several research laboratories and the Faculty of Chemistry's instrumental platform.

Result of workshop and action plans

We have identified two parallel approaches for the partnership between SU and the UNAM:

STUDENT MOBILITY

Faculty of Chemistry

UNAM to SU (undergraduate level, semester 8)
SU to UNAM (M1 and M2 spring semester)

Institute of Chemistry

UNAM to SU (graduate level M2, internship)
SU to UNAM (M1 and M2 spring semester)

RESEARCH

Collaborations by shared interests
Student/Research exchanges
Thematic schools/symposia

Faculty and Institute of Chemistry

At the UNAM, there is no joint Chemistry department, both the faculty and the institute function as independent institutions and thus the operation mode differs.

Responsible for the formation of all the undergraduate population (with some master students) in Chemistry.

- Undergraduate (licenciatura) program is 4-4.5 years
- Graduate (Master) program is 2 years
- Has student funding for visits/stays abroad (undergraduate level)
- Faculty is involved in teaching and research (undergraduate and master level)



Responsible for the formation of mostly graduate students (with some undergraduates) in Chemistry.

- Master program is 2 years (year 1- courses only, year 2- research project)
- PhD program is 4 years (year 1 – courses only, years 2 to 4 – research project)
- Postgraduate funding comes from CONACYT
- Faculty is involved research mostly and some teaching (for master and PhD program)

- Master program (Mexico) allows a 4 month visit/stay in another lab, PhD program allows 1 year
- In both cases, the students keep their CONACYT scholarship (but they would need a supplement)
- Scholarship is 550 EUR for Masters and 700 EUR for PhD students (approx.)
- The liability insurance needs to be taken up by host country (27 EUR/year)



The workshop allowed both delegations to identify research topics of shared interest and those where past work has taken place.

Research

Shared areas of interest



Organometallic
Chemistry

Synthetic Organic
Chemistry

Homogeneous and
Heterogeneous
Catalysis

Electrochemistry

Spectroscopies
(NMR, laser, XPS,
EPR)

Nanomaterials

Supramolecular
Chemistry

Polymer
Chemistry

Computational
Chemistry

Natural Products
Chemistry

Biomaterials

Medicinal
Chemistry

Biochemistry

Chemistry of
marine
organisms

Ecological
Chemistry

Metabolomics

*Highlighted subjects are those with a
past/existing collaboration between UNAM-SU*

Organometallic
Chemistry

Synthetic Organic
Chemistry

Homogeneous and
Heterogeneous
Catalysis

Electrochemistry

Spectroscopies
(NMR, laser, XPS,
EPR)

Research – THEME 1

Matching SU-UNAM researchers

Marc
PETIT

Cecilio
ÁLVAREZ TOLEDANO

Emmanuel
MAISONHAUTE

Bernardo
FRONTANA

Research – THEME 2

Matching SU-UNAM researchers

Nanomaterials

Julia
CONTRERAS

Jorge
PEON PERALTA (?)

Quantum chemical topology

Supramolecular
Chemistry

Lydia
SOSA VARGAS

Margarita RIVERA
Gabriela DÍAZ

Polymer
Chemistry

Polymers Lab
IPCM

Verónica
GARCÍA MONTALVO

2D Materials and surface
nanostructuring

Computational
Chemistry

Alfonso R.
GARCÍA MÁRQUEZ

Marco Polo
JIMÉNEZ SEGURA

David
MORALES MORALES

Natural Products
Chemistry

Biomaterials

Medicinal
Chemistry

Biochemistry

Chemistry of
marine
organisms

Ecological
Chemistry

Metabolomics

Research – THEME 3

Matching SU-UNAM researchers

Michelle
SALMAIN

Ronan
LE LAGADEC

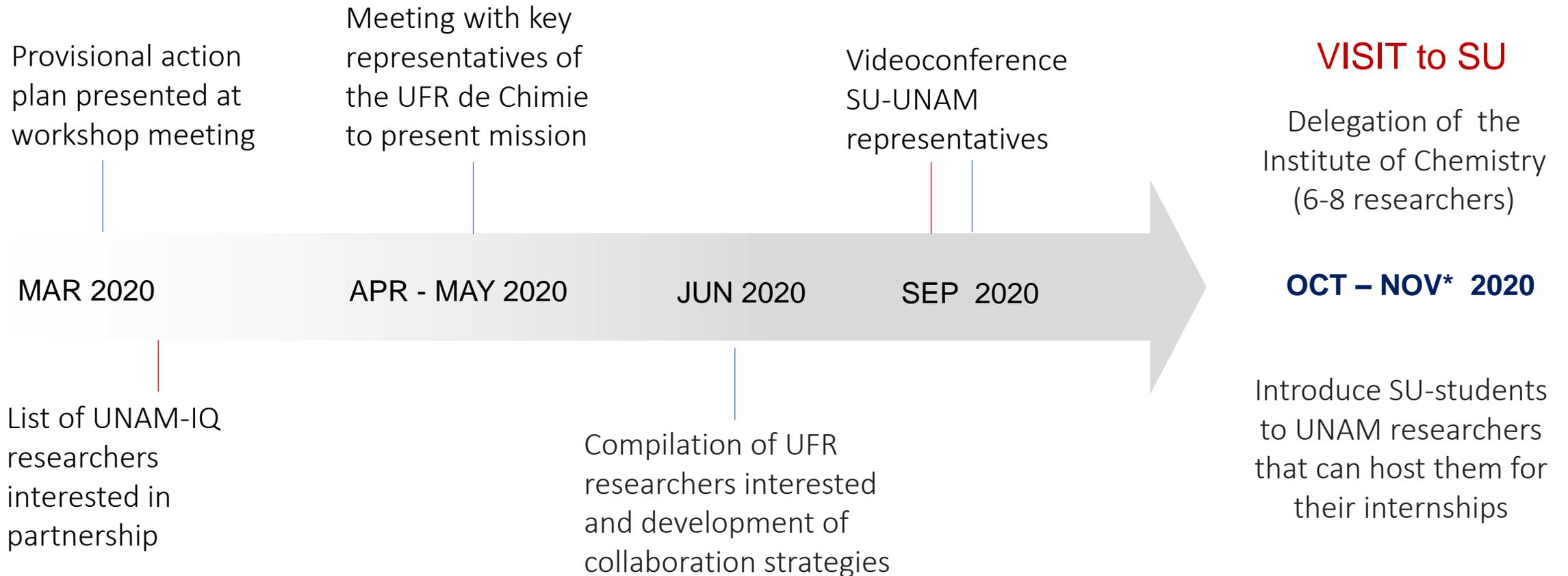
Bio-organometallic Chemistry

Phillipe
GRELLIER

José
RIVERA

Natural products of fungi

Action Plan for 2020



** Initially planned for beginning of September, is dependent on the evolution of the COVID-19 situation*

Action Plans – LONG TERM



Divers instituts/structures à la UNAM :

Institute for Physics
Institute for Aesthetic Studies
Institute of Anthropological Research
Institute for Nuclear Research
Institute of Geography, ...

Et une structure transversale « sans mur » impliquant : physique, chimie, histoire de l'art, ...
Laboratorio Nacional de Ciencias para la Investigación y la Conservación del Patrimonio Cultural (LANCIC)

Recherches disciplinaires et interdisciplinaires touchant au patrimoine à l'UNAM et à SU
⇒ *dont implication de « la chimie »*

Différents niveaux de coopérations possibles/envisagés :

- 1- Mobilité étudiante (formation initiale L/M)
- 2- Stages (M et D) et « écoles d'été »
- 3- Echange de personnels (cours séjours ou chaires)
- 4- Formation doctorale en cotutelle
- 5- Double diplôme
- 6- Projets de recherche conjoints

Other INSTITUTIONAL ACTIONS

From SU's international development department

Direction de la coopération Internationale (UNAM)

- Language support for french students can be provided (also french for mexican students)
- Lodgement/housing possible at the UNAM (Coyoacan)
- Will work together with SU to define joint educational tools and standard qualification criteria for both SU/UNAM cursus
- Will coordinate with SU's correspondants to define themes for joint schools

Faculté des sciences UNAM

- They host the largest population of undergraduate students (Biology, Physics and Mathematics)
- Interested in developing joint international schools (Jan 2021?)
- Intersted in developing joint interdisciplinary courses (Spanis-Physics)
- A delegation of UNAM's Faculty of Science will also be invited to SU (Paris)

Other INSTITUTIONAL ACTIONS

From SU's international development department

Business France

Local industry actors have a desire to take an active role to UNAM-SU cooperation programs (data, internship positions)

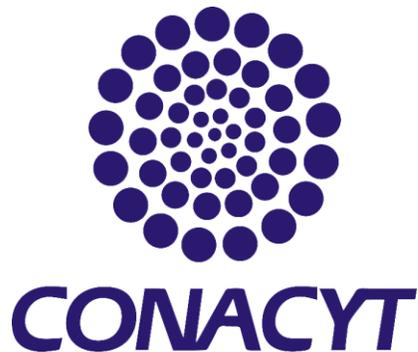
- **Tech for good, Agriculture** (Julien ROUSSELET)
Searching for new solutions that can be applied in Mexico
- **VINCI , Construction** (Manuel SAEZ)
Aim to reduce carbon footprint of materials developed,
exploit local raw materials,
- **Ideal, Sustainability** (Mélanie SALAGNAT)
Health and nutrition
- **Ocean Science**
Tackling the Sargassum (seaweed) problematic
- **L'Oréal, cosmetics** (Madgalena ZAPATA)
Dermatological research, endocrine disruptors,
telemedicine (remote diagnostics and monitoring)
- **PLASTICS / POLYMERS**
Various subjects of interest, many industrial
participants (?)

Other INSTITUTIONAL ACTIONS

From SU's international development department

CONACYT – National Council of Science and Technology of Mexico

This agency is responsible for providing funding for postgraduate training (Master and PhD level) in Mexico and abroad.



- 40 scholarships are managed jointly with the French embassy
- There is an existing cooperation agreement that will be renewed before December 2020.
- SU will contact representatives of the Mexican Embassy to participate in CONACYT's annual promotional event taking place in Strasbourg.
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- For research, CONACYT has agreed to develop a direct cooperation with SU, and will be put into contact with the ANR
- CONACYT is also interested to take part in the industrial cooperations UNAM-SU-Business France



UNAM-SU Chemistry

Cooperation Workshop 2020

CONTACT:

DR Corinne AUBERT

corinne.aubert@sorbonne-universite.fr

