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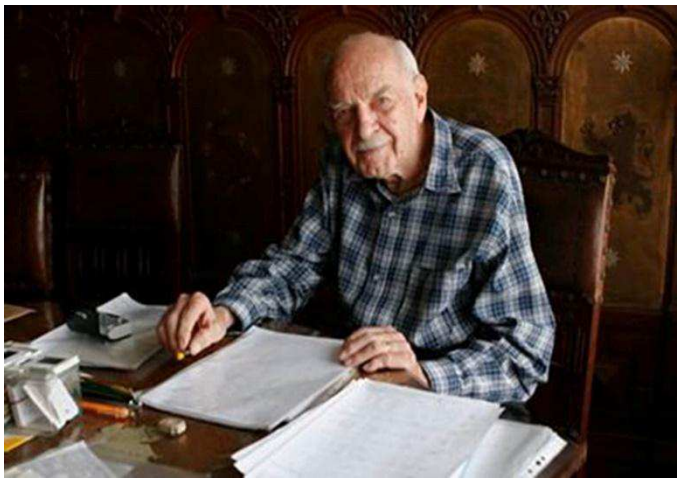
IN MEMORIAM OF RODOLFO R. BRENNER



Rodolfo R. Brenner, professor emeritus at the National University of La Plata and founding director of the Institute for Biochemical Research of La Plata, died on 3rd July 2018. He was an illustrious scientist and teacher of many generations of biochemists, with a distinguished career for his important discoveries in the field of lipid biochemistry.

He was born on 17th July 1922 in Banfield, Province of Buenos Aires, Argentina. As an outstanding student, he graduated at the Colegio Nacional de Buenos Aires in 1940 winning three gold medals due to his academic achievements. In 1946 he graduated as Doctor in Chemistry at the School of Exact, Physical and Natural Sciences (FCEFyN), of the University of Buenos Aires (UBA), obtaining another gold medal as best graduate. He had his first contact with lipids by means of his doctoral thesis 'Chemical composition of Argentinian olive oils', directed by Prof. Dr. Pedro Cattaneo.

During 1946 and 1954 he worked for the Department of Bromatology and Industrial Analysis of FCEFyN, first as a Graduate Assistant and then as an authorized Professor. At the same time, he was in charge of the Section of Industrial Toxicology at the Institute of Medical-Technological Investigations and at the Institute of Public Health. In this first period he studied the composition of lipids of several freshwater fish, a subject in which he directed five doctoral theses and published a dozen of original papers, mainly in the *Annals of the Argentine Chemical Association* and in *Industry & Chemist*.

In 1954 he obtained a postdoctoral fellowship of the British Council to work on 'Chemistry and Biochemistry of Lipids' with Professor John A. Lovern at the Torry Research Institute of Aberdeen in Scotland. Upon his return, he obtained by competitive examination the post of Head Professor of the Department of Biochemistry of the School of Medical Sciences until the year 1988. Almost from scratch, he created a research group in this Department which in the mid 1960s reached wide international renown, in special because of his works on biosynthesis of polyunsaturated fatty acids. In 1961, when the career of scientific investigator of the National Scientific and Technical Research Council (CONICET) was created, Dr. Brenner was accepted as Independent Investigator, and after subsequent promotions he became Superior Investigator in 1973. Being a prolific investigator, he directed 45 doctoral theses. He was the author of over 300 scientific works published in national and international journals, as well as many other communications presented at different conferences and scientific meetings. He lectured over 150 conferences in different countries of America, Europe and Asia.

In recognition of his work and career, he received more than 30 awards, among which we can highlight: Award of FundaciónCampomar in 1972; Herrero Ducloux Award of the National Academy of Exact, Physical and Natural Sciences in 1974, Konex Prize granted to the best 5 biochemists of Argentina in 1983; Gold Medal "G. Burns and Von Euler" granted in London in 1985; Awards "Alfredo Sordelli" in 1985 and "JJ Kyle" in 1990 of the Argentine Chemical Association; Supelco AOCS Research Award of the American Oil Chemists' Society in Baltimore in 1990; TWAS 2001 Award in Basic Medical Sciences of the Academy of Sciences of the Third World in New Delhi, India, 2002; 2009 Houssay Career Award in the area of Chemistry, Biochemistry and Molecular Biology in Buenos Aires, 2010; and the Distinguished Investigator of Argentine Nation, also in 2010. He was honorary member of the Society of Biology of Tucumán from 1987, of the Argentine Society of Biochemical Investigations (SAIB) from 1990, and of the Argentine Society of Biophysics (SAB) also in 1990.

He was Senior Investigator Emeritus of CONICET and Head Professor Emeritus of UNLP. He held the position of Established Academic of the National Academy of Exact, Physical and Natural Sciences, of the National Academy of Sciences of Buenos Aires, and of the National Academy of Pharmacy and Biochemistry, as well as the Medicine Academy of Córdoba, Argentina.

