

# Petr Procházka

Email: [petr.prochazka2@gmail.com](mailto:petr.prochazka2@gmail.com)  
Websites: <https://www.linkedin.com/in/prochazkap/>  
Telephone: +420 603 445 127  
Location: Lazenska 67, CZ-373 16 Dobra Voda u Ceskych Budejovic, Czech Rep.  
Nationality: Czech  
Languages: English, Czech, German, Russian

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## PROFILE

Senior safety professional with extensive experience in high hazards management in world-class facilities like the most powerful laser research facility (10 PW class) in the world (ELI Beamlines) and avian influenza vaccine production facility with unique technology (Baxter Healthcare). Perfectly organized and systemic expert in assessing complex and demanding technologies and processes. Communicative team player with ability to integrate EHS programs and safety systems into design and facility operation. Experienced in driving practical solutions for complex issues to achieve maximal efficiency of implemented safety programs.

## KEY PROFESSIONAL AND MANAGERIAL STRENGTHS

- **Accelerator Safety Programs:** Experience in identifying hazard and assessing risks of accelerators and high power lasers operation, developing Safety Assessment Documents, and implementing Accelerator Safety Envelope.
- **Safety Management System (SMS):** Proven experience in designing, implementing, and maintaining of SMS in production and high reliability laser accelerator facility.
- **OSHA and DOE Requirements:** Knowledge of OSHA and DOE policies, practices and requirements (gained within the design and implementation of policies and procedures for high power laser based accelerator and King Abdullah University of Science and Technology).
- **Chemical Laboratory Operation and Chemical Safety Management:** Experience in working in chemical laboratory and using analytical instrumentation such as HPLC, LC, or GC/MS. Mentoring chemical laboratory staff in chemical safety management, establishing and implementing chemical safety related procedures, designing operational arrangement for works with specific chemicals such as perovskites (organic lead compounds) or beryllium containing material.
- **Safety systems and infrastructure:** Experience in requirements management, functional analysis, conceptual design, development, and implementation of safety systems such as personal safety interlock system or Fire & Gas (F&G) system, and monitoring system for ionizing radiation. Skills in systems integration to achieve optimal functionality.
- **Biosafety management:** Experience in Biosafety in chemical, biotechnological, and laser driven accelerator facilities.
- **High hazards management:** Extensive knowledge of managing high hazards in demanding environments (high power lasers, ionizing radiation, non-ionizing radiation – EMP, magnetic field, explosive atmospheres, cryogenic systems, engineered nanomaterials, chemicals etc.) such as those found at chemical, biotechnological, and laser driven accelerator facilities.
- **Team leadership:** Leadership of multinational teams of highly specialized safety experts.

## PROJECTS

- **Personal Safety Interlocks** (ELI Beamlines, Leader –Development of the Conceptual Design and Implementation)
- **F&G Monitoring System for laser driven accelerator facility** (ELI Beamlines, Leader – Design Phase)
- **BSL3 dedicated facility for X-ray experiments** (ELI Beamlines, Designer – Design Phase)
- **Facility Automation System Upgrade** (Baxter Healthcare, Team Member – Design and Implementation Phase)
- **Production Technology Expansion** –Technological Project (Baxter Healthcare, Team Member – Design and Implementation)
- **BSL3 laboratories** – Construction Project (Baxter Healthcare, Team Member – Design Phase)
- **High Hazard Management Program** – Divisional Project (Baxter Healthcare, Team Member And Regional Owner Of System – Design, Implementation and Execution Phase)
- **Technology Transfer To Takeda Pharmaceutical In Hikari** – Construction and Technological Multi-corporate Project (Baxter Healthcare, Team Member And Regional Owner Of System – Design and Implementation Phase)
- **Optimization of Decontamination Technology** – Technological Project (Baxter Healthcare, Leader – Design and Implementation Phase)
- **EHS E-CAPA System Development** - (Baxter Healthcare, Author and Project Leader – Design, Implementation and Execution Phase)

## EDUCATION

- **Ph.D. (expected 2018):** Industrial Safety, Faculty of Safety Engineering, Technical University, Ostrava, Czech Rep.
- **Master of Science (2008):** Emergency Radiobiology and Toxicology, Faculty of Health and Social Studies, University of South Bohemia, České Budějovice, Czech Rep.

