



Ing. Alois Láška, PhD.

Birth name: Típek
Date of Birth: August 28, 1975,
[Ostrov nad Ohri](#), [Czech Republic](#)

EDUCATION:

Postgraduate 3/1999 – 3/2003

[Laboratory of Magnetic measurements \(Prof. Pavel Ripka\)](#),
[Department of Measurement, Faculty of Electrical Engineering](#),
[Czech Technical University, Prague, Czech Republic](#)

Dissertation topic: “*Vector magnetometers and their calibration*”
March 2003, defended with “excellent result”
(Available in pdf files, English)

State Doctoral Exam: April 2002, defended with “excellent result”

PhD field of study:

Precise magnetic field measurements

Magnetometers and related analog electronics (fluxgates, magnetoresistors, resonant magn...)

Space magnetometer - satellite [MIMOSA](#)

Micro-fluxgate sensors (cooperation with Shizuoka University, Japan)

Vector magnetometers calibration and characterization (fluxgates, magnetoresistors)

The results were published at scientific conferences - see the document “List of publications”.

(All publications are in English and they are available in Pdf or Doc files.)

See also chapter PROFESSIONAL ACTIVITIES.

Graduate 10/1993 - 2/1999

[Laboratory of Magnetic measurements \(Prof. Pavel Ripka\)](#),
[Dep. of Measurement, FEE, CTU, Prague, CR](#)

Thesis: “*Fluxgate magnetopneumography*”

(Magnetopneumography is a method of detecting ferromagnetic industrial aerosols in human lungs)

A three axial fluxgate magnetometer was built (electronic, positioned system), control software was developed LAB-CVI and measuring procedure was determined during this project. The project was held with cooperation with the local authorities in Prague - Hygienic station of the main capitol.

High school

9/1989 - 6/1993 Secondary Technical School, specialization - Technology of automation
Ostrov nad Ohri, Czech Republic, (GCE - excellent report)

LANGUAGES:

Fluent in Czech and English, conversational German, some knowledge of Russian

PROFESSIONAL ACTIVITIES:

1/2009 - now

www.EneSo.cz - own company EneSo s.r.o.

- Renewable Energy business e.g. solar collectors, heat pumps etc.
- concentrating for end user customers (homes, companies)
- responsible for all business chain - design – realization – service
- secure possible grants and administrations e.g. Zelená úsporám
- over 100 instalation of heat pumps, photovoltaic and photothermic collectors, gas and pellets boilers, accumulation tanks, measurement and regulation etc.
- more references on web page
- the biggest project

Hotel Montánie Soušská přehrada, 2x120kW pellet boilers with distribution fot heat to 5 buildings - 2020

Hotel Antonie, Frýdlant, 60pcs of photothermic collectors + 5m3 aku
Palác Nisa, 4x100kW gas boilers for 70 flats 2015

3/2007 – 1/2009

Jablotron Alarms a.s., Jablonec nad Nisou, Czech Republic.

Development department – application and development engineer (12month)

Responsibility for new products R&D:

Home Security - Oasis 868MHz: Shock and inclinometer detector

Car Security: GPS-GSM independent tracking unit

General research: Behaviors of LiMnO₂ 3.0V a LiClO₂ batteries

Export department – Director of product management (9 month)

Responsibility for general marketing and technical support of current and new foreign partners especially for German speaking dominium. Representing Jablotron on exhibitions and fairs, identifying new trends and products. Providing trainings for installers and schools.

6/2005 – 2/2007

Post-doctoral Researcher in [Tyndall National Institute, Cork, Ireland](#).

The position was funded through 2 large research/industrial projects. I was the main coauthor of the ideas and later on also proposals for government body foundation. I held principle investigator position for both projects and I was responsible for the overall project management, responsible for the general research (design, modeling, processing, testing) and commercialization of the results, pos-docs and PhD students supervising as well as being involved in the work to be carried out.

