



Pavel Kočovský – Coworkers

Credo: Universities came into being as communities of teachers and pupils, as inspirational environments for the intellectual, spiritual, and moral development of the personality. (T. Halík)

◆ MSc and BSc Projects / Diploma Theses (year of completion and thesis title)

- Ivo Starý (1984): *Neighboring group participation in electrophilic additions*
- Irena G. Stará née Stieborová (1986): *Synthetic studies toward strophanthidin*
- Milan Pour (1989): *Cyclopropane opening by heavy metal ions*
- Nicole Zimmermann (1996): *Molybdenum-catalyzed allylic substitution*
- Pavel Herrmann (2001) [Erasmus]: *Chiral bipyridines in asymmetric catalysis*
- Maxime Vassieu (2002): *New organocatalysts for asymmetric allylation of aldehydes*
- Radim Hrdina (2002) [Erasmus]: *Synthesis and application of chiral binaphthyl-based catalysts*
- Lukáš Kobr (2002) [Erasmus]: *Synthesis of chiral carbene and phosphine ligands based on pinene*
- Suzane Taylor (2003): *Catalytic enantioselective addition to nitro-alkenes using novel ligands*
- Jan Štambaský (2004) [Erasmus]: *A combinatorial approach to the synthesis of C-nucleosides*
- David Biedermann (2004) [Erasmus]: *Synthesis of terpene-derived chiral ligands*
- Kvetoslava Vranková (2004) [Erasmus]: *Limonene-derived chiral ligands*
- Catherine Maclean (2005): *Synthesis of 4'α-C-substituted cyclohexenyl nucleosides for medicinal application*
- Kristýna Pluháčková (2006) [Erasmus] *Computational approach to organocatalyzed aldol reaction*
- Aneta Kadlčíková (2006) [Erasmus]: *Axially chiral N-oxide catalysts for allylation of aldehydes*
- Ondřej Kysilka (2006) [Erasmus]: *Towards the enantioselective synthesis of speranskatine A*
- Elaine Fergusson (2006): *Combinatorial synthesis of libraries of 1-arylprop-2-en-1-ols for chemical biology applications*
- Andrew Grimmes (2007): *The organocatalytic reduction of imines*
- Mark Prestley (2007): *Recoverable catalysts for the asymmetric reduction of imines using trichlorosilane*
- Kryštof Šigut (2007) [Erasmus] *New organocatalysts for allylation of aldehydes*
- Petr Bešťák (2007) [Erasmus] *Picolinamide derivatives of N-methyl-valine as new chiral organocatalysts in the enantioselective reduction of aromatic ketimines with trichlorosilane*
- Vojtěch Kapras (2008) [Erasmus]: *Enantioselective α-allylation of aldehydes as a two-step catalytic process*
- Martin Schindler (2008) [Erasmus] *New pyridine-phospine ligands for enantioselective catalysis*
- Raquel Suarez-Calvo (2008) [Erasmus]: *New soluble polymer-supported catalysts for asymmetric reduction of imines with trichlorosilane*
- Ralph Sigerson (2008): *New chiral catalysts for the asymmetric reduction of imines*
- Matthias Arndt (2008): *Asymmetric reduction of imines with trichlorosilane catalyzed by amino acid-derived formamides*
- Mirvet Mtimet (2009) [Erasmus]: *New pyridine-type organocatalysts for asymmetric reactions*
- Malcolm Gordon (2009): *Lewis-base catalyzed asymmetric opening of meso-epoxides*
- Tereza Řehůřková (2009) [Erasmus] *New organocatalysts for asymmetric reactions*
- Jiří Stříbrný (2009) [Erasmus] *Synthetic studies in organocatalytic reactions*
- Colin Robinson (2010): *Investigation of stereoselective reactions of homoallylic alcohols*
- Jiří Veselý (2010) [Erasmus]: *New axially chiral isoquinolines*
- Yvonne Jewkes (2011): *The scope of the chiral Lewis base catalyst METHOX in the asymmetric allylation of aliphatic aldehydes using allyltrichlorosilane*
- Jiří Mikušek (2011) [Erasmus]: *Enantioselective synthesis of homoallylic alcohols using chiral N-oxide organocatalysts*
- Michal Májek (2011) [Erasmus]: *Synthesis of new axially chiral isoquinolines as catalysts for asymmetric allylation of aldehydes*
- Jan Hošek (2012) [Erasmus]: *Lewis base-catalyzed reduction with trichlorosilane*
- Neil McAlpine (2013): *Mitsunobu reaction with enantiopure benzylic alcohols*
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◆ **PhD Students** (year of graduation and thesis title)

