

**Welcome to the**

**XML Prague 2016  
BaseX User Meeting**

# The Agenda

## Session I

- 10:00** Christian Grün *MMU* BaseX  
BaseX 8.4: The Latest Updates
- 10:22** James Wright *MMU* Denver, Colorado  
Parallel XQuery, Promises and BaseX
- 10:45** Giuseppe Celano *MMU* Humboldt Chair for DH  
BaseX for Linguistic Research
- 11:07** Xavier-Laurent Salvador *MMU* Paris 13  
Isilex, an Easy-To-Deploy BaseX CMS

# The Agenda

## Session II

- 12:00** **Andreas Tai** *IRT, Munich*  
Case Study: BaseX for Broadcast Subtitles
- 12:22** **Maximilian Gärber** *axxcepta solutions*  
Project Argon
- 12:45** **Rob Stapper** *Borne, Netherlands*  
Extending XQuery with User-Defined Datatypes
- 13:07** **Eliot Kimber** *Contrext, LLC*  
DITA For Small Teams



**BaseX 8.4**

The latest updates

# Graphical User Interface

## XQuery Editing

- **background parsing** of XQuery modules
- **highlighting** of erroneous files

## Database Creation and Properties

- integration of **advanced database** features:
  - token index, selective indexing
  - incremental indexing, auto-optimization, `MAXLEN`, `MAXCATS`, `SPLITSIZE`

# Indexing I

## Selective Index

- restrict indexing to specific **elements/attributes**
- **smaller** index structures, **faster** updates
- support for/extensions of:
  - **commands** and **options** (TEXTINCLUDE, ...)
  - **updates** (incremental index structures)
  - database **optimizations**
  - query **rewritings**
  - **GUI** integration

# Indexing II

## Token Index

- attributes can contain **multiple values**
- token index **speeds up** access to such attributes
- query **rewritings** for:  
fn:contains-token, fn:tokenize, fn:idref
- new **functions**: db:token, index:tokens
- **GUI** integration, new **commands** and **options**
- support for **incremental** and **selective** indexing

# Web Applications

## RESTXQ

- `%rest:single`: cancel server-side queries
- `CACHERESTXQ`: no parsing in production

## DBA: Database Administration

- better **responsivity**, faster **querying**
- **sandbox**: uploading and downloading files
- **load** and **save** XQuery expressions
- **highlighting** of XQuery and XML code



# XQuery I

## XQuery 3.1

- **string** constructor:  
```["The 'new' & 'flexible' string syntax"]```
- **JSON** functions:  
`fn:json-to-xml, fn:xml-to-json, fn:json-doc`
- **optional** enclosing of expressions:  
`declare function local:x() { };  
try { } catch * { }`

...and countless minