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## Persönliche Daten

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## Ausbildung

09/1983–06/1988 Höhere Technische Lehr- und Versuchsanstalt St. Pölten, Fachrichtung Elektrotechnik  
09/1988–02/1997 Studium an der TU Wien, Studienrichtung Energietechnik  
05/1996–02/1997 Diplomarbeit am Institut für elektrische Antriebe und Maschinen der TU Wien, unter Anleitung Em. O. Prof. Dr. Hans Kleinrath, Titel »Modellbildung und Simulation des Betriebsverhaltens einer umrichter gespeisten Asynchronmaschine mit defektem Rotorstab«  
06/1997–06/1999 Dissertation am Institut für elektrische Antriebe und Maschinen der TU Wien, unter Anleitung von Em. O. Prof. Dr. Hans Kleinrath, Titel »Modellbildung und Betriebsverhalten einer Asynchronmaschine mit defektem Rotorstab im Läuferkäfig einschließlich Detektion durch die Vienna Monitoring Method«

## Beruflicher Werdegang

07/1997–04/1999 Vertragsassistent am Institut für Elektrische Antriebe und Maschinen der TU Wien sowie Wissenschaftlicher Angestellter am Institut für Elektrische Antriebe und Maschinen der TU Wien (FWF Projekt »Erkennung von Rotorexzentritäten bei umrichter gespeisten Asynchronmaschinen mit Hilfe von On-Line-Modellen«)  
05/1999–06/2000 Universitätsassistent am Institut für Elektrische Antriebe und Maschinen der TU Wien  
09/2000–12/2001 Wissenschaftlicher Mitarbeiter und Projektleiter beim Österreichischen Forschungs- und Prüfzentrum Arsenal GmbH, Geschäftsfeld Monitoring, Energie- und Antriebstechnik bzw. deren Nachfolgegesellschaft AIT Austrian Institute of Technology GmbH, Geschäftsfeld Electric Drive Technologies  
05/2003–08/2013  
01/2002–04/2003 Visiting Professor am Georgia Institute of Technology, Atlanta, Georgia, USA  
2005–2013 Senior Scientist beim Österreichischen Forschungs- und Prüfzentrum Arsenal GmbH bzw. deren Nachfolgegesellschaft AIT Austrian Institute of Technology GmbH: strategische Mitwirkung bei der Ausrichtung der Forschungsschwerpunkte, wissenschaftliche und strategische

	Unterstützung anderer Projektleiter
2008-2013	Teamleiter / Themenkoordinator im Geschäftsfeld Monitoring, Energie- und Antriebstechnik bzw. Electric Drive Technologies des AIT <sup>1</sup> : Organisation der Teams, Strategische Orientierung der Forschungsthemen und Projekte im Team, Aufbau der Regelkommunikation im Team
seit 09/2013	Lehrer in der Abteilung Elektrotechnik am TGM in Wien XX
seit 2014	Lektor am Technikum Wien
seit 2014	Selbständiger Mechatroniker für Elektromaschinenbau und Automatisierung

