

# EUGEN KUBALA

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## CAREER HISTORY

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### Research Associate

July 2013 – present

*Klinikum Rechts der Isar, Technische Universität München, München, Germany*

- Member of a group working on the studying of metabolism kinetics using DNP MR Spectroscopy.
- Directly responsible for project of studying glutamine and glutamate metabolism using DNP MRS with <sup>13</sup>C-label.
- Working on projects with *in vitro* and *in vivo* measurement.

### R&D Intern

August 2011 – April 2013

*GE Global Research, Garching bei München, Germany*

- Member of a group working on the studying of metabolism kinetics using DNP MR Spectroscopy.
- Directly responsible for project of studying Glutaminase activity using DNP MRS with <sup>13</sup>C-labeled glutamine.
- Working on projects with *in vitro* and *in vivo* measurement.

### Student Assistant

May 2011 – June 2011

*Institute of Organic Chemistry, Johannes Kepler Universität, Linz, Austria*

- Member of a team studying drug delivery system.
- Directly responsible for purification of the active substance from the drug.

### Student Assistant

April 2011 – August 2011

*Institute for Analytical Chemistry, Johannes Kepler Universität, Linz, Austria*

- Teaching laboratory techniques to undergraduate students.

## EDUCATION

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### PhD. – Medical Imaging

Exp. June 2016

*Technische Universität München, München, Germany*

Dissertation: "13C Metabolic Magnetic Resonance Imaging with Hyperpolarized 13C-labelled Metabolites"

- Member of a group working on the studying of metabolism kinetics using DNP MR Spectroscopy under supervision of Prof. Dr. Steffen J. Glaser, Univ.-Prof. Dr. med. Markus Schwaiger, and Dr. Marion I. Menzel.
- Responsible for project of studying Glutaminolysis pathway using hyperpolarized <sup>13</sup>C-labeled metabolites.
- Responsible for a project dealing with transfer of polarization *in vivo* using INEPT pulse sequence

### MSc., Mgr. – Joint Master's Program in Biological Chemistry (double degree)

June 2013

*Johannes Kepler Universität, Linz, Austria*

*University of South Bohemia in České Budějovice, České Budějovice, Czech Republic*

Thesis: "13C Magnetic Resonance Spectroscopy Measurement of Glutaminase Activity Using Hyperpolarized 13C-Labeled Glutamine"

- Member of a team at GE Global Research working on the studying of metabolism kinetics using DNP MR Spectroscopy under supervision of Univ.-Prof. Dr. Norbert Müller, and Dr. Marion I. Menzel.
- Directly responsible for project of studying Glutaminase activity using <sup>13</sup>C-labeled glutamine.

### BSc., Bc. – Biological Chemistry (double degree)

October 2010

*Johannes Kepler Universität, Linz, Austria*

*University of South Bohemia in České Budějovice, České Budějovice, Czech Republic*

Thesis 1: "Overexpression and Purification of Double Labeled PsbQ Protein in Escherichia Coli"

- Member of a team at Institute of Organic Chemistry (JKU) studying the structure of PsbQ protein using NMR spectroscopy under supervision of Univ.-Prof. Dr. Norbert Müller, and Dr. Michaela Horníčáková..
- Responsible for obtaining, and purification of a doubly labeled PsbQ protein using ion exchange chromatography.

Thesis 2: "Study of the Role of Mutations L39Q, L49Q, and N78T of Casein Kinase I Epsilon in Breast Cancer Using Drosophila Melanogaster as a Model Organism"

- Member of a team at Department of Molecular Biology (USB) studying the role of the mutations found in Casein Kinase I epsilon (CK1 $\epsilon$ ) in breast cancer tissue.
- Responsible for introducing CK1 $\epsilon$  carrying mutations L39Q, L49Q, and N78T into Drosophila melanogaster.

