### Ivan Lippi Rodrigues

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### **ACADEMIC RECORDS**

National Engineering School, Brazilian University, Rio de Janeiro, graduated in 1952. Pos-graduation courses at Lehigh University, Bethlehem Pensylvania and at Illinois Institute of Technology, Chicago.

Took quality management courses in industrial processes, processes analysis, processes control and in the use of statistics applicable to quality improvement. Worked in dispute resolution solutions in construction projects, in mediation and arbitration.

### **PROFESSIONAL ACTIVITIES**

Former engineering professor of São Paulo Mackenzie University in Steel Structures for Buildings and Bridges.

Former president of the ABNT, (Brazilian Code Writing) in Steel Structural Building Code NBR 8800.

Life member, American Society of Civil Engineers.

Member Instituto de Engenharia, São Paulo.

Memeber Confederation of the State of São Paulo Industries(CIESP).

Taught extension courses of steel structures at the São Paulo Instituto de Engenharia, at universities and at other institutions in different civil engineering áreas presenting engineering papers in conferences in Brazil and abroad (Australia).

#### LANGUAGES

Fluent in Portuguese and English. Good understanding of Spanish and French.

### PROFESSIONAL EXPERIENCE

At present, consultant engineer for various civil engineering áreas such as steel and reinforced concrete structures, foundations, evaluation and rehab of damaged structures, structural design and project analysis, structural vibration mitigation, project quality improvement in construction projects. Design of steel and concrete reservoirs. Design of highway and railroad stations and terminals. At present, arbitration in some civil engineering disputes.

## CONSÓRCIO DE ALUMÍNIO DO MARANHÃO, ALUMAR (1983-1994)

Civil engineering superintendent for the alumina and aluminium plant of the Alcoa-Billiton Consortium in São Luís, Maranhão, Brazil. In charge of Industrial building projects supervision, design and construction earth excavated reservoirs for disposal in lined reservoirs for contaminated bauxite residues. In charge of rehabilitation of residues disposal áreas and revegetation tests. Technical visit to Perth, Australia and to Alcoa aluminum refineries in that country. Member of the international Committee for the development of bauxite residue disposal, São Luis representative. Presentation of engineering paper at the Perth International workshop on monitoring bauxite residue behaviour on disposal reservoirs.

Visit to Jamaica Alcoa aluminum refinery plant to discuss project risk analysis of the aluminum industry.

In charge of development recycling projects for alumina industrial sub-products such spent lining bricks in the electrolitic pots and re-processing it at the ceramic industry. Development of a crushing plant for contaminated pot lining bricks. Visit to alumina reduction plant in Portland, Australia.

In charge of developing studies for recycling ashes from the ALUMAR boiler plant or use it for road paving. Visit to Jorge Lacerda Power Plant, Santa Catarina, to compare their ash pozzolanic properties to different types of ashes. Contact with the Santa Catarina Highway Department to learn about their experiments on the use of ashes for road paving.

In charge of development methods of rail realigment in buildings operated by heavy overhead cranes. Studies to re-habilitate process equipment damaged by fatigue. Re-habilitate alumina storage silos damaged by operation.

Supervised dredging works for maintenance ALUMAR access channel. Maintenance of channel navigation signaling for ALUMAR port access.

### NATRON CONSULTORIA E PROJETOS (1981–1983)

In charge of a staff of about 100 civil engineers and drafting professionals for the new alumina and aluminium plant for the Alcoa-Billiton Consorcio in São Luís, Maranhão, design including foundations, steel and reinforced concrete structures, architectural design for process buildings and control rooms, earthmoving work, paving roads, loading and unloading docks, dredging for the de access channel to the ALUMAR facilities.

## MILDER KAISER (1979–1981)

Consultant for design of industrial steel and reinforced concrete structures. Supervised the Champion Celulose design plant at Mogi-Guaçu in São Paulo working with the American Sirrine Pulp and Paper Consultant. Wrote chapters of the AÇOMINAS Manual for the design of steel structures.

## COMPANHIA BRASILEIRA DE PROJETOS INDUSTRIAIS, COBRAPI (1974-1979)

Project Manager for offshore projects. Responsible for COBRAPI's offshore department pionering such type of projects in Brazil in 1974.