## Projekte und Arbeitsgebiete

1997–2012	Monitoring und Fehlerdetektion bei Asynchronmaschinen einschließlich <ul style="list-style-type: none"> <li>● Erkennung von Rotorfehlern</li> <li>● Erkennung von Statorwicklungsasymmetrien</li> <li>● Erkennung von Exzentrizitäten und Unwuchten</li> <li>● Untersuchung von Lagerfehlern auf Basis von elektrischen Messungen</li> </ul>
2001	Sicherheit von Tunnelbohrmaschinen
2002–2003	Schätzung der Rotorlage (Drehzahl) bei Anwesenheit von elektrischen Rotorasymmetrien bei Asynchronmaschinen
2002–2004	Thermische Modelle von Asynchronmaschinen und Schätzung von Temperaturen aus gemessenen elektrischen Größen
2003–2004	Mitarbeit am strategischen Forschungsprojekt »Smart Drives for Smart Cars« im Bereich Modellbildung und Simulation elektrischer Maschinen
2004–2006	Projektleiter für die kommerzielle Modelica-Bibliothek »SmartElectricDrives« <ul style="list-style-type: none"> <li>● Transiente und quasistationäre Modelle von elektrischen Antrieben von Gleichstrommaschinen, Permanentmagnet-Synchronmaschinen und Asynchronmaschinen</li> <li>● Transiente und quasistationäre Modelle von Gleichrichtern, DC/DC Konvertern und Umrichtern</li> <li>● Parameterschätzung für elektrische Maschinen und die Einstellung von Antriebsregelungen</li> </ul>
2005–2013	Entwicklung des Workflows für die Auslegung und Simulation von elektrischen Maschinen und Antrieben
2006–2008	Schätzung der Rotorlage aus Nutungseffekten bei Asynchronmaschinen
2006–2013	Projektleiter für die Modelica-Bibliotheken »FundamentalWaves«, »PermanentMagnets« und »HarmonicWaves« <ul style="list-style-type: none"> <li>● Drehfeldmaschinen mit beliebiger Phasenzahl im Stator (und Rotor)</li> <li>● Modellierung beliebiger Asymmetrien der Wicklungen des Stators (und Rotors)</li> <li>● Berücksichtigung von Stromverdrängung in Maschinen mit (Dämpfer-) Käfig</li> <li>● Berücksichtigung der Sättigung des Hauptfeldes für Gleichstrom- und Drehfeldmaschinen</li> <li>● Modellierung von Reibungs-, Eisen- und Zusatzverlusten</li> <li>● Kopplung mit thermischen Netzwerken</li> <li>● Modellierung von Demagnetisierungseffekten in Permanentmagnet-Maschinen</li> <li>● Modellierung von harmonischen Oberwelleneffekten in elektrischen Maschinen</li> </ul>
2010–2012	Modellierung und Analyse von Wärmeübergangsphänomenen in elektrischen Maschinen
2011–2013	Projektleiter des A3plus geförderten Projekts "InWeMat" (Innovative Weicheisen Materialien). Thema: Entwicklung von Modellen zur Bestimmung der Eisenverluste in Blechen von elektrischen Maschinen
2011–2013	Initiierung der „Science Talks“ als interne Kommunikationsveranstaltung für den inhaltlich-wissenschaftlichen Austausch von Mitarbeitern
2012–2013	Akquisition des europäischen Förderprojektes von „SyrNemo“ im Rahmen von FP7: (Synchronous Reluctance Next Generation Efficient Motors for Electric Vehicles)
2013-dato	Selbständige Arbeiten im Bereich der Modellbildung und Simulation elektrischer Maschinen und Antriebe

1 Name des AIT vormals: Österreichischen Forschungs- und Prüfzentrum Arsenal GmbH

## Weiterbildung

04/2003	B. Schönbach, »Flir Trainingskurs Thermographie«, Arsenal Research, Wien
12/2003	D. Gospodaric, Seminar »Simulation Elektrischer Maschinen«, Haus der Technik, München
06/2004	M. Otter (DLR München), Seminar »Multidisziplinäre Modellierung und Simulation mit Modelica 2.1 und Dymola 5.2a«, Arsenal Research, Wien
11/2004	C. Grabner (Siemens), Seminar »Numerische Feldberechnung elektrischer Maschinen, Theorie und Erkenntnisse für die Praxis«, ÖVE, Wien
01/2005	Seminar »Value Based Selling«, International Training & Consulting (ITC), Wien
03/2005	B. Bachmann (FH Bielefeld), Tutorial »Mathematical Aspects of Object-Oriented Modeling and Simulation«, Modelica Conference 2005, Hamburg
06/2005	T. Habetler (Georgia Institute of Technology, Atlanta), Internes Seminar »Writing a Technical Paper«, Arsenal Research, Wien
07/2005	T. Habetler (Georgia Institute of Technology, Atlanta), Internes Seminar »An Introduction to the Use of Artificial Neural Networks and Fuzzy Logic in the Control and Fault Diagnostics of Electrical Machines«, Arsenal Research, Wien
07/2006	K. Reichert (ETH Zürich), Zweitägige FEMAG Schulung »Berechnung der elektromagnetischen Felder von elektrischen Maschinen«, Arsenal Research, Wien
07/2006	C. Sejkora (Seibersdorf Research), Internes Seminar »Statische Analyse – Softwaremetriken«, Arsenal Research, Wien
10/2006	H. Tummescheidt (Modelon, Schweden), »Introduction to Dymola/Modelica and the AirConditioning Library«, Arsenal Research, Wien
11/2007	FEMAG Anwendertag, Stuttgart
12/2008	S. McCarthy (Hyperion, Irland) »How to write a competitive proposal for Framework 7«
03/2010	D. Baca (AIT), »Informationsveranstaltung rund um Angebot, Preisfindung, Projekteröffnung, Kostenkontrolle, Rechnungslegung«
01/2014	W. Haager (HTL St. Pölten, PH NÖ), »Computeralgebra mit Maxima: Grundlagen und Programmierung«
2014-2015	Mag. Eva Poisel (PH Wien), »Lehrgang Content Language Integrated Learning (CLIL)«