- Ivo Starý (1989): *Stereochemistry of nucleophilic allylic substitution catalyzed by transition metal complexes*
- Martin Smrčina (1989) [PK as co-supervisor]: *Racemization barriers and asymmetric transformation of selected binaphthyls*
- Jiří Šrogl (1994): *Stereochemistry of the opening of cyclopropanes by mercury*
- Richard S. Baines (1994): *Synthetic studies toward estrogens*
- Ben P. M. Farn (1997): *Transition metal-catalyzed allylic substitution in carbohydrates*
- Chi-Kit Woo (1997): *Chiral catalysts for intramolecular and intermolecular ene-reaction*
- Jason M. Grech (1998): *The synthetic applications of organomercurials arising by the cleavage of cyclopropane derivatives*
- Paul Spoor (1998): *Asymmetric allylic substitution catalyzed by molybdenum complexes*
- Victoria Dunn (1998): *Organomercurials in the synthesis of triquinane-type molecules*
- Ghafoor Ahmed (1998): *Novel transition metal catalysts for intramolecular ene-reaction*
- Robin D. Brooks (1999): *Synthetic approaches to new binaphthyls*
- Stuart L. Davis (1999): *Allylation of electron-rich aromatics and heteroaromatics catalyzed by molybdenum(II)*
- Russel M. J. Stead (1999): *Synthetic Approaches to new axially chiral ligands*
- Štěpán Vyskočil (1999) [PK as co-supervisor]: *C₁-Symmetrical binaphthyls and their application in asymmetric catalysis*
- Ian R. Baxendale (1999): *Group 6 metal-catalyzed allylic substitution*
- Roger W. Graham (2000): *New transition metal catalysts for cycloaddition reactions*
- Daniele Pernazza (2001): *New chiral ligands for asymmetric catalysis*
- Lenka Dufková (2003) [Erasmus; PK as co-supervisor]: *Axially chiral isoquinolines*
- Mark Bell (2004): *Chiral pyridine ligands and their applications in catalysis*
- Victoria MacIver (2004): *Novel binaphthyl ligands*
- John Hand (2005): *Synthesis of novel N,P-ligands and their application in asymmetric catalysis*
- Stephen Lockhart (2005): *New carbene and binaphthyl ligands in asymmetric catalysis*
- Angus Stewart-Liddon (2006): *Synthesis and application of pyridine-oxazolines in asymmetric catalysis*

- Lada Biedermannová (2006) [Erasmus; PK as co-supervisor]: *Non-covalent interactions of aromatic systems and their role in proteins and organocatalysis*
- Kenneth MacDougall (2007): *Organocatalysts for the asymmetric reduction of aromatic ketimines with trichlorosilanes*
- Mary M. Westwater (2007): *Enantioselective organocatalytic reactions with silicon reagents*
- Zainaba Bourhani (2008) [PK as co-supervisor]: *Amino acid-derived hydroxamic acids as ligands in asymmetric vanadium-catalyzed epoxidation*
- Stéphane Jaouen (2008): *New bidentate binaphthyl ligands*
- Michael Kabeshov (2008): *Development of novel enantioselective catalytic reactions*
- Grant G. McGeoch (2009): *Development and synthesis of novel organocatalysts*
- Frédéric Friscourt (2009): *Synthesis and application of pinene-pyridine derivatives in asymmetric catalysis*
- Claire MacDonald (2009): *Synthesis of functionalized silanes for use in the asymmetric allylation reactions*
- Louise Czemyers (2009) [PK as co-supervisor]: *Organocatalytic transfer hydrogenation mediated by chiral pyridines*
- Jan Štambaský (2010): *Stereoselective synthesis of artificial C-nucleosides*
- Marek Figlus (2010): *Synthesis of new recoverable catalysts and their application in asymmetric reduction of ketimines with trichlorosilane*
- Kvetoslava Vranková (2010): *The scope of enantioselective reduction of imines with trichlorosilane*
- Joanna Campbell née Phillips (2011): *Organocatalytic reduction of imines with trichlorosilane*
- Maciej Barłóg (2011): *Asymmetric synthesis of homoallylic alcohols and their applications*
- Ivana Luštická (2012) [Erasmus]: *Solid-support for organocatalysts*
- Ondřej Kysilka (2013): *Functionalised trichlorosilanes in asymmetric allylation*
- Kirill Popov (current) *Organocatalytic reductive amination with trichlorosilane*
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◆ **Visiting and Postdoctoral Scholars**