LANGUAGE SKILLS

**Language knowledge:**

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
<b>Czech</b>			Native speaker		
<b>English</b>	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
<b>German</b>	B2 Independent user	B2 Independent user	B2 Independent user	B1 Independent user	B1 Indep. user
<b>Slovak</b>	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C1 Proficient user

European level [Common European Framework of Reference for Languages](#)

**Intensive German language course**

*Steinke Institut, Bonn, Germany*

*July 2010 – September 2010*

**Foreign Exchange study**

*Eisenhower High School, Rialto, CA, USA*

*October 2004 – June 2005*

PUBLICATIONS

Lorenc K, **Kubala E**, Gringeri CV, Durst M, Koellisch U, Frank A, Schwaiger M, Glaser SJ, Schulte RF, Menzel MI. Hyperpolarized [2-<sup>13</sup>C]-D-fructose Uptake and Metabolism in Brain Tissue *Poster presentation at oint Annual Meeting ISMRM-ESMRMB 2014, Milan, Italy.* 2014 Apr

Chiavazza E, **Kubala E**, Gringeri CV, Düwel S, Durst M, Schulte RF, Menzel MI. Earth's magnetic field enabled scalar coupling relaxation of <sup>13</sup>C nuclei bound to fast-relaxing quadrupolar <sup>14</sup>N in amide groups. *J Magn Reson.* 2013 Feb; 227:35-8. doi: 10.1016/j.jmr.2012.11.016.

**Kubala E**, Chiavazza E, Gringeri CV, Düwel S, Durst M, Schulte RF, Menzel MI. [5-<sup>13</sup>C]glutamine as a tumor marker: Earth's magnetic field causes rapid relaxation of <sup>13</sup>C nuclei bound to fast relaxing <sup>14</sup>N amide group". Poster presentation at the DNP using strong microwaves by prof. W.Th. Wenckebach, Villigen, Switzerland. 2012 Dec

Scholz J, Khagai O, **Kubala E**, Otto A, Schulte RF, Ziegler S, Haase A, Menzel MI. Hyperpolarization of <sup>13</sup>C-bicarbonate for spatial MRI pH-detection *The 11th International Symposium on Parallel and Distributed Computing - ISPDC.* 2012 Jun

COURSES AND CONFERENCES ATTENDED

Joint Annual Meeting ISMRM-ESMRMB 2014, Milan, Italy *April 2014*

DNP using strong microwaves by prof. W.Th. Wenckebach, *PSI, Villigen, Switzerland* *December 2012*

Solid State NMR Spring School, *Johannes Kepler Universität, Linz, Austria* *April 2012*

SKILLS

**Technical skills:** Along with the customary laboratory skills, I am also skilled in the following techniques: DNP MR spectroscopy, NMR spectroscopy: <sup>1</sup>H, <sup>13</sup>C, COSY, TOCSY, HSQC, HMBG; Chromatography: GC, LC, HPLC, IC, TLC; IR spectroscopy, Fluorescent spectroscopy, Mass spectrometry; Electrophoresis: CZE, Gel electrophoresis, Blotting; PCR, RT-PCR.

**Computer skills:** MS Windows, OS X, MS Office, C++, EPIC, TopSPIN, ChemSketch, ChemDraw, MATLAB, Java, Perl, L<sup>A</sup>T<sub>E</sub>X, basic HTML.

EXTRACURRICULA ACTIVITIES

Member of the Curricular Committee for Biological Chemistry, *JKU, Linz, Austria* *July 2010 – June 2013*

HOBBIES

Traveling, history, current events, politics, graphics, animation, roller-skating, jogging, hiking, squash, snowboarding, theatre, sci-fi and historical movies and books.

REFERENCES

**Prof. RNDr. Libor Grubhoffer, CSc.**

Rector at *University of South Bohemia in České Budějovice, České Budějovice, Czech Republic*  
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**Dr. Marion I. Menzel**

Senior Scientist at *GE Global Research, Garching bei München, Germany*  
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