## Publikationen

### Publikationen in Peer Reviewed Zeitschriften

- [1] R. Wieser, C. Kral, F. Pirker, M. Schagginger, »On-Line Rotor Cage Monitoring of Inverter-Fed Induction Machines by Means of an Improved Method«, IEEE Transactions on Power Electronics, vol. 14, no. 5, pp. 858–865, September 1999.
- [2] C. Kral, F. Pirker, G. Pascoli, »Erkennung defekter Rotorstäbe an umrichter- und netzgespeisten Asynchronmaschinen durch die Vienna Monitoring Method«, e&i, 117. Jg. (H.2), pp. 119–123, Februar 2000.
- [3] C. Kral, R. Wieser, F. Pirker, M. Schagginger, »Sequences of Field-Oriented Control for the Detection of Faulty Rotor Bars in Induction Machines–The Vienna Monitoring Method«, IEEE Transactions on Industrial Electronics, vol. 47, no. 5, pp. 1042–1050, October 2000.
- [4] G. Pascoli, F. Pirker, C. Kral, K. May, »Kostensenkung durch Teilentladungs-Monitoring in Mittelspannungsanlagen: Technik – Einsatz – Wirtschaftlichkeit« , e&i, 117 (H12), pp. 788–792, December 2000.
- [5] C. Kral, F. Pirker, G. Pascoli, »Erkennung von Rotorfehlern in umrichtergespeisten Asynchronmaschinen«, eb–Elektrische Bahnen, pp. 119-122, Oldenbourg Verlag, 4/2002.
- [6] C. Kral, F. Pirker, G. Pascoli, »Detection of Rotor Faults in Squirrel Cage Induction Machines at Standstill for Batch Test by Means of the Vienna Monitoring Method«, IEEE Transactions on Industry Applications, Vol 38, No. 3, pp. 618-624, May/June 2002.
- [7] C. Kral, T.G. Habetler, R.G. Harley, »Detection of Mechanical Imbalances of Induction Machines Without Spectral Analysis of Time-Domain Signals«, IEEE

