
IOCB SERVICE DAYS

Presentation of services by:
Research-Service Groups / Service Groups / Core Facilities

20
23

IOCB compound library

Pavel Šácha



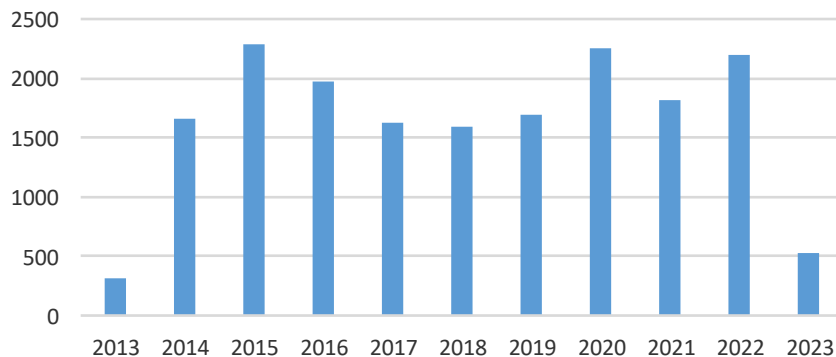
ÚOCHB AV
CR
IOCB PRAGUE



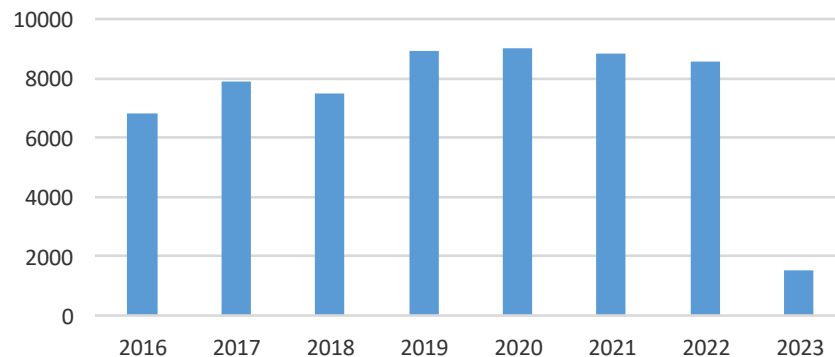
Brief history

- Antonín Holý Library started by Petr Jansa
 - About 1400 compounds
- restarted by MedChem groups
 - Radim Nencka, Zlatko Janeba, Michal Hocek with the help of Martin Fusek
- renamed to current IOCB compound library
 - > 10.000 compounds and still growing

