



## Masthead – Issue 32 – April 2020

### Editor-in-Chief

Klaus de Geus, PhD

### International Board

Bryan Karney, PhD – University of Toronto – Canada  
Carlos Rufin, PhD – Suffolk University – USA  
Cosmin Marculescu, PhD – Politehnica Univ of Bucharest – Romania  
Elena Cristina Rada, PhD – University of Insubria – Italy  
Elena Magaril, PhD – Ural Federal University – Russia  
Ing Liang Wong, PhD – Glasgow Caledonian University – UK  
Isabel Soares, PhD – Universidade do Porto – Portugal  
Juan Rosellón, PhD – CIDE, DIW – Mexico, Germany  
Marcelo Rodrigues Bessa, PhD – UFPR – Brazil  
Marco Ragazzi, PhD – University of Trento – Italy  
Mário Silva Ferreira, PhD – University of Aveiro – Portugal  
Nils-Henrik von der Fehr, PhD – University of Oslo – Norway  
Ricardo Bessa, PhD – INESC TEC - Portugal

### Editorial Board

Adriane Prisco Petry, Dr – UFRGS – Brazil  
Alexandre Rasi Aoki, Dr – Lactec – Brazil  
Aloisio Leoni Schmid, Dr – UFPR – Brazil  
Alvaro de Lima Veiga Filho, Dr – PUC-Rio – Brazil  
Ana Lúcia Rodrigues da Silva, Dr – Sinerconsult – Brazil  
Anderson Catapan, Dr – UTFPR – Brazil  
Arion Zandoná Filho, Dr – UFPR – Brazil  
Bernardo Vieira Bezerra, Dr – PSR – Brazil  
Bill Jorge Costa, Dr – Tecpar – Brazil  
Carlos Cruz, Dr – UTFPR – Brazil  
Celeste Amorim Varum, Dr – Univ. de Aveiro – Portugal  
Conrado Augustus de Melo, Dr – Unicamp – Brazil  
Dálcio Roberto dos Reis, Dr – UTFPR – Brazil  
Djalma Falcão, Dr – UFRJ – Brazil  
Dorel Soares Ramos, Dr – USP – Brazil  
Eduardo Dell'Avanzi, Dr – UFPR – Brazil  
Eduardo L Krüger, Dr – UTFPR – Brazil  
Elizete Lourenço, Dr – UFPR – Brazil  
Fernando A. de Almeida Prado Jr, Dr – Sinerconsult – Brazil  
Gilberto De Martino Jannuzzi, Dr – Unicamp – Brazil  
Hélio Pedrini, Dr – Unicamp – Brazil  
Humberto Varum, Dr – Universidade do Porto – Portugal  
Joaquim Eloir Rocha, Dr – UTFPR – Brazil  
José Soares Coutinho Filho, Dr – UTP – Brazil  
Joseane Valente Gulmine, Dr – Lactec – Brazil  
Jussara M L Mattuella, Dr – Wind Energy Solutions – Brazil  
Keiko Verônica Ono Fonseca, Dr – UTFPR – Brazil  
Kleber Franke Portella, Dr – Lactec – Brazil  
Lineu Belico dos Reis, Dr – USP – Brazil  
Luiz Armando Steinle Camargo, Dr – USP – Brazil  
Luiz Augusto Nóbrega Barroso, Dr – EPE – Brazil  
Marcelo Rodrigues Bessa, Dr – UFPR – Brazil  
Marco Delgado, Dr – ABRADÉE – Brazil  
Marco José da Silva, Dr – UTFPR – Brazil  
Marcos Antônio Marino, Dr – UFPR – Brazil  
Maria Cristina Borba Braga, Dr – UFPR – Brazil  
Maria do Carmo Duarte Freitas, Dr – UFPR – Brazil  
Marlon Leão, Dr – UNEMAT – Brazil  
Maurício Pereira Cantão, Dr – UTP – Brazil  
Nelson Kagan, Dr – USP – Brazil  
Odilon Luis Tortelli, Dr – UFPR – Brazil  
Osiris Cancigliieri Junior, Dr – PUC-PR – Brazil  
Paulo Silva, Dr – Universidade de Aveiro – Portugal  
Rafael Herrero, Dr – USP – Brazil  
Roberto Ziller, Dr – Infineon Technologies AG – Germany  
Sergio Scheer, Dr – UFPR – Brazil

Sérgio Fernando Tavares, Dr – UFPR – Brazil  
Sílvia Galvão de Souza Cervantes, Dr – UEL – Brazil  
Sinclair Mallet Guy Guerra, Dr – UFABC – Brazil  
Udo Fritzsche Júnior, Dr – PUC-MG – Brazil  
Valma Martins Barbosa, Dr – UTFPR – Brazil  
Vitoldo Swinka Filho, Dr – Lactec – Brazil  
Walmor Cardoso Godoi, Dr – UTFPR – Brazil

### Advisory Board

Cleverson Luiz da Silva Pinto, Dr  
Edilson Antonio Catapan, Dr  
Eloi Rufato Junior, Dr  
Franklin Kelly Miguel, Dr  
Frederico Reichmann Neto, Dr  
João Marcos Lima, Dr  
José Marques Filho, Dr  
Klaus de Geus, Dr  
Marcos de Lacerda Pessoa, Dr  
Noel Massinhan Levy, Dr  
Ruy Fernando Sant'Ana, Dr  
Thulio Cicero Guimarães Pereira, Dr

### Technology Innovation Committee

Alexandre Augusto Angelo de Souza  
Ana Maria Antunes Guimarães  
Antonio Carlos Wulf Pereira de Melo  
Fabiano Ari Locatelli  
Fernando Antonio Gruppelli Junior  
Júlio Shigeaki Omori  
Márcio Luís Bloot  
Murilo Lacerda Barddal  
Robson Luiz Schiefler e Silva  
Thiago Luis Zanin

### Collaborators of this issue

Paulo Henrique Dias dos Santos  
Emerson Luís Alberti

### Reviewing and Copyediting

Klaus de Geus

---

### Copel – Companhia Paranaense de Energia

**Daniel Pimentel Slaviero** *Chief Executive Officer*

**Ana Letícia Feller** *Chief Corporate Management Officer*

**Adriano Rudek de Moura** *Chief Financial and Investor Relations Officer*

**Eduardo Vieira de Souza Barbosa** *Chief Legal and Institutional Relations Officer*

**Vicente Loiacono Neto** *Chief Governance, Risk and Compliance Officer*

**Cassio Santana da Silva** *Chief Business Development Officer*

**David Campos** *Associate Director*

**Moacir Carlos Bertol** *CEO – Copel Geração e Transmissão S.A.*

**Maximiliano Andres Orfali** *CEO – Copel Distribuição S.A.*

**Wendell Alexandre Paes de Andrade de Oliveira** *CEO – Copel Telecomunicações S.A.*

**Franklin Kelly Miguel** *CEO – Copel Comercialização S.A.*