- Transactions on Industry Applications, vol. 40, no. 4, pp. 1101–1105, July/August 2004.
- [8] C. Kral, T.G. Habetler, R.G. Harley, F. Pirker, G. Pascoli, H. Oberguggenberger, C.-J.M. Fenz, »Rotor Temperature Estimation of Squirrel-Cage Induction Motors by Means of a Combined Scheme of Parameter Estimation and a Thermal Equivalent Model«, IEEE Transactions on Industry Applications, vol. 40, no. 4, pp. 1049–1057, July/August 2004.
  - [9] C. Kral, A. Haumer, H. Kapeller, F. Pirker, »Design and thermal simulation of induction machines for traction in electric and hybrid electric vehicles«, WEVA Journal, Vol. 1, pp. 190–196, May 2007.
  - [10] C. Kral, H. Kapeller, F. Pirker, »A stator and rotor fault detection technique for induction machines in traction applications of electric or hybrid electric vehicles«, WEVA Journal, Vol. 1, pp. 184–189, May 2007.
  - [11] C. Kral, F. Pirker, H. Kapeller, G. Pascoli, »Robust Rotor Fault Detection by Means of the Vienna Monitoring Method and a Parameter Tracking Technique«, accepted on April 03, 2008 for publication in the IEEE Transactions on Industrial Electronics.
  - [12] C. Kral, A. Haumer, H. Kapeller, G. Pascoli, »Modeling and Simulation of a Large Chipper Drive«, accepted for publication in The Open Electrical & Electronic Engineering Journal, Bentham Science Publishers, 2008.
  - [13] C. Kral, F. Pirker, G. Pascoli, »The Impact of Inertia on Rotor Fault Effects - Theoretical Aspects of the Vienna Monitoring Method«, accepted on February 06, 2008 for publication in the IEEE Transactions on Power Electronics.
  - [14] C. Kral, A. Haumer, T. Bäuml, »Thermal Model and Behavior of a Totally Enclosed Water Cooled Squirrel Cage Induction Machine for Traction Applications«, accepted on May 19, 2008 for publication in the IEEE Transactions on Industrial Electronics.
  - [15] C. Kral, A. Haumer, H. Kapeller, G. Pascoli, »Modeling and Simulation of a Large Chipper Drive«, Open Electrical & Electronic Engineering Journal, Bentham Science Publishers, 2009
  - [16] C. Kral, A. Haumer, M. Haigis, H. Lang, H. Kapeller, "Comparison of a CFD Analysis and a Thermal Equivalent Circuit of a TEFC Induction Machine with Measurements", accepted for publication in the IEEE Transactions of Energy Conversion", 2009
  - [17] C. Grabner, J.V. Gragger, H. Kapeller, A. Haumer and C. Kral, „Design Guidelines for Sensorless PM-Drives“, IAENG Engineering Letters, Volume 17, Issue 4, ISSN 1816-0948, November 2009
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  - [20] C. Kral, D. Simic, "Simulation von Elektrofahrzeugen", Elektrotechnik & Informationstechnik, e&i, 128/1-2, 2011, S. 28-35
  - [21] Markus Einhorn, Wolfgang Guertlschmid, Thomas Blochberger, Rupert Kumpusch, Robert Permann, Valerio Conte, Christian Kral, Juergen Fleig, "A Current Equalization Method for Serially Connected Battery Cells Using a Single Power Converter for Each Cell", IEEE Transactions on Vehicular Technology, vol. 60, no. 9, 2011, pp. 4227-4237
  - [22] M. Einhorn, V. Conte, C. Kral, J. Fleig, "A Method for Online Capacity Estimation of Lithium Ion Battery Cells Using the State of Charge and the Transferred Charge", IEEE Transactions on Industry Applications, vol. 48, no. 2, 2012, pp. 736-741, 2011
  - [23] Jongman Hong, Sang Bin Lee, Christian Kral, and Anton Haumer, "Detection of

- Airgap Eccentricity for Permanent Magnet Synchronous Motors based on the d-axis Inductance", *IEEE Transactions on Power Electronics*, vol. 25, no. 5, pp. 2605-2612, May 2012
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- [28] M. Einhorn, F.-V. Conte, C. Kral, J. Fleig, "Comparison, Selection, and Parameterization of Electrical Battery Models for Automotive Applications"; *IEEE Transactions On Power Electronics*, Vol. 28, No. 3, March 2013, pp. 1429 – 1437.
- [29] Christian Kral, Sang Bin Lee, Anton Haumer, „A Practical Thermal Model for the Estimation of Permanent Magnet and Stator Winding Temperatures“, akzeptiert zur Publikation in: *IEEE Transactions On Power Electronics*, 2013
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## Publikationen auf Konferenzen