It is worth mentioning his productive role in the management and promotion of science and university teaching. In 1965, together with Drs. Luis F. Leloir, Andrés Stoppani and Federico Cumar created the Argentine Society of Biochemical Research (SAIB), being its President in the period 1971-72. He was Counselling Director of CONICET, Adviser and Substitute Dean of the School of Medical Sciences, UNLP, and member of several scientific and academic committees of CONICET, UNLP, UBA and the Committee of Scientific Research (CIC) of the Province of Buenos Aires, Argentina. He was the South American representative at the Steering Committee of the International Conferences on the Bioscience of Lipids (ICBL). Among his achievements and works, one of the most important ones was the creation (1982) and subsequent consolidation of the Institute of Biochemical Research of La Plata (INIBIOLP), of which he was the Director until 2003. Since 2015, this institution is called "Prof. Dr. Rodolfo R. Brenner" in recognition of his career.

He will remain for ever in the memory of all of us who had the privilege of knowing him and receiving his teaching.

Horacio A. Garda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POSTERS

BIOTECHNOLOGY

BT-P01
BIOCONVERSION OF GLYCEROL INTO POLYHYDROXYALKANOATES BY AN INDIGENOUS STRAIN, *Halomonas titanicae* KHS3

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Halomonastitanicae KHS3 was isolated from hydrocarbon-contaminated water in Mar del Plata harbor. This strain is able to accumulate polyhydroxyalkanoates (PHAs), reserve polymers that can be used as raw material for the preparation of bioplastics. The aim of this work was to evaluate the ability of *H. titanicae* KHS3 to use glycerol as the only source of carbon and energy and convert it into PHAs. When grown in mineral salts medium with 0.25% commercial glycerol, PHAs synthesis was only moderate. However, when cells were harvested at mid-exponential phase and resuspended in medium depleted of nitrogen source, PHA accumulation was dramatically increased and reached up to 60% of dry cell weight. Such accumulation also occurred when cultures were fed with glycerol obtained from a biodiesel reactor, both in its crude form (contaminated with methanol and salts) and partially purified (technical grade), suggesting that this bioconversion potentially represents a way of adding value to the otherwise disposable glycerol.We show the kinetics of PHA accumulation after nitrogen deprivation under different conditions. Good PHA accumulation occurred in media containing between 2 and 10% NaCl. PHAs inside cells remained stable after long incubations in nitrogen-lacking medium, but decreased rapidly after re-addition of ammonium sulfate.The purified polymer is currently under RMN analysis to determine its precise chemical composition.

BT-P02
BIOREMEDIATION OF HEAVY METALS USING GENETICALLY MODIFIED *Chlamydomonas reinhardtii*

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Heavy metals are an important source of water pollution around the world. They are toxic at very low concentrations and cannot be degraded or destroyed. Cells have diverse strategies for handling heavy metals: all eukaryotic organisms synthesize small proteins called metallothioneins, which are the first response to high concentrations of metals. In addition, most organisms present frataxin, an essential protein involved in iron homeostasis and related to other metals too, such as copper. In this work we propose *C. reinhardtii* as a model for remediation of heavy metals in water and effluents. This unicellular green algae, that has a simple life cycle, allows us to isolate transgenic cells easily. Transgenic *Chlamydomonas* expressing a soybean metallothionein (GmMT3) or frataxins of *C. reinhardtii* (CrFH) and maize (ZmFH2) were obtained by electroporation and the presence of transcripts was confirmed using quantitative Real Time PCR. In liquid cultures supplemented with Cu, the GmMT3 lines and those that express frataxins grow faster than the wild type line. ICP-MS analysis of the recovered cells showed that transgenic lines have a higher capacity than the control line to incorporate metals such as Cu, Fe and Zn, both in their cell wall and intracellularly. Currently a practical application over a metallic sludge is being tested. Results are promising since transgenic lines resist better the stress generated by high amounts of heavy metals, developing larger amounts of biomass (with the ability to adsorb and absorb metals) in a shorter time than the wild type strain.

BT-P03
EFFECT OF PROBIOTIC BACTERIA ISOLATED FROM PATAGONIA ON ZEBRAFISH GUT MICROBIOTA AND GROWTH

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Probiotics are an interesting alternative for sustainable aquaculture. The aim of this study was to assess the effect of probiotic bacteria isolated from Patagonian fish (T4, H16, and TW34) on gut microbiota and growth performance using zebrafish as an experimental model. Assays included one recirculating system (3 tanks) for each probiotic treatment (commercial feed inoculated with one probiotic strain at 1x107 CFU/g) and a control system (only commercial feed). Each tank was randomly stocked with 18 fish, whose weight and length were determined at 0, 15, 30, 60, and 90 days during probiotic treatment. Fish specific growth rate (SGR), condition factor (K), and food conversion ratio (FCR) were also calculated. Total viable bacteria, lactic acid bacteria (LAB), enterobacteria, and *Vibrio* spp. were quantified by plate-counting to assess the intestinal microbiota at the end of the experiment. As the probiotic strains have antimicrobial activity against fish pathogens, their abundances were detected using the double layer agar method. After 90 days of treatment with T4, H16, or TW34, intestine LAB counts were higher, and