- **Bachelor of Science (2006):** Applied Radiobiology and Toxicology, Faculty of Health and Social Studies, University of South Bohemia, České Budějovice, Czech Rep.

## COURSES & TRAINING COMPLETE

- Certified Fire Protection Professional – Czech Republic (acquired 2013, does not expire)
- Certified Safety Professional – Czech Republic (re-certified 2014, valid until 2019)
- **Biosafety and Biosecurity Training Course** (July 2015, Fort Collins, CO, USA - Colorado State University)
- **BSL3 Facilities: Design, Construction and Beyond** (April 2013, Raleigh, NC, USA – Eagleson Institute)
- **Advanced BSL3 Work Practices and Procedures** (April 2013, Raleigh, NC, USA– Eagleson Institute)
- **Laser Safety Officer Course** (June 2015 – Laser Institute of America)
- Six Sigma Yellow belt (gained 2010)
- **Methods of risk analysis in processes and systems** (2012 - FBE)
- **HAZOP** (2011 - Abhisam)
- **Machinery Safety** (2011 - Webinar training)
- **Functional Safety** (2011 - Webinar training)
- IT Skills - MS Office (user level), Adobe Acrobat (user level), SAP R3 (user level), Teamcenter 9 (user level), ALOHA SW (user level)

## CAREER HISTORY

Jun 2017 – now

### BIOSAFETY OFFICER & SAFETY EXPERT

**ELI Beamlines, Institute of Physics Czech Academy of Science, Prague, Czech Rep – [www.eli-beams.eu](http://www.eli-beams.eu)**

#### BIOSAFETY OFFICER

- Support promising ELIBIO project that explores new frontiers in light and optics to create breakthrough science in biology, chemistry, and physics.
- Develop and implement comprehensive Biosafety Program to enable first flagship experiments as well as continuous future user operation of biological laboratories (up to BSL2 level) and experimental technology (e.g. Coherent Diffractive Imaging without necessity of crystallization).
- Assist in redesign and building new biological laboratories with multiple hazards to be controlled such as Class IV lasers.
- Create and implement fundamental documents and procedures for efficient program realization (e.g. SOPs, guidelines etc.).

#### SAFETY EXPERT

- Coordinate the project of Personal Safety Interlock based on conceptual design created within former acting in the role of Safety Manager.
- Progressive implementation of the system into the facility infrastructure to assure high level of safety of experimental user operation.
- Develop and implement procedures for specific industrial hygiene topics such as Beryllium Safety Program, Lead Management Program, or Nanomaterial Safety Program.
- Provide Safety Team with technical safety expertise in other Environment, Safety, and Health topics like laser safety, chemical safety, Technology Readiness Review etc.

Jan 2017 – Apr 2017

### RESEARCH SAFETY MANAGER

**King Abdullah University of Science and Technology, Thuwal, Saudi Arabia – [www.kaust.edu.sa](http://www.kaust.edu.sa)**