Topic: *Novel Magnetic Sensors and magnetometers*

Summary: New models, designs, construction, materials of the magnetic sensors embedded in PCB and CMOS (fluxgates and AMR), supporting analog and digital electronic design, modeling, testing and characterization.

Projects:

2005-2008 – *Integrated Three Axis Magnetometer For Electronic Compass Application*
Commercialisation Fund, [Enterprise Ireland](#) foundation, TD2005316 (budget €350k)

2/2006-1/2007 – *CMOS compatible AMR sensor*, Innovation Partnership, [Enterprise Ireland](#)
& Industrial partner, IP-2005-0308, (budget €130k)

(Topics described in the publications - see document “List of publications”)

6/2003 – 5/2005

Post-doctoral position in [National Microelectronic Research Center \(NMRC\)](#), [University College Cork \(UCC\)](#), [Cork, Ireland](#).

The position was funded by the fellowship Scheme of the [Embark Initiative](#), operated by the Irish Research Council for Science, Engineering and Technology ([IRCSET](#)) - PD2002/52.

Topic: *Novel Integrated Micromagnetic Actuators and Sensors in printed circuit board (PCB)*

Summary: New models and designs of micromagnetic actuators and sensors embedded in PCB, supporting analog and digital electronic design, testing and characterization

Projects: **2004-2005** – main author of [PCB microFluxgate sensor design – Proof of Concept, Enterprise Ireland](#) foundation

2003-2005 – [PCB actuator](#) - microRelay design, modeling, processing, testing, [Embark Initiative](#), PD2002/52

(Topics described in the publications - see document "List of publications")

3/2000 - 5/2003 Editor of [Master Book on Sensors](#), Modular Courses on Modern Sensors, EU - Leonardo da Vinci project CZ/PP-134026, Czech Technical University, ISBN 80-7300-129-2, 2003. Also coauthor of the chapter "New materials in sensor construction".

2/2002 - 4/2003 Magnetoresistor magnetometer/gradiometer analysis and improvements

Description: Instrument is used as a navigation [tool for horizontal drilling](#). Industry cooperation with Netherlands company [Brownline](#).

Job summary: construction analysis and removing basic errors in the design and construction (electronics/case), testing, software debugging, preparation for new Magnetoresistor magnetometer design. Test, improving implementation and further work are held in [Laboratory of Magnetic measurements \(Prof. Pavel Ripka\)](#).

6/2002 - 9/2002 Member of [Eurosensors XVI](#) conference organization committee
Chairman of the Poster Session, author&producer of the information system

2001/2002 Part time job in [RS Dynamics](#), Earth Science & Security Equipment

Job summary: debugging of analog and digital electronics, calibration and final checking of the instruments

2001 Holder of the internal grant of the [Czech Technical University](#), Prague

Project: [Magnetometer for the Mimosa Satellite – 300110613](#)

Summary: Calibration of 3-Axial Magnetometers (software removing of the non-perpendicularity, offset and other errors in three axis vector magnetometers)

12/2001 - received the [Award "SIEMENS"](#) for PhD students

5/2001 - received scholarship "[Foundation of Stanislav Hanzl](#)", CTU Prague

9/2000 - 6/2001 Micro-fluxgate sensors testing

3/2001 – visit [Shizuoka University](#), Hamamatsu, Japan.

Cooperation with [Imaging Devices Laboratory](#)

Summary: Fully characterization of single and double core micro fluxgate sensor, new type of pulse excitation. Work is fully described in the journal papers - see. "List of publication".

also Project: [Ripka, P.: Fluxgate magnetometer 98-01, ME 275 – program Contact Ministry of education](#)

5/2000 - 7/2000 Designer of the three axis vector magnetometer for industry application

Description: Instrument for mapping Earth magnetic field in pilot-structural bore. Industry commission from German company [MIT - Dresden](#).

Job summary: design and test of the analog electronics, PCB layout, testing, project coordinator. Constructed in [Laboratory of Magnetic measurements \(Prof. Pavel Ripka\)](#).