Installed at PETROBRAS software specifically designed for analysis and design of steel offshore jacket platforms for Robalo, Ubarana, Camorim and Mero in different water depths for drilling and producing oil. Those were the first computer programs for this purpose installed at PETROBRAS in Brazil.

Visited offshore gas producing platforms near the East Coast of England. Visited the construction site at Methil, Scotland, fabrication and launching Northsea steel platforms and at Burntisland, fabrication of living facilities for platform operators. Supervised the training of COBRAPI's Brazilian enginers in London.

For PETROBRÁS, developed structural projects for fixed offshore platforms and computer programas for this type of structure. This program was developed with association with Halcrow–Ewbank Petroleum and Offshore Engineering Company from UK.

Consultant for PETROBRÁS reactor design to process oil shale.

Checking the design of heavy type steel structures for USIBA steel making plant at Bahia, CSN mining crushing plant, CLEPLANPLAN steel silos for cement storage for ITAIPU HYDROELECTRIC plant, BADONI, checking design of API fixed roof storage tank for petroleum storage.

Developed studies for the construction of steel twin towers, fifty stories high at Rio de Janeiro for CSN Rio headquarters with consultants Skidmore Owings and Merril from Chicago.

### PROMON ENGENHARIA S.A (1967–1974)

Head of the civil engineering department of PROMON during 7 years. Developed and trained staff for steel and concrete structural projects. Developed indutrial projects for PETROBRÁS oil refineries, structural mining projects for COMPANHIA VALE DO RIO DOCE, aluminum projects for ALCAN at Saramenha, Minas Gerais, automotive projects for the new FORD and GENERAL MOTORS plants.

Supervised in behalf of VALE DO RIO DOCE, Itabira Minas Gerais, German structural design for mining projects at Cologne, Dusseldorf and Braunschweig.

Managed at PROMON the studies for the first São Paulo system of rapid transit, tunnels, cut-and-cover, "shield" and excavation methods for passanger stations working with the contractor Hochtief-Montreal-Deconsult from Germany, Sir William Halcrow and Partners from London and with Parsons Brickenhoff Quade and Douglas designers of the San Francisco rapid transit system. Prepared basic drawings and specifications for the system elevated structures. Prepared specification for the elastometric rail supports.

Travelled to visit the San Francisco rapid transit system as well as the Toronto and New York systems. Lectured to Brazilian engineering societies on several methods of tunneling construction.

### Kaiser Engineers Inc. Chicago, Illinois (1965–1967)

As senior engineer in charge of civil department, prepared specifications and construction drawings for steel plants and for ARMCO STEEL CORPORATION em Middletown, Ohio, for hot rolling, continuous casting, and other steel plant facilities. Supervised a staff of more than 10 engineers and draftsmen for designing structures and foundations.

### PROCON INCORPORATED, Chicago, Illinois (1963–1965)

Worked in petrochemical concrete foundation design for NORTHWESTERN REFINERY in Saint Paul, Minnesota, decoking unity for CITIES SERVICE OIL COMPANY in Lake Charles, Louisiana and for other refineries in the United States and abroad.

### PROMON ENGENHARIA S.A. (1961–1963)

Head of the civil engineering department. Developed projects for PETROBRÁS in Cubatão, and for a Carbon Black Plant in Bahia under the supervision of Philips Petroleum Corporation, Oklahoma. Developed many other refinery expansion projects in Minas Gerais and Santos, São Paulo.

### Associação Para o Desenvolvimento de Indústrias de Base- ABDIB (1958)

Worked in standardization for industrial equipment for the petroleum industry such as pressure vessels, storage steel tanks, process pumps Partcipated at ABNT technical committees.

# EDIMETAL, FÁBRICA BRASILEIRA DE ESTRUTURAS DE AÇO (1953-1958)

Senior engineer responsible for all pre-engineered buildings and other projects, follow-up fabrication at the fabrication plant. Fabrication structures for FEM, Volta Redonda, future fabricator of many steel structures in Brazil. Design and erection of a large hangar structure at Congonhas airport, São Paulo.

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