Dalimil Dvořák (1994-1995)
 Hana Dvořáková (1994-1995)
 K.-Dieter Roth (1995-1996)
 Andrei V. Malkov (1994-1999)
 Christopher N. Farthing (1995)
 Dušan Drahoňovský (1997)
 Štěpán Vyskočil (2000-2001)
 Ivo Starý (2001-2002)
 Irena G. Stará (2001-2002)
 Monica Orsini (2001-2002)
 Antonio Massa (2002-2003)
 Valeria Bugatti (2002-2003)
 Fabiomassimo Castelluzzo (2003-2004)
 Andrea Mariani (2003-2004)
 Pavel Drabina (2005)
 Pedro Ramirez-López (2006-2008)
 Sigitas Stončius (2007-20012)
 Filip Teplý (2007-2008)
 Marco Bella (2007)
 Linnea Soler (2008-2009)
 Fujiang Zhu (2008-2009)
 Javid Hussain (2009-2010)
 Hana Chodounská (2009)
 Lucie Miller-Potucká (2010-2011)



◆ **Success of Former Associates**

Full professors (out of more than 20 of those who hold or held academic positions):

Milan Pour: Charles University, Hradec Králové, Czech Republic

Dalimil Dvořák: Institute of Chemical Technology (VŠCHT) Prague, Czech Republic

Jiří Šrogl: North Carolina State University, USA

Andrei Malkov: Loughborough University, UK

Ian Baxendale: University of Durham, UK

Marco Bella: Sapienza University of Rome, Italy

Group leaders in Academic institutions:

Ivo Starý: Institute of Organic Chemistry and Biochemistry (IOCB), Prague, Czech Republic

Filip Teplý: Institute of Organic Chemistry and Biochemistry (IOCB), Prague, Czech Republic

Frédéric Friscourt: Inst. Européen de Chimie et Biologie, Bordeaux, France (Chair of Excellence)

Alfred Bader Award in Organic Chemistry:

Ivo Starý (1994); the first awardee

Marin Smrčina (1995)

Milan Pour (2001)

Štěpán Vyskočil (2002)

Filip Teplý (2009)

Rudolf Lukeš Prize in Organic Chemistry:

Filip Teplý (2015), **I. Starý** (2018)

Czech Learned Society - membership:

Ivo Starý (elected 2017)

Italian Parliament - membership:

Marco Bella (elected 2018)



I. Starý (in 2015)



M. Smrčina (1992)



M. Pour (in 1991)



Š. Vyskočil (1996)



F. Teplý (in 2015)



F. Friscourt (2008)



D. Dvořák (2011)



A. Malkov (in 2010)



I. Baxendale (in 2012)



J. Šrogl (in 2013)



M. Bella (in 2008)

◆ **Where did they end up:**

Academy of Sciences of the Czech Republic, Prague, Czech Rep. (I. Starý, I. G. Stará, J. Šrogl, F. Teplý, L. Bendová-Biedermannová, D. Biedermann)

Charles University, Prague, Czech Rep. (M. Smrčina, Š. Vyskočil; D. Drahoňovský)

Charles University, Hradec Králové, Czech Rep. (M. Pour)

Institute of Chemical Technology (VŠCHT), Prague, Czech Rep. (D. Dvořák, H. Dvořáková, L. Potucká)

University of Pardubice, Czech Rep. (P. Drabina)

Emory University, Atlanta, GA, USA (J. Šrogl)

North Carolina State University, Raleigh-Durham, NC, USA (J. Šrogl)

University of South Florida, H. Lee Moffitt Cancer Center, Tampa, FL, USA (D. Pernazza)

State University of New York (UNY), Stony Brook, NY, USA (K. Vranková)

