



Universitatea  
Transilvania  
din Braşov

## ADMITERE DOCTORAT 2020-2021

Sesiunea Septembrie 2020

Şcoala Doctorală Interdisciplinară  
(SDI)

Domeniul de doctorat:

Inginerie electronică, telecomunicații și tehnologii  
informaționale

Conducător doctorat:

Conf. Dr. Cotfas Petru Adrian

### TEME (TEMATICĂ) PENTRU CONCURS

**TEMA 1:** *Sisteme de instrumentație virtuală utilizate în domeniul energiilor regenerabile*

Instrumentația Virtuală

Surse de energii regenerabile și metode de caracterizare

Sisteme încorporate

Sisteme IoT și Cloud computing

**Bibliografie recomandată:**

1. P. Cotfas, D. T. Cotfas, D. Ursuțiu, C. Samoilă, NI ELVIS Computer-Based Instrumentation, NTS PRESS (National Technology and Science Press), USA Allendale, NJ 07401, 2012 (ISBN 978-1-934891-11-7) (<http://www.ntspress.com/publications/ni-elvis-computer-based-instrumentation/>)
2. Socrates Kaplanis and Eleni Kaplani "Renewable Energy Systems: Theory, Innovations and Intelligent Applications", Nova Science Publishers, USA, 2013 ISBN: 978-1-62417-744-6, pp. 525-546.
3. Einar Krogh, An Introduction to the Internet of Things, Bookboon, 2020, ISBN 978-87-403-3224-7, <https://bookboon.com/premium/books/an-introduction-to-the-internet-of-things;>
4. Mansaf Alam, Kashish Ara Shakil, Samiya Khan, Internet of Things (IoT), Springer, 2019, ISBN 978-3-030-37468-6

**TEMA 2:** *Instrumentația virtuală și controlul la distanță – aplicații în educație, cercetare și industrie*

Instrumentația Virtuală

Controlul la distanță a sistemelor

Sisteme încorporate

Sisteme IoT și Cloud computing

**Bibliografie recomandată:**

1. P. A. Cotfas, D. T. Cotfas, D. Ursutiu, C. Samoila, D. Iordache, Chapter 3 New Tools in Hardware and Software Design Applied for Remote Photovoltaic Laboratory, Abul K.M. Azad, A.K.M., Auer, M., V. Judson Harward, V.J. "Internet Accessible Remote Laboratories: Scalable E-Learning Tools for Engineering and Science Disciplines", IGI Global, pp. 40-59, 2012;

2. P.A. Cotfas, D.T.Cotfas: Design and implementation of RELab system to study the solar and wind energy, Measurement, Vol. 93, Nov.2016;
3. Şeyda SerdarAsa, Erkan Işıklı, Engineering Education Trends in the Digital Era, IGI Global, 2020, ISBN13: 9781799825623;
4. Einar Krogh, An Introduction to the Internet of Things, Bookboon, 2020, ISBN 978-87-403-3224-7, <https://bookboon.com/premium/books/an-introduction-to-the-internet-of-things>;
5. Mansaf Alam, Kashish Ara Shakil, Samiya Khan, Internet of Things (IoT), Springer, 2019, ISBN 978-3-030-37468-6.

**Conducător doctorat:**

Conf. Dr. Cotfas Petru Adrian

A handwritten signature in blue ink, appearing to read 'Cotfas', is positioned below the printed name.



Transilvania  
University  
of Brasov

## ADMISSION TO DOCTORAL STUDIES

2020-2021

Session September 2020

**Interdisciplinary Doctoral School  
(SDI)**

**Field of doctoral studies:**

Electronics engineering, telecommunications and  
information technologies

**PhD supervisor:**

Asocc. Prof. PhD. Cotfas Petru Adrian

### TOPICS FOR THE ADMISSION TO DOCTORAL STUDIES

**TOPIC 1:** *Virtual Instrumentation Systems Used in the Renewable Energy Domain*

Virtual Instrumentation

Renewable energy sources and characterization methods

Embedded systems

IoT systems and Cloud computing

**Recommended bibliografy:**

1. P. Cotfas, D. T. Cotfas, D. Ursuțiu, C. Samoilă, NI ELVIS Computer-Based Instrumentation, NTS PRESS (National Technology and Science Press), USA Allendale, NJ 07401, 2012 (ISBN 978-1-934891-11-7) (<http://www.ntspress.com/publications/ni-elvis-computer-based-instrumentation/>)
2. Socrates Kaplanis and Eleni Kaplani "Renewable Energy Systems: Theory, Innovations and Intelligent Applications", Nova Science Publishers, USA, 2013 ISBN: 978-1-62417-744-6, pp. 525-546.
3. Einar Krogh, An Introduction to the Internet of Things, Bookboon, 2020, ISBN 978-87-403-3224-7, <https://bookboon.com/premium/books/an-introduction-to-the-internet-of-things;>
4. Mansaf Alam, Kashish Ara Shakil, Samiya Khan, Internet of Things (IoT), Springer, 2019, ISBN 978-3-030-37468-6

**TOPIC 2:** *Virtual Instrumentation and Remote Control - Applications in Education, Research and Industry*

Virtual Instrumentation

Remote systems control

Embedded systems

IoT systems and Cloud computing

**Recommended bibliografy:**

1. P. A. Cotfas, D. T. Cotfas, D. Ursutiu, C. Samoila, D. Iordache, Chapter 3 New Tools in Hardware and Software Design Applied for Remote Photovoltaic Laboratory, Abul K.M. Azad, A.K.M., Auer, M., V.

Judson Harward, V.J. "Internet Accessible Remote Laboratories: Scalable E-Learning Tools for Engineering and Science Disciplines", IGI Global, pp. 40-59, 2012;

2. P.A. Cotfas, D.T.Cotfas: Design and implementation of RELab system to study the solar and wind energy, Measurement, Vol. 93, Nov.2016;
3. Şeyda SerdarAsa, Erkan Işıklı, Engineering Education Trends in the Digital Era, IGI Global, 2020, ISBN13: 9781799825623;
4. Einar Krogh, An Introduction to the Internet of Things, Bookboon, 2020, ISBN 978-87-403-3224-7, <https://bookboon.com/premium/books/an-introduction-to-the-internet-of-things>;
5. Mansaf Alam, Kashish Ara Shakil, Samiya Khan, Internet of Things (IoT), Springer, 2019, ISBN 978-3-030-37468-6.

**PhD supervisor:**

Asocc. Prof. PhD. Cotfas Petru Adrian