AHL logins



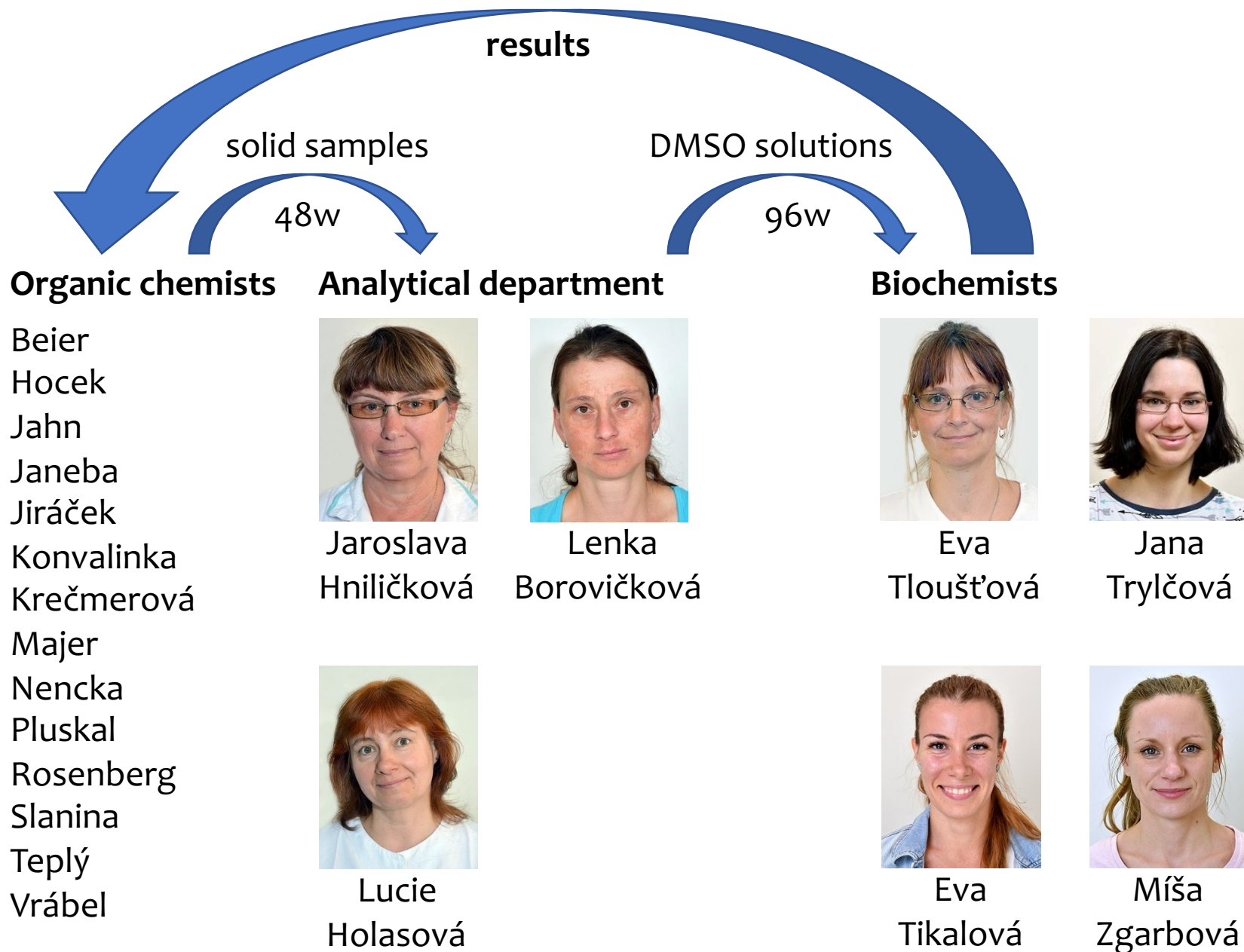
CHEMS logins



IOCB library

- Solid state library – boxes of 48 samples, tarred vials
- DMSO solutions – 113 boxes 96w (88 samples in each box)
- DMSO solutions – 28 plates 384w ECHO for acoustic dispensing
- DMSO solutions – 7 plates 1536w ECHO for acoustic dispensing





under supervision of

Stanislava Matějková, Helena Mertlíková Kaiserová, Jan Weber

Standard testing

- Biochemical Pharmacology of Antimetabolites group (Helena Mertlíková Kaiserová)
 - cytotoxicity: CCRF-CEM, HL-60, HepG2, HeLa S3, NHD
- Virology (Jan Weber)
 - Antiviral activity: HIV-1, Cocksackie, Dengue, Influenza, HSV-1, ZIKA, SARS CoV2

Internal testing

- Jan Konvalinka's group
 - DIANA screening for GCP11/111, CA1X, Influenza PA-PB1, Influenza PB2, CD73, fluorescent assay for May1, PDL-1, INSR
- Evžen Bouřa's group
 - PI4 kinase
- Gabo Birkuš's group
 - STING
- Jan Weber's group
 - ASFV with several hits
- Zuzka Kečkéšová's group
 - Multi-panel: 2 confirmed leads for cancer treatment

External testing

- Calibr
 - Several hits obtained, but at the end failed in various stages
- Reset
 - Finished without any success
- JHU
 - The first successful story: hnSmase (Radim Nencka – patent, paper)
- CD3 Leuven and Weizmann Institute of Science
 - Starting collaboration

Development updates

- FDA approved library available (~2500 compounds in DMSO, ~100 in water, 7 in EtOH)
- HTS screening automation (for microplates handling)
 - Installation commences on 6 March (2 weeks of installation)
 - trial periods will follow
 - Instruments inside :
 - Dispensing: ECHO650, Multidrop combi, Formulatrix Mantis, Agilent Bravo, Certus Flex (optional)
 - Washing: BlueWasher
 - Centrifugation: Agilent V-Spin
 - Agilent PlateLoc (thermosealing), X-peel (desealing), delidding stations
 - Plate hotel at RT, Cytomat 5C - CO₂ incubator
 - Detection/measurement: Tecan Spark, LightCycler 480
- ECHO 550 at building C (training required)

Future plans

- HTS screening automation - spring 2023
- steroid library will be made ready for testing
- provide the library services to everyone interested at IOCB, help with the instrumentation and assay development
- automate routine processes (orders for cherry picking, logins preparation)

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