Queen's University, Kingston, Ontario, Canada (O. Kysilka)

University of Cambridge, UK (I. R. Baxendale)

University of Durham, UK (I. R. Baxendale)

University College London, The Wolfson Inst. for Biomedical Research, UK (C.-K. Woo)

University of Glasgow, UK (L. Soler)

University of Loughborough, UK (A. Malkov)

University of Aberdeen (M. Bell)

University of Edinburgh, UK (A. Liddon)

Sapienza University of Rome, Italy (M. Bella, M. Orsini)

University of Salerno, Italy (A. Massa)

Complutense University, Madrid, Spain (P. Ramírez-López)

University of Vilnius, Lithuania (S. Stončius)

Justus-Liebig-Universität Giessen, Germany (R. Hrdina)

Institut Européen de Chimie et Biologie, Bordeaux, France (F. Friscourt)

Sanofi/Aventis/Selectide, Tucson, AZ, USA (M. Smrčina)

Vertex Pharmaceuticals, San Diego, USA (N. Zimmermann)

Millennium Pharmaceuticals, Boston, USA (Š. Vyskočil)

GlaxoSmithKline, UK (R. S. Baines, S. Lockhart)

Cordenpharma (formerly Bristol, Myers and Squibb), Latina, Italy (A. Mariani)

AstraZeneca, UK (J. M. Grech, L. Miller-Potucká)

Pfizer, UK (F. Zhu)

Pentagon Chemicals, UK (V. Dunn)

Friends & Provident Co., UK (R. D. Brooks, S. L. Davis)

Oxford Asymmetry International, UK (G. Ahmed)

Fisher, Loughborough, UK (G. Ahmed)

Nobel Enterprise, UK (J. Hand)

Reaxa, Manchester, UK (A. Liddon)

The Northern British Distillery, Edinburgh, UK (M.-M. Westwater)

Link Technologies, Glasgow, UK (K. MacDougall, G. McGeoch)

Celtic Catalysts, Belfast/Dublin, UK/Ireland (M. Bell)

Lonza, Kouřim, Czech Rep. (S. Lockhart)

Ernst & Young, Glasgow, then Prague (L. Dufková)

ČSOB, Prague (L. Dufková)

Biofilm Ltd, Blantyre, Scotland (C. MacDonald)

Piramal Healthcare, Grangemouth, Scotland (G. McGeoch)

Eli Lilly, UK (M. Figlus)

Fine Organics Limited, Seal Sands, Middlesbrough, UK (J. Phillips)

Axxence, Bratislava, Slovakia (K. Vranková)

Farmak, Olomouc, Czech Republic (O. Kysilka, J. Hošek)

Biomedica, Hořátev, Czech Republic (O. Kysilka)

National Parliament (Italy), (M. Bella)

◆ **Postdoctoral positions held by some of them:**

Cornell University, Ithaca, NY, USA – with J. E. McMurry (M. Smrčina, 1993-1994)
 Scripps Institute, San Diego, CA, USA – with K. C. Nicolaou (M. Bella, 2001-2003)
 Scripps Institute, San Diego, CA, USA – with K. C. Nicolaou (Š. Vyskočil, 2002-2004)
 Scripps Institute, San Diego, CA, USA – with P. G. Schultz (N. Zimmermann, 2002-2003)
 Emory University, Atlanta, GA, USA – with L. Liebeskind (J. Šrogl, 1994-1996)
 University of Georgia, Athens, GA, USA – with G.-J. Boons (F. Friscourt, 2009-2014)
 Purdue University, West Lafayette, IN, USA – with E. Negishi (M. Pour, 1995-1996)
 National Cancer Research Institute, Frederick, MD, USA (M. Smrčina, 1996-1997)
 State University of New York (UNY), Stony Brook, NY, USA – with I. Ojima (K. Vranková, 2009-11)
 Queen's University, Kingston, ON, Canada – with V. Sniečkus (O. Kysilka, 2013-2015)
 Max Planck Institute, Mülheim, Germany – with A. Fürstner (F. Teplý, 2003-2005)
 Max Planck Institute, Dortmund, Germany – with H. Waldman (Z. Bourhani, 2006-2007)
 University of Geneva, Switzerland – with P. Kündig (I. Starý, 1990-1991)
 University of Geneva, Switzerland – with W. Oppolzer (I. G. Stará, 1990-1991)
 University of Aarhus, Denmark – with K.-A. Jørgensen (M. Bella, 2004-2005)
 University of Aarhus, Denmark – with K.-A. Jørgensen (M. Bell, 2005-2006)
 University of Wales, Cardiff, UK – with N. Lawrence (D. Pernazza, 2003-2004)
 University of Nottingham, UK – with A. Armstrong (G. Ahmed, 1999-2000)
 Imperial College, London, UK – with S. Marsden (C. N. Farthing, 1999-2000)
 University of Cambridge, UK – with S. V. Ley (I. R. Baxendale, 1999-2001, M. Kabeshov, 2013-)
 University of Oxford, UK – with T. Donohoe (M. Kabeshov, 2008-2010)
 University of Glasgow, UK – with G. Cook (M.-M. Westwater, 2006)
 University of Glasgow, UK – with R. Hartley (M. Figlus, 2008-2010)
 Texas A&M University, Qatar – with H. S. Bazzi (M. Barlóg, 2011-)
 Queen's University, Kingston, Ontario, Canada – with V. Sniečkus (O. Kysilka 2013-2015)
 University of British Columbia, Vancouver, Canada (V. Kapras 2016 -)