- Managed research safety programs for all University research laboratories and centers (i.e. General laboratory Safety, Biosafety, Chemical Safety, Radiation Safety, Laser Safety, Nanosafety, Laboratory Design Safety Program etc.).
- Provided extensive support in implementation and maintenance of research safety programs to research centers like Core Laboratories and Major Facilities (Imaging and Characterization, Animal Facility, Nanofabrication, Coastal and Marine Resources Lab), Solar Center, Catalysis Center, Clean Combustion Center, or Petroleum Engineering Research Center.
- Conducted inspection of biological laboratories in order to achieve certification for BSL2 type research and provided support to maintain the certification (e.g. development of SOPs, providing training to Lab personnel, assisting in resolving Biosafety related issues).
- Acted as an advisor to Institutional Biosafety Committee and Institutional Animal Care and Use Committee.
- Supported Principal Investigators in designing shielding for X-Ray generating machines (from 50 to 250 keV).
- Coached and mentored University Laser Safety Officer in improvement of Laser Safety Program for more than 100 Class IV lasers with various applications such as biological and biomedical applications, spectroscopy, combustion etc.
- Carried out chemical safety training for laboratory personnel and students in the laboratories where toxic, flammable, or explosive chemicals were used.

- Lead investigation of laboratory incidents and proposed corrective and preventive actions to avoid reoccurrence of the incidents.

Dec 2012 – Jan 2017

### **SAFETY MANAGER & SAFETY TEAM LEAD**

**ELI Beamlines, Institute of Physics Czech Academy of Science, Prague, Czech Rep – [www.eli-beams.eu](http://www.eli-beams.eu)**

- Design, implement, and maintain comprehensive Safety Management System and following procedures and policies for high power multi-laser accelerator facility with unique and highly technical scientific instruments and equipment.
- Supervise performance of Safety Management System at HiLASE laser facility ([www.hilase.cz](http://www.hilase.cz)) to assure operational compliance with safety regulations.
- Develop and implement guidelines and procedures for hazard analysis studies of complex and unique technologies like high power and ultra-fast lasers, particle accelerators, gas supply systems, and laser beam distribution system.
- Create and maintain technical safety documentation including safety relevant systems design, programs for management of high hazards (e.g. laser safety program).
- Carry out risk assessments, define controls, and integrate safety technical requirements to the design and operation of petawatt class femtosecond lasers, laser based accelerators and other technology to achieve full compliance with safety regulations.
- Develop Safety Assessment Document and evaluate Unreviewed Safety Issues for the laser based particle accelerator with special emphasis on electron and proton acceleration stations.
- Develop and implement conceptual design of safety integrated systems (e.g. Personal Safety Interlock System), and improve the reliability of already enforced systems and procedures using human factor analysis of operator's work tasks and workplace aspects (e.g. "search" procedures).
- Develop & ensure the competency of site teams in the identification and control of hazards & risks on location by actively engaging, influencing and persuade all operational and support functions to deliver an integrated, pragmatic approach to hazard management.
- Manage multinational teams of highly specialized and internationally recognized safety engineering experts (safety, radiation safety, Monte Carlo simulations, and system analysis) and coached scientific staff in compliance with requirements and rules set forth in site specific safety documentation and procedures as well as national and international regulations.

### **Main Achievements**

- Delivered conceptual design of Safety Integrated System for the facility operation to manage high hazards connected with employment of technology where high level of reliability is required (i.e. high power lasers, particle accelerators, or high voltage systems).
- Designed Integrated Safety Management System for ELI Beamlines project and operation.
- Managed the delivery of results of groundwork for radiation shielding and activation studies to enable safe and flexible operation of the facility and comply with international and national radiation safety regulations.
- Delivered conceptual design for gas handling system for experiments (flammable gases – H<sub>2</sub>, D<sub>2</sub>, H<sub>2</sub>S etc., and toxic gases – HCN, NH<sub>3</sub> etc.) and prepared for further efficient technical improvements.
- Delivered conceptual design of dedicated BSL 1, 2 and 3 (biosafety level) facilities for X-ray biomedical experiments.
- Benchmarked implemented safety policies, procedures, and guidelines with world leading facilities (e.g. Lawrence Livermore National Laboratory, Berkeley Lab, SLAC National Accelerator, Sandia National Laboratories, or ARGONNE National Laboratory).

