



Dirección de Investigación
VICERRECTORÍA DE INVESTIGACIÓN Y POSTGRADO

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MIÉRCOLES 08 ENERO, 2020

AÑO V — NÚMERO 1

Newsletter de I+D+i

Investigación, Desarrollo e innovación



PUBLICACIONES
CIENTÍFICAS UTEM



CONVOCATORIAS



NOTICIAS

FONDOS
CONCURSABLES

BECAS Y
DISTINCIONES



COLABORA

CURSOS





CONGRESO
FUTURO 2020

IDEAS PARA UN NUEVO MUNDO

CINCO DÍAS DE CONOCIMIENTO
CULTURA E INNOVACIÓN

13 al 17 ENERO

www.congresofuturo.cl



Fundación
Encontros
del Futuro



LANZAN CONGRESO FUTURO 2020: IDEAS PARA UN NUEVO MUNDO

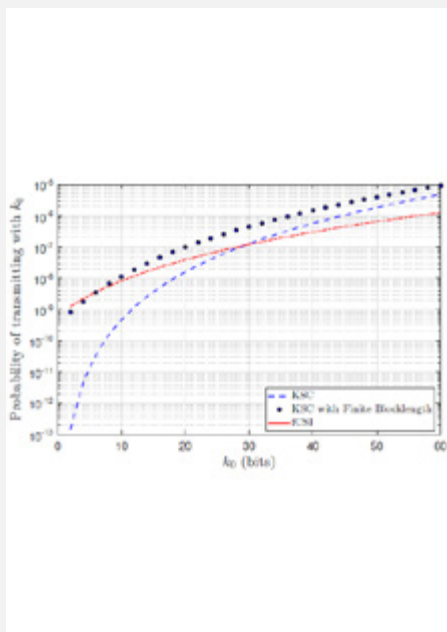
Del 13 al 17 de enero, Congreso Futuro 2020 abrirá el debate respecto a la urgente necesidad de que en Chile se cuente con más y mejor ciencia y tecnología, e ideas que permitan generar el país que queremos.

MÁS NOTICIAS



DE-ENCAPSULATION AND DECOMPRESSION ALGORITHMS FOR LEVEL 0 FILES OF THE ENVISAT SATELLITE IN IMAGE MODE

Indira Franchi, **Alfonso Zozaya**.



RATE CONTROL FOR WIRELESS-POWERED COMMUNICATION NETWORK WITH RELIABILITY AND DELAY CONSTRAINTS

Onel L. Alcaraz López, Hirley Alves, Richard Demo Souza, **Samuel Montejo-Sánchez**, Evelio M. García Fernández.

From concentrated dispersion to solid β -cyclodextrin polymer-capped silver nanoparticle formulation: A Trojan horse against Escherichia coli

Rudy Martin-Trasanco, Giovanna Anziani-Ostuni, Hilda Esperanza Esparza-Ponce, Pedro Ortiz, María E. Montero-Cabrera, Diego P. Oyarzún, César Zúñiga, José Manuel Pérez-Donoso, **Guadalupe del C. Pizarro**, Ramiro Arratia-Pérez.

Facility location with tree topology and radial distance constraints

Pablo Adasme, **Ali Dehghan Firoozabadi**.

Importance of the interaction adsorbent-adsorbate in the dyes adsorption process and DFT modeling

I.A. Aguayo-Villarreal, **D. Cortes-Arriagada**, C.K. Rojas-Mayorga, K. Pineda-Urbina, R. Muñiz-Valencia, J. González.

Effects of centrifugal block freeze crystallization on quality properties in pineapple juice

Patricio Orellana-Palma, **Rommy N. Zúñiga**, Pawan Singh Takhar, María Pía Gianelli, Guillermo Petzold.

New cardo silylated poly(azomethine)s containing 9,9'-diphenylfluorene units as materials with Brønsted-acid dependent fluorescence

René A Hauyon, Gabriela Garrido-Gatica, Patricio A. Sobarzo, **Carmen M. González-Henríquez**, Luis H. Tagle, Fidel E. Rodríguez-González, Ignacio A. Jessop, Gonzalo Recabarren-Gajardo, Alain Tundidor-Camba, Claudio A. Terraza.



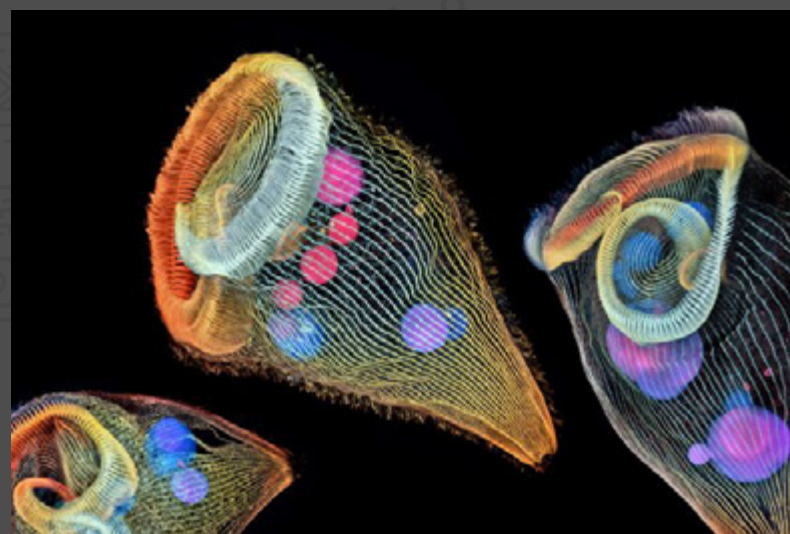
2019

BREAKTHROUGH
of the YEAR

LOS DIEZ DESCUBRIMIENTOS
CIENTÍFICOS MÁS IMPORTANTES
DE 2019, SEGÚN «SCIENCE»

20 DICIEMBRE, 2019

+ LEER



THE BEST SCIENCE IMAGES OF
THE YEAR: 2019 IN PICTURES

16 DECEMBRE, 2019

+ LEER



ALL THE SPECIES DECLARED
EXTINCT THIS DECADE

16 DECEMBRE, 2019

+ LEER



ROBOTS, HOMININS AND
SUPERCONDUCTORS: 10
REMARKABLE PAPERS FROM
2019

13 DECEMBRE, 2019

+ LEER



LA UNIÓN DE LA INTELIGENCIA
ARTIFICIAL Y EL MACHINE
LEARNING EN EL TRABAJO DE
HIMABINDU LAKKARAJU

26 NOVIEMBER, 2019

+ LEER



EL CIENTÍFICO DE YALE QUE
“REVIVIÓ” EL CEREBRO DE UN
ANIMAL DESPUÉS DE SU MUERTE

19 DICIEMBRE, 2019

+ LEER

CONVOCATORIAS
Fondos ConcursablesVOLVER
AL MENÚ• **INSTITUTOS CIENTÍFICOS MILENIO****DESCRIPCIÓN**

El Ministerio de Economía, Fomento y Turismo, a través de la Comisión Nacional de Iniciativas Científicas para el Milenio, llama a concurso 2019 para:

- Institutos Científicos Milenio de investigación en Ciencias Naturales y Exactas.
- Institutos Científicos Milenio de investigación en Ciencias Sociales.

Se espera que estos centros trabajen con eficiencia y rigurosidad durante su vigencia, elevando de forma demostrable la calidad de la productividad científica que desarrollan y su aporte en otros ámbitos relevantes, por sobre el nivel que tenían antes de ser un Centro Milenio, contribuyendo, a través de sus resultados y productos, al desarrollo integral del país en sus respectivas áreas de competencia.

[MÁS INFORMACIÓN...](#)**FECHA DE APERTURA**

31 de diciembre 2019 a las 14.00 horas.

FECHA CIERRE POSTULACIONES

4 Marzo 2020 a las 14.00 horas.

• **ARTIFICIAL INTELLIGENCE FOR SPECIES DISCOVERY****DESCRIPTION**

The grants will support the creation and deployment of open source trained models, algorithms, and datasets to support species discovery. To strengthen your application, consider aligning with a research group to address a biodiversity question. For example, pair an expert capable of creating and deploying an open source trained model or algorithm with a research specialist using this model or algorithm to address a pressing biodiversity question. We encourage proposals for work in any biome. Proposed work should create generalizable, scalable tools that use AI to support species discovery. Priority will be given to projects that do one or more of the following:

- Use AI to address challenges in filling biodiversity data gaps.
- Generate data and develop open-source technologies that contribute to scientific inquiry and advance our knowledge of the planet's biodiversity.
- Use AI and machine learning to capitalize on the information potential of massive and complex datasets.

[READ MORE...](#)**APPLICATION DEADLINE:**

January 2020.

• **ARTIFICIAL INTELLIGENCE FOR SPECIES DISCOVERY****DESCRIPTION**

The ERC Proof of Concept Grants aim to maximise the value of the excellent research that the ERC funds, by funding further work (i.e. activities which were not scheduled to be funded by the original ERC frontier research grant) to verify the innovation potential of ideas arising from ERC funded projects. Proof of Concept Grants are therefore on offer only to Principal Investigators whose proposals draw substantially on their ERC funded research.

The financial contribution will be awarded as a lump sum of EUR 150 000 for a period of 18 months. The ERC expects that normally proof of concept projects should be completed within 12 months. However, to allow for those projects that require more preparation time, projects will be signed for 18 months. Given this initial flexibility, extensions of the duration of proof of concept projects may be granted only exceptionally. The lump sum offered will cover the beneficiaries' direct and indirect eligible costs for the project: if the project is implemented properly the amounts will be paid regardless of the costs actually incurred. Specifically, the lump sum has been designed to cover 100% of the eligible direct costs and indirect costs calculated by applying a flat-rate of 25% to the direct cost categories.

[READ MORE...](#)**APPLICATION DEADLINE**

21 January 2020, 17.00 hours Brussels Time.

• **HER GLOBAL IMPACT****DESCRIPCIÓN**

HER GLOBAL IMPACT es la primera Academia de Innovación para mujeres en América Latina, que busca impulsar el desarrollo de nuevas industrias y negocios liderados por emprendedoras, usando las tecnologías exponenciales, que generen impactos positivos en la sociedad. El objetivo de esta convocatoria es desarrollar un proyecto de innovación que resuelva una problemática de la sociedad en materia de salud, educación, gobierno, energía, seguridad, medio ambiente, empleo o alimentación; con potencial de generar un impacto positivo en lo económico y social.

[MÁS INFORMACIÓN...](#)**FECHA CIERRE POSTULACIONES**

28 Febrero 2020.

• **STIC AMSUD CONVOCATORIA INTERNACIONAL 2020****DESCRIPCIÓN**

El programa regional STIC-AmSud es una iniciativa de la cooperación francesa y sus contrapartes de Argentina, Brasil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Perú, Uruguay, Venezuela, orientada a promover y fortalecer la colaboración y la creación de redes de investigación-desarrollo en el ámbito de las Ciencias y Tecnologías de la Información y Comunicación a través de la realización de proyectos conjuntos.

[MÁS INFORMACIÓN...](#)**FECHA CIERRE POSTULACIONES**

20 Abril 2020.

• **MATH AMSUD CONVOCATORIA INTERNACIONAL 2020****DESCRIPCIÓN**

El programa regional MATH-AmSud es una iniciativa de la cooperación francesa y sus contrapartes de Argentina, Brasil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Perú, Uruguay, Venezuela, orientada a promover y fortalecer la colaboración y la creación de redes de investigación-desarrollo en el ámbito de las Matemáticas a través de la realización de proyectos conjuntos. Los objetivos del concurso son:

- Desarrollar la colaboración en el ámbito de las matemáticas a través del intercambio de investigadores y doctorandos y de información entre los países de América del Sur implicados, así como entre éstos y Francia.
- Apoyar proyectos de investigación básica y aplicada que contengan una dimensión de innovación tecnológica, con componente regional, entre Francia y al menos dos países sudamericanos asociados.
- Favorecer en América del Sur las sinergias con otros programas regionales y multilaterales en este sector, en particular con la Unión Europea.
- Favorecer la participación de jóvenes investigadores/as para asegurar la continuidad de las redes.

[MÁS INFORMACIÓN...](#)**FECHA CIERRE POSTULACIONES**

20 Abril 2020.

• **CLIMAT AMSUD CONVOCATORIA INTERNACIONAL 2020****DESCRIPCIÓN**

El programa regional CLIMAT-AmSud es una iniciativa de la cooperación francesa y sus contrapartes en Argentina, Bolivia, Colombia, Chile, Paraguay, Perú y Uruguay. Su objetivo es promover y reforzar la colaboración y la creación de redes de investigación y desarrollo y financiar proyectos de investigación asociados a la variabilidad climática y al cambio climático, mediante la ejecución de proyectos de investigación conjuntos.

[MÁS INFORMACIÓN...](#)**FECHA CIERRE POSTULACIONES**

20 Abril 2020.



VOLVER AL MENÚ



CONVOCATORIAS

Becas y Distinciones

VOLVER
AL MENÚ• **BIOCHEMICAL SOCIETY / 2021 AWARD BIOCHEMICAL SOCIETY****DESCRIPTION**

Each year the Biochemical Society makes a series of prestigious awards that recognize excellence and achievement in both specific and general fields of science. All our award prize and medal lectureships carry prize money and all award winners will be invited to submit an article to a Society-owned publication. The open nominations are:

- **The Centenary Award:** Is awarded annually to a biochemist of distinction from any part of the world.
- **The Biochemical Society Award:** The nominations are sought for candidates who have demonstrated an outstanding contribution or application of computational or mathematical methods leading to advancing the understanding of biomolecular sciences.
- **The Sir Phillip Randle Lecture:** Is awarded biennially to a scientist from any part of the world. The awardee is selected on the basis of their contribution to the understanding of mammalian metabolism.
- **Industry and Academic Collaboration Award:** This award recognizes an outstanding individual who has made an inspirational contribution to the biosciences and to industry-academia interactions.
- **International Award:** Is presented annually and recognizes outstanding and independent research that illustrates the importance of the molecular biosciences in the advancement of life sciences research.

[READ MORE...](#)**APPLICATION DEADLINE**

31 January 2020.

• **IUPAC INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS / 2020 IUPAC-SOLVAY INTERNATIONAL AWARD FOR YOUNG CHEMISTS****DESCRIPTION**

The IUPAC-SOLVAY International Award for Young Chemists is intended to encourage outstanding young research scientists at the beginning of their careers. The awards are given for the most outstanding Ph.D. theses in the general area of the chemical sciences, as described in a 1000-word essay. The award is generously sponsored by Solvay.

The awards will be presented at the 2021 IUPAC Congress in Montréal (13-20 August 2021). Each awardee will be invited to present a poster on his/her research and to participate in a plenary award session, and is expected to submit a review article for publication in Pure and Applied Chemistry.

[READ MORE...](#)**APPLICATION DEADLINE**

1 February 2020.

• **IUPAC INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS / DSM BRIGHT SCIENCE AWARD 2020 IN MATERIALS SCIENCES****DESCRIPTION**

Bestowed in partnership with the International Union of Pure and Applied Chemistry (IUPAC), DSM invites nominations for the DSM Bright Science Award 2020 in materials sciences which is accompanied by a cash prize of €25,000. This prestigious award has been established to recognize and reward experienced scientists, in the midst of their career, who have already made an indelible, positive impact on our global society and on the advancement of science in their respective field of research – and who we would like to stimulate to continue doing so by recognizing and rewarding their talent and achievements.

Scientists from all parts of the world who have made major contributions to fundamental or applied research in the field of materials sciences can be nominated for the award.

[READ MORE...](#)**APPLICATION DEADLINE**

1 February 2020.

• **INTERNATIONAL POLITICAL SCIENCE ASSOCIATION (IPSA-AISP) / IPSA TRAVEL GRANTS 2020 FOR 26TH WORLD CONGRESS OF POLITICAL SCIENCE****DESCRIPTION**

The purpose of these funds is to facilitate travel to the world congress by people who live and work in developing economies, who would otherwise not be able to afford it. Recipients must be presenters (authors) or co-presenters (co-authors) at the event and be listed in the program. Travel grant funds will be given to recipients ONSITE and not in advance of the congress.