◆ Other Collaborators

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 Jan Sejbal (Prague)
 Iva Tišlerová (Prague) ivatis@natur.cuni.cz
 Ivana Císařová (Prague) cisarova@prfdec.natur.cuni.cz
 Hugh Verrier (Merck Shapr & Dohme, then Pfizer)
 David B. Zax (Cornell) <http://www.chem.cornell.edu/department/Faculty/Zax/zax.html>
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 Jaroslav Jaracz (Prague)
 Luděk Meca (Prague)
 Petr Maloň (Prague)
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 Martin Kotora (Prague) kotora@natur.cuni.cz; <http://orgchem.cz/kotora/1-Introduction.htm>
 Jana Roithová (Nijmegen) jana.roithova@ru.nl, <https://www.ru.nl/english/people/roithova-j/>
 Karolina Schwarzová-Pecková (Prague) karolina.schwarzova@natur.cuni.cz
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 Lada Biedermannová (Prague) Lada.Biedermannova@ibt.cas.cz
 Michal Májek (Bratislava) michal.majek@uniba.sk

◆ Industrial Collaboration

GSK (W. L. Mitchell, V. Vinader, D. Haigh, M. E. Swarbrick)
 Pfizer (J. Steele - now at AstraZeneca, D. Armour)
 SB (N. Hussain)
 MSD (J. Kulagowski)
 AstraZeneca (D. Lathbury, P. Meghani, C. Davies)
 Aventis (D. Mansfield)
 Organon (Z. Rankovic)



◆ **Members of PK's academic family**

PK with some of his scientific “children” and “grand-children”, holding academic positions (assembled at a conference in November 2016):



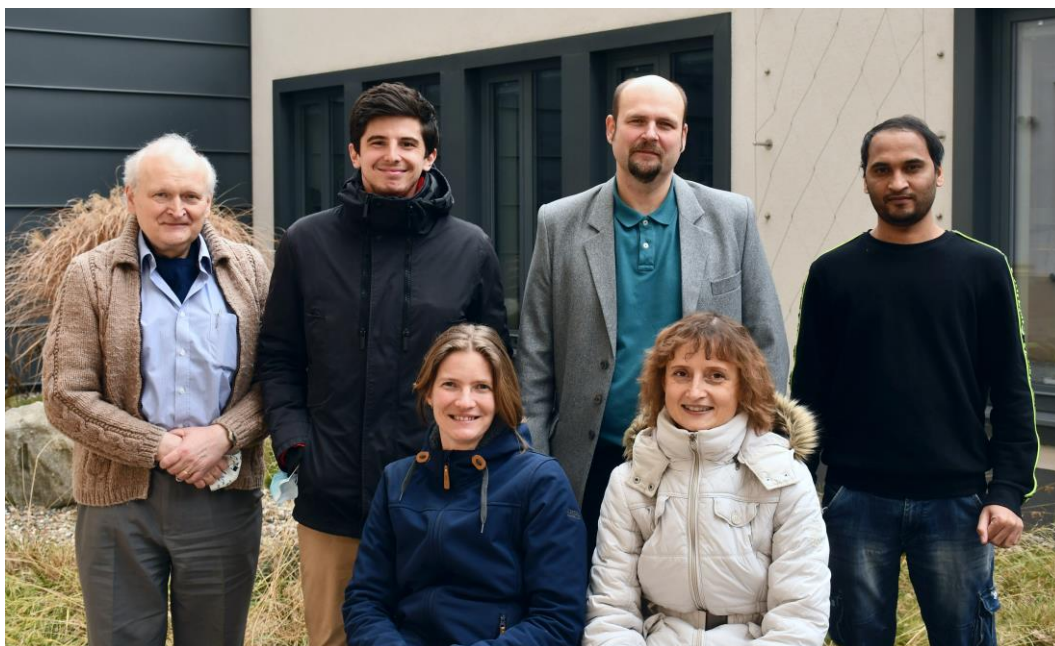
From left: Ivo Starý, Jiří Mišek (PhD with I. Starý), Irena Stará, PK, Milan Pour, and Eliška Matoušová (PhD with M. Pour).