2010 – Jan 2017

### **SAFETY ENGINEERING BUSINESS OWNER (CONSULTANCY)**

**SEI Company, Czech Republic**

- Provide leadership and direction to clients to ensure compliance with the applicable safety regulations and fulfilled adherence to statutory standards providing assurance to SMS, policies and procedures.
- Provide highly specialized safety service focused on handling with hazardous chemicals, biological agents and other hazardous materials. Provide case based studies and assessments on integration of technological parts to existing facilities.
- Carry out risk assessments to ensure that standards and legal requirements are consistent with international & national standards requirements, using Risk Assessment / Analysis Methodologies and raise non-compliances during Board meetings to various stakeholders.
- Provide consultancy in safety for projects with integration and operational challenges.

Aug2009 - Nov 2012

**SAFETY ENGINEER AND BIOSAFETY OFFICER**

**Baxter Healthcare, Jevany, Bohumil, Czech Rep – [www.baxter.com](http://www.baxter.com)**

- Played an important role in EHS management of world-class biotechnological facility with novel technology for production pandemic vaccines, served as an EHS subject matter expert for biosafety, chemical safety, non-ionizing radiation safety and transportation of hazardous materials (Acted as a Biosafety Officer and Chair of Institutional Biosafety Committee).
- Implemented corporate and divisional EHS standards and procedures to site EHS program, served as a site counterpart to corporate and divisional EHS management.
- Led risk assessment studies for production technology, verified that all proposed controls were properly implemented, inspected technical and operational documentation to assure full compliance with international, national, and Company regulations and standards.
- Innovated facility biosafety program to enable effective utilization of production technology and facility for new products (e.g. H9N2 influenza strain), transcribed improved biosafety program to other facility outside of corporation.
- Monitored construction sites within the facility (new buildings, new technological assemblies) to ensure EHS compliance with applicable construction safety regulations and Company procedures, negotiated Company requirements with construction management and contractors.
- Managed Environmental program for entire facility, performed environmental impact assessments of newly installed technologies (e.g. H<sub>2</sub>S burning unit for wastewater neutralization station, wastewater treatment plant extension), and assessment of remediation works on old buildings (e.g. demolition of abandoned vaccine production facility).
- Established and maintained comprehensive contractor safety program with respect to corporate requirements, security and quality standards of the corporation.
- Cooperate on implementation, maintenance and improvement of EMS (ISO 14001) and SMS (OHSAS 18001) on site that led to successful recertification.
- Drove the continuous improvement in EHS performance, used 6σ tools to achieve the best practice in EHS.

**Main achievements**

- Founded Biosafety Committee and became its Chair.
- Designed and implemented e-databases for maintenance of audit findings (e-CAPA system) and chemical inventory.
- Enhanced effectiveness and delivered validation of area decontamination system.

Nov 2007 - Dec 2007

**RESEARCH ASSISTANT**

**United Arab Emirates University, Al Ain, UAE - <http://www.uaeu.ac.ae/en/>**

Sept 2007 - Jan 2009

**STUDY PROGRAM MANAGER & CHANCELLOR DEPUTY FOR R&D / LECTOR**

**College of Applied Economic Studies, Czech Rep**

July 2005 -June 2007,

**SPECIALIST FOR LOGISTIC PROJECTS & ANALYSES**

**Dept. of Physical Logistics, Robert Bosch, Czech Rep**

Feb 2004 - July 2005,

**SPECIALIST FOR LOGISTIC PROJECTS & ANALYSES**

**Dept. of Logistics Projects, Robert Bosch, Czech Rep**

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**OTHER NOTABLE DETAILS**

- Managerial staff for Curriculum Studies Research Group
- Management of the International Conference - [www.oedm-serm.org](http://www.oedm-serm.org)
- Publication activity in field
- Assistant Professor at University of South Bohemia – Chemical Safety, Industrial Disasters

**REFERENCES & CERTIFICATION AND PUBLICATIONS AVAILABLE UPON REQUEST**