- [33] R. Wieser, C. Kral, F. Pirker, M. Schagginger, »Condition Monitoring of Inverter Fed Induction Machines by Means of State Variable Observation«, *Conference Proceedings of International Conference on Electrical Machines, EMD*, pp. 336–340, 1997.
- [34] R. Wieser, C. Kral, F. Pirker, M. Schagginger, »On-line Rotor Cage Monitoring of Inverter Fed Induction Machines: Experimental Results«, *Conference Proceedings of the First International IEEE Symposium on Diagnostics of Electrical Machines, Power Electronics and Drives, SDEMPED*, pp. 15–22, 1997.
- [35] R. Wieser, C. Kral, F. Pirker, M. Schagginger, »Rotor Fault Detection of Inverter Fed Induction Machines including Experimental Results«, *Conference Proceedings of the European Conference on Power Electronics and Applications, EPE*, pp. 2.532–2.538, 1997.
- [36] C. Kral , R. Wieser, F. Pirker, M. Schagginger, »The Vienna Induction Machine Monitoring Method; A Structural Analysis of a Faulty Machine Behavior at a Stiff Voltage Supply«, *Power Electronics, Automation, Motion, Drives and Control, Power Quality, PCIM*, pp. 425–432, 1998.
- [37] R. Wieser, C. Kral, F. Pirker, M. Schagginger, »Sensitive Rotor Cage Monitoring without Frequency Analysis, the Vienna Method«, *Symposium on Power Electronics Electrical Drives Advanced Machines Power Quality, speedam*, pp. P321–P326, 1998.

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- [39] R. Wieser, C. Kral, F. Pirker, M. Schagginger, »The Vienna Induction Machine Monitoring Method; On the Impact of Field Oriented Control Structure on Real Operational Behavior of a Faulty Machine«, 24th Annual Conference of the IEEE Industrial Electronics Society, IECON, pp. 1544–1549, 1998.
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- [42] R. Wieser, M. Schagginger, C. Kral, F. Pirker, »The Integration of Machine Fault Detection into an Indirect Field Oriented Induction Machine Drive Control Scheme The Vienna Monitoring Method«, IEEE Industry Applications Society 33rd Annual Meeting, 1998.
- [43] C. Kral, »The Behavior of an Inverter Fed Squirrel Cage Induction Machine with Faulty Rotor Bars«, Proceedings of the Power Conversion & Intelligent Motion International Conference, PCIM, 1999.
- [44] C. Kral, »Derivation of the Space Phasor Equations and the Required Parameters of a Squirrel Cage Induction Machine with a Faulty Rotor Bar«, Proceedings of the IEEE International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives, SDEMPED, pp. 395–400, 1999.
- [45] C. Kral, F. Pirker, »Rotor Eccentricity Detection of Induction Machines by Means of Torque Estimation«, Proceedings of the IEEE International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives, SDEMPED, pp. 283–287, 1999.
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- [47] C. Kral, F. Pirker, G. Pascoli, »Detection of Rotor Faults in Squirrel Cage Induction Machines at Standstill for Batch Tests by Means of the Vienna Monitoring Method«, Conference Record of the IEEE Industry Applications Conference, IAS, 2000.
- [48] C. Kral, F. Pirker, »Vienna Monitoring Method — Detection of Faulty Rotor Bars by Means of a Portable Measurement System«, Proceedings of the International Conference on Electrical Machines, IECM, pp. 873–877, 2000.
- [49] C. Kral, F. Pirker, G. Pascoli, »Rotor Asymmetry Monitoring for Slip-Ring and Squirrel Cage Induction Machines by Means of the Vienna Monitoring Method«, Proceedings of the Conference for Power Electronics, Power Quality and Intelligent Motion, PCIM, pp. 223–228, 2000
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- [51] C. Kral, K. Kafka, »Power Electronics Monitoring for a Controlled Voltage Source Inverter Drive with Induction Machines«, Proceedings of the Power Electronics Specialists Conference, PESC, pp. B113–B118, 2000
- [52] C. Kral, F. Pirker, G. Pascoli, »Detection of Rotor Faults in Inverter Fed Induction Machines by Means of the Vienna Monitoring Method—A Proposed Application for Traction Drives«, Conference Proceedings of the First International Conference on Railway Traction Systems, RTS, vol. 3, pp. 79–89, 2001.
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- Vienna Monitoring Method«, Conference Proceedings EPE, August 2001.
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- [55] C. Kral, F. Pirker, G. Pascoli, »Influence of Inertia on General Effects of Faulty Rotor Bars and the Vienna Monitoring Method«, Conference Proceedings of the Third International IEEE Symposium on Diagnostics of Electrical Machines, Power Electronics and Drives, SDEMPED, pp. 447–452, September 2001.
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- [58] C. Kral, F. Pirker, G. Pascoli, »Rotor Eccentricity Detection of Two Pole, Two Phase Squirrel Cage Induction Motors«, Symposium on Power Electronics, Electrical Drives, Automation and Motion, speedam, pp. B1/1–B1/5, 2002.
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- [64] G. Pascoli, C. Kral, F. Pirker, N. Pokorny, »Experiences with Online Partial Discharge Diagnoses on Turbogenerators«, 4th IEEE International Symposium on Diagnostics for Electric Machines, Power Electronics and Drives, SDEMPED, pp. 20–24, 2003.
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## Lehrveranstaltungen

### Eigenverantwortlich gehaltene Lehrveranstaltungen

Die folgenden Vorlesungen habe ich während meiner Tätigkeit als Visiting Professor am Georgia Institute of Technology, Georgia, USA, im Zeitraum 2002–2003 eigenverantwortlich durchgeführt:

- C. Kral, course ECE 4330, »Power Electronics«, Spring 2002 and 2003
- C. Kral, course ECE-3301, »Energy Conversion and Mechatronics«, Summer 2002
- C. Kral, course ECE-3070, »Electromechanical Systems and Energy Conversion«, Winter 2002

Lehrveranstaltung an der FH Technikum-Wien

- C. Kral, A. Haumer, »Anlagentechnik und Simulaton (Modelica/Dymola)«, Sommersemester 2014–2015
- C. Kral, »Anlagentechnik und Simulaton (Modelica/Dymola)«, Sommersemester 2016–laufend

### Mitwirkung bei Lehrveranstaltungen

An den nachfolgend angeführten Lehrveranstaltungen habe ich im Zeitraum 1997–2000 als Assistent am Institut für Elektrische Antriebe und Maschinen der TU Wien mitgewirkt:

- LVA 372.537, »Betrieb elektrischer Maschinen«, Vorlesung
- LVA 372.581, »Stromrichtergespeiste Antriebe«, Laborübung
- LVA 372.614, »Elektrische Maschinen und Antriebe«, Vorlesung

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- LVA 372.647, »Antriebe«, Vorlesungen
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- LVA 372.680, »Elektrotechnik und Elektronik für MB und VT, Teil: Drehstromsysteme und Asynchronmotoren«, Laborübung

## Betreute und mitbetreute Diplomarbeiten / Masterthesen

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- [2] H. Oberguggenberger, »Untersuchung der Vienna Monitoring Method hinsichtlich Genauigkeitsschranke für eine zuverlässige Detektion von defekten Rotorstäben im Käfigläufer einer Asynchronmaschine«, ausgeführt am Institut für elektrische Antriebe und Maschinen, TU Wien, Mai 2000.
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- [4] J. Gragger, "Verbesserung des Entwicklungsprozesses von elektromechanischen Systemen mittels multiphysikalischer Simulation dargestellt am Beispiel einer batteriebetriebenen Klimaanlage", Technikum Wien, Studiengang Internationales Wirtschaftsingenieurwesen, MIWI, Dezember 2008
- [5] E. Calis, "Modelica-Simulation einer feldorientiert geregelten Asynchronmaschine mit integrierter Nachführung der Maschinenparameter", ausgeführt am Institut für elektrische Antriebe und Maschinen, TU Wien, Juni 2009
- [6] A. Huzsvar, „Validation of simple thermal model of permanent magnet synchronous induction machine“, Diplomarbeit, Technikum Wien, Betreuung gemeinsam mit A. Haumer, 2013
- [7] M. Eichinger, »Virtual Power Plant for the Hotel Industry: Energy Management of AC Systems and its Impact on Power Grids«, Masterthese, Technikum Wien, Januar 2016
- [8] Philipp Pfeiler, »[Regelungsmöglichkeiten für Fernwärme-Kessel mit Warmwasser- Speicher unter Berücksichtigung von Speicher-, Abnehmer- und Außentemperatur- Messwerten](#)«, Masterthese, Technikum Wien, September 2017
- [9] Martin Holl, »Modellierung und Simulation einer Rotationswärmepumpe auf Basis der Modelica Standard Library«, Masterthese, Technikum Wien, September 2017

## Preise und Auszeichnungen

- November 1998: Verleihung des ÖGE (Österr. Gesellschaft für Energietechnik) – Förderpreises
- November 2000: Verleihung des ÖGE (Österr. Gesellschaft für Energietechnik) – Förderpreises
- Dezember 2000: Verleihung des ARCS – Award in der Kategorie Wissenschaft 1. Preis
- Dezember 2001: Verleihung des ARCS – Award in der Kategorie Wissenschaft 3. Preis
- September 2011, SDEMPED prize paper award for the outstanding technical competence displayed in the paper entitled "Detection of Broken Outer Cage



Bars for Double Cage Induction Motors under the Startup Transient"; award recipients are J. Antonino-Daviu, M. Riera-Guasp, J. Pons-Llinares, J. Park, S. Lee, J. Yoo and C. Kral

- September 2011, VPPC best paper prize awarded to M. Einhorn, V. Conte, C. Kral and J. Fleig for the paper presented at VPPC 2011 entitled "Comparison of Electric Battery Models using a Numerically Optimized Parameterization Method"
- Mai 2012, First Prize Paper Award for Electric Machines Committee for the publication of Jongman Hong, Sang Bin Lee, Christian Kral, and Anton Haumer, "Detection of Airgap Eccentricity for Permanent Magnet Synchronous Motors based on the d-axis Inductance", published at ECCE 2011
- 2016, Qualifying Contest: 3. Preis des Maturaprojekts "Entwicklung eines elektrischen Antriebsstrangs für ein Elektromoped – EMO" für Michael Hochstöger, David Lachnit, Julia Roth und Thomas Mayer (Betreuer Christian Kral), Technologenverband, <http://www.technologe.at>, TGM, Wien
- 2016, Bosch Award: Diplomarbeit "Entwicklung eines elektrischen Antriebsstrangs für ein Elektromoped – EMO" von Michael Hochstöger, David Lachnit, Thomas Mayer, Julian Roth (Betreuer Christian Kral) wurde in der Kategorie Mobilitätstechnik als eine der besten fünf Einreichungen des Jahres 2016 nominiert

## Mitgliedschaften

- Österreichischer Verband für Elektrotechnik, ÖVE, Mitgliedsnummer 12030
- bis 2013: The Institute of Electrical and Electronics Engineers, IEEE, Mitglied seit 2000, Senior Member seit 2005
- Modelica Association ([www.modelica.org](http://www.modelica.org)), Mitglied seit 2004, Library Officer für die Modelica Standard Library

## Internationale Organisationsarbeit

- Modelica Design Group ([www.modelica.org](http://www.modelica.org)): Mitbetreuung der Modelica Standard Library
- Technical Program Chair of the 2005 IEEE Symposium on Diagnostics for Electrical Machines, Power Electronics & Drives, hosted by Arsenal Research, conference venue Parkhotel Schönbrunn, September 7–9, 2005
- General Conference Chair of the 2006 Modelica Conference, hosted by Arsenal Research, conference venue Tech Base Vienna, Vienna, September 4–6, 2006
- Industrial Forum Co-Chair of the IEEE Symposium on Diagnostics for Electrical Machines, Power Electronics & Drives, SDEMPED 2009
- Electric Machines and Drives Track Chair at the 39th Annual Conference of the IEEE Industrial Electronics Society, IECON 2013
- bis 2013: Steering Committee of IEEE Symposium on Diagnostics for Electrical Machines, Power Electronics & Drives, SDEMPED
- Associate Editor für die »IEEE Transactions on Industry Applications«, 2012-2013