◆ **Organocatalysis team (2019)**



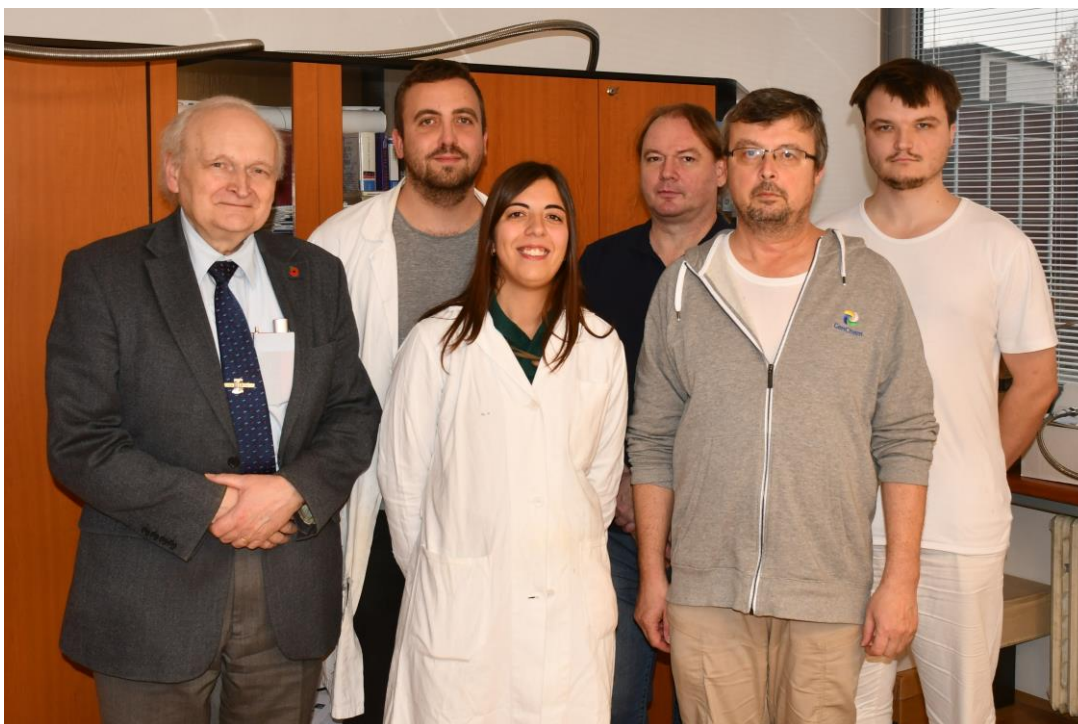
Kirill Popov, PK, and Luan Fonseca

◆ **Electrochemistry team** (2020)



Standing from left: PK, Jan Klouda, Jan Veselý, Viraj Bhosale; Seated: Karolina Pecková-Schwarzová (the boss), and Jana Skopalová (UP Olomouc)

◆ **Hradec Team** (2021): Faculty of Pharmacy, Charles University, Hradec Králové.



PK, Rastislav Antal, Stefanie Perdomo, Marcel Špulák, Milan Pour (the boss), and Zbyněk Brůža