3/1999 - 6/1999 Designer of the three axis Space Magnetometer for satellite [MIMOSA](#)

Description: The space instrument determines orientation of the satellite in respect to the Earth. Magnetometer Satellite [MIMOSA](#) was a new satellite built by the [Astronomical Institute of the Czech Academy of Science](#).

Job Summary: design and test of the analog electronics, PCB layout, testing, components search and choice

Constructed in [Laboratory of Magnetic measurements \(Prof. Pavel Ripka\)](#).

7/1998, 7/1999, 7/2000 - Fluxgate sensors completing

Description: [Sensors for the military magnetometer](#) built for [SCHIEBEL, Wien, Austria](#)

Job Summary: Assembling and testing of the excitation and pick-up coils, final test of finished sensors

Constructed in [Laboratory of Magnetic measurements \(Prof. Pavel Ripka\)](#).

Projects: [1996-1998- Ripka, P.: Magnetic sensors 96--98, Grant agency of the Czech Republic GA102/96/1251](#)

10/1996 -12/1999 - [Fluxgate magnetopneumography](#)

Description: Magnetopneumography is a method of detecting ferromagnetic industrial aerosols in human lungs.

Job summary: A three axial fluxgate magnetometer was built (electronic, positioned system), control software was developed LAB-CVI and measuring procedure was determined during this project. The project was held with cooperation with local authorities in Prague - [Hygienic station of the main capitol](#).

Project: [1997-1999 – “The Exposition of industry aerosols“ the grant of Ministry of public health](#)

7,8/1997, 7,8/1996 Designer of the Switching supply

(Analog electronics, choice of the components, PCB, testing)

Switching supply =12V/=24V 30W, =12V/AC220V 50-3000W, UPS up to 5KW

ASTIP, Brno, Czech Republic

7,8/1995, 7,8/1994 Manager of the photo-minilab - Kodak Express

7,8/1993 (photograph, work manager)

Head of the photo express - tourist trap.

Kodak Express, Jakub Jiskra,

Fugnerova 17, Karlovy Vary, Czech Republic

ACADEMIC ACTIVITIES:

Lectures at university seminars 1999-2003

(Dep.of Measurement, FEE, CTU, Prague, CR):

Sensors I + II, Magnetic Elements and Magnetic Measurements, Contactless measurement

Supervisor of the successfully defended master course student's projects:

Bursary student, NMRC

Multiaxis fluxgate sensor testing and signal electronic - Jeffry Godsell (summer 2004)

Bachelory thesis, Dep.of Measurement, FEE, CTU:

GSM communication, module Siemens TC35 – L. Kraus, M. Svoboda (2003)

Temperature testing of magnetic sensors – I. Vondrka (2003)

Testing of giant magnetoimpedance sensors - Malátek Michal (2001)

Verification of the application possibilities of the new analog circuits ispPAC in the measurement technique - Pleskač Jan (2001)

Master thesis, Dep.of Measurement, FEE, CTU:

The calibration of three axis magnetometers – Petr Kott (2002)

SOFTWARE:

General: Win 10, XP,2000,98,95, Win 3.XX, DOS, MsOfficePro 02, 00,97,95 (Word, Excel, Access,Ppt, etc.), Valentine software for photovoltaic, Techcon for heating, AutoCad etc.

PCB designer tool: OrCAD for Win 9.0, 10, OrCAD 386+ ; (partly Eagle)

Controler software: PIC&Atmel&ST controller programming

Graphic tools: Corel 8.0,10, PainShopPro, etc.

Testing software & program languages: Lab Windows CVI - National Instrument 4.X - 5.X, LabView, C, TurboPascal, GW-Basic

Magnetic Field Modeling: GEMINI, partly AnSoft and AnSys

Others: Sound Forge (sound recording), DVD&CD editing, developing web pages, etc.

HOBBIES:

Sports: boating, biking, skiing, swimming

Photography, Music and its editing, traveling

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