[READ MORE...](#)**APPLICATION DEADLINE**

5 February 2020.

• **EUROPEAN MOLECULAR BIOLOGY ORGANIZATION (EMBO) / POSTDOCTORAL FELLOWSHIPS****DESCRIPTION**

The EMBO Postdoctoral Fellowships are awarded for a period of up to two years and support excellent postdoctoral researchers in laboratories throughout Europe and the world. International exchange is a key requirement. Now awarding grants for employment contracts in EMBC countries, EMBO Postdoctoral Fellowships also support the career development of the fellows through leadership courses and networking opportunities

[READ MORE...](#)**APPLICATION DEADLINE**

There are not application deadlines.



VOLVER AL MENÚ



CONVOCATORIAS Cursos

[VOLVER
AL MENÚ](#)

- **GESTIÓN DE PROYECTOS DE DESARROLLO**
BANCO INTERAMERICANO DE DESARROLLO (BID)

OBJETIVO:

“Un MOOC desarrollado en colaboración con el Project Management Institute Educational Foundation (PMI-EF)”. Aprende mejores prácticas para gestionar proyectos que promuevan el desarrollo económico y social en América Latina y el Caribe.

DURACIÓN Y CONDICIONES:

10 semanas. Gratis, con opción de certificación (pago previo).

COMIENZA EN: 16 Enero 2020.

[MÁS INFORMACIÓN...](#)

- **DRAWING NATURE, SCIENCE AND CULTURE:
NATURAL HISTORY ILLUSTRATION 101**
UNIVERSITY OF NEWCASTLE AUSTRALIA

OBJECTIVE:

Learn how to see and draw nature like an illustrator. Build observational and visual interpretation skills in an interactive and enjoyable way.

DURATION AND CONDITIONS:

6 weeks. Free, with option for certification (previous payment).

STARTS ON: 4 March 2020.

[READ MORE...](#)

- **PRINCIPLES OF BIOCHEMISTRY**
HARVARD UNIVERSITY

OBJECTIVE:

This introduction to biochemistry explores the molecules of life, starting at simple building blocks and culminating in complex metabolism.

DURATION AND CONDITIONS:

15 weeks. Free, with option for certification (previous payment).

STARTS ON: Free enrolling.

[READ MORE...](#)

- **LOGÍSTICA DEL FUTURO**
LOGYCAX

OBJETIVO:

La digitalización, las tendencias e implicaciones tecnológicas y la aplicabilidad de big data, omnicanalidad y IoT, son conceptos fundamentales que le ayudarán a buscar soluciones estratégicas a los retos y desafíos logísticos del futuro latinoamericano.

DURACIÓN Y CONDICIONES:

5 semanas. Gratis, con opción de certificación (pago previo).

COMIENZA EN: A tu propio ritmo.

[MÁS INFORMACIÓN...](#)

- **DRAINAGE IN AGRICULTURE: CONTROLLING WATER
AND SALT LEVELS IN THE SOIL**
WAGENINGEN UNIVERSITY & RESEARCH

OBJECTIVE:

Get prepared for heavier rainfall and the increasing demand for food! The #1 Agricultural University of the world will teach you how to design and implement effective drainage systems in agriculture. You will learn how to create a perfect soil profile for optimal growing conditions for a crop and help feed the growing world population. Enrol now and prepare for the effects of climate change by draining excess water.

DURATION AND CONDITIONS:

5 week. Free, with option for certification (previous payment).

STARTS ON: 14 January 2020.

[READ MORE...](#)

- **OPPORTUNITIES IN WATER AND HEALTH**
QUEEN'S UNIVERSITY

OBJECTIVE:

This course will investigate a number of solutions and interventions to water-related human health impacts.

DURATION AND CONDITIONS:

4 week. Free, with option for certification (previous payment).

STARTS ON: Free enrolling.

[READ MORE...](#)

[VOLVER AL MENÚ](#)



Colabora

SI QUIERES DIFUNDIR ACTIVIDADES O NOTICIAS VINCULADAS A I+D+i PUEDES ENVIARLAS AL CORREO NEWSLETTER.DINV@UTEM.CL PARA QUE SEAN INCLUIDAS EN UN PRÓXIMO BOLETÍN.



VOLVER AL MENÚ

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