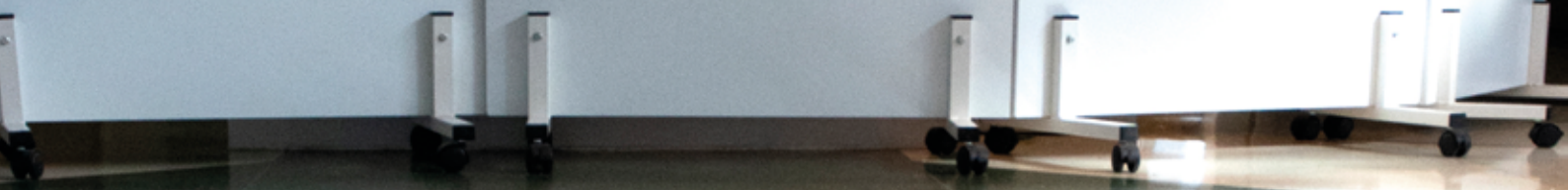




Small text captions located below each portrait photograph, providing names and titles.



9

INNOVATION

The unique know-how and cross-disciplinary expertise of CNB's scientists and technologists provides excellent opportunities to transfer leading-edge knowledge and technologies to society and industry. The purpose of the CNB Knowledge Transfer Office (KTO) is to facilitate the process of innovation by:

- raising **awareness** among CNB's researchers about the potential socioeconomic impact of their research and facilitating their implication in technology development and innovation,
- enhancing the **visibility** of the CNB as a source of transferrable knowledge and as a partner for industry in the development of innovative technologies, and
- potentiating the Centre's innovation **capabilities** across all aspects of knowledge protection, commercialisation and entrepreneurship.

KNOWLEDGE TRANSFER MANAGER

Cristina Merino Fernández

Awareness

The CNB knowledge transfer office (KTO) organises and participates in innovation events to foster the entrepreneurial spirit of CNB scientists and familiarise them with the basic principles and benefits of knowledge transfer.

Activities in the 2019-2020 period included the participation in the round table *"Innovation and technology transfer"* held at the *CEU-Innovation Week*; a business visit to our facilities jointly with the FGCSIC and Business Confederation (CEIM-CEOE); and the participation in a workshop, organised by the VATC, about the Nagoya Protocol.

With a focus on the importance of the involvement of women in innovation, the KTO has participated in several forums (EJECON, GIRA Women's Weekend Meeting, Woman's Week Foundation, WStartupC) and organised the event *"Conference: Entrepreneurship and Innovation: Opportunities from a Gender Perspective"*.

KTO also hosts students and participates in mentoring activities (*Fundación Créate, AMCES, Programa steMatEsElla*) aimed at stimulating entrepreneurship in young people.

At the occasion of the Science and Technology Week, with the aim of making visible and dynamising the innovation, the KTO - in collaboration with Inés Poveda and Dolores Aparicio - organised in the CNB hall the exhibition *"Transferir"*, showcasing successful examples of technology transfer spearheaded by CNB scientists.



Science and Technology week 2019: "Transferir", an exhibition to raise awareness of the importance of transferring research results



Attendants to the FGCSIC and Business Confederation (CEIM-CEOE) visit and networking event at the CNB

Visibility

In the context of the COVID-19 pandemic, research outcomes at the CNB have increased their presence in the media, as described in Chapter 12. In addition other initiatives have been undertaken to enhance the visibility of CNB's technology offer, the KTO has established contacts with stakeholders in the public and private sectors, including INNOMADRID, SYVA, DCN, PBL, Ximbio, Nina AD, Ferrer, Proteintech Group, PTGLAB, J&J Asabys, VLX Canaanrd, Health Microbiotics, Erdyn, GENESIS Biomed, COTEC, ASEBIO TTO Circle.

KTO has also participated in meetings, seminars, and congresses related to innovation such as SOUTH SUMMIT, *CSIC-EMPRESAS: tecnología al servicio de la agricultura, European Research and Innovation Days, Hospital Infanta Leonor: II Jornadas de Innovación en el ámbito de la Salud, RedOTRI, Madrid-TTS Europe, UTM Asia, DRO: Congreso nacional de científicos emprendedores, CEU-San Pablo: XIII Congreso Anual de Biotecnología, Biomedical Innovation Summit, BIOVEGEN: Impacto y futuro de las nuevas tecnologías en producción vegetal, CSIC: I Animal Health Innovation Day: Diagnóstico y Vacunas, TTO Circle: Connecting with the Entrepreneurial Ecosystem, InnoUAM, Biospain Transfiere, Farmaindustria and MEDICA.*

Furthermore, in close collaboration with CNB's Science Communication and Outreach Office, the KTO promotes the capacities and expertise of its scientists in the media and social networks.



Retema, 18-07-2019



Telediario TVE, 7-7-2020

Capabilities

The CNB KTO works in close collaboration with the CSIC Deputy Vice-presidency for Knowledge Transfer (VATC), covering all aspects of innovation management from the protection of intellectual property to the development and commercialisation of new technologies. In recent years, there has already been a constant upward trend in innovation indicators. Related to the coronavirus pandemic, however, during the year 2020 the number of patents has tripled and the number of contracts with companies has doubled thanks to the unique expertise of CNB researchers in this area.

CONTRACTUAL RESEARCH

The KTO supports and manages contractual relations between the CNB and partners in industry. In the 2019-2020 period, these contracts have generated revenues of 2.5M€, which is more than twice than in the previous period.

Major areas of collaboration and industrial partners include:

- Detection of gluten in food (Damm, R-Biopharm, Ingenasa, Operon, CEA, LETI)
- Production and study of recombinant bacteria, antibodies and proteins for diagnostic and therapeutic purposes (Synlogic, Quantitative Biosciences, eBioscience, Alergovet, Ingenasa, Protein Alternatives, Sanofi-Aventis, Bioncotech, Thrombotargets, Landsteiner, Agroserna, Esteve, Sesderma, Grifols, Pharmamar, Atomwise, Asahi Kasei Pharma, Bayer, Zeulab, Lacer)
- Vaccine development (Sanofi-Aventis, Labopat, Syva, Ceva Santé Animale, Biofabri, UniverCells)
- Development of applications for clinical analytics (Immunostep, Operon, Combat Medical, Lumensia, Samyang, Vircell, PROTEOBOTIC)
- Improvement of crop production, resistance to pathogens and environmental sustainability (Plant Response Biotech, Plant Bioscience Limited, Globachem, TOTAL, Agro Innovation International, CELLBITEC, AINIA, MOA, ERCROS, Semillas Arnedo)
- Electron microscopy and image analysis (FEI Electron Optics, Thermo Fischer Scientific, ATOS, BAI, LEICA, AFMB, BERGEN U., CIM)
- Biotech consulting (Lab Safety Consulting, CEDRION, BLUE WORLD, CTCOM, CTINGENIERING, ATG INGENIERÍA, CLECE, ACTIVHO, ICN2, POLAR, ICS, IRB)

Furthermore, the KTO is in charge of managing material transfer agreements (MTA) with other research institutions and companies all around the world. These agreements, in which the CNB acts as the material provider in more than half of them, reflect on the international reputation of the CNB as a provider of leading-edge materials for research in the life sciences.

PUBLIC-PRIVATE RD ALLIANCES

The KTO is in charge of collecting information about skills, results and activities of research at the CNB, with the aim of identifying potential partners for technology transfer and opportunities for joint research projects with companies. Furthermore, the office also provides CNB researchers relevant and timely information on funding opportunities for public-private research projects and assists them in grant preparation, contractual and follow-up issues. During the past two years, CNB scientists presented innovative projects in the framework of private-public partnership funding schemes, such as DINAMIZA-

CSIC, CDTI, Retos Colaboración, CAIXA IMPULSE, CEPI, CREU, EITHealth, AECC, ISCIII, PRECIPITA, Sexenios, IRSICAixa or Asahi-Kasei programmes.

ENTREPRENEURSHIP

The KTO helps to identify business opportunities and provides advice on the creation of spin-off companies. In 2019 and 2020, the office supported 5 initiatives for the creation of technology-based companies.

INTELLECTUAL PROPERTY PROTECTION

The KTO provides support in all aspects of intellectual property protection of research results, identifies appropriate business partners for outsourcing the development of new technologies, supervises the activities of license holders and oversees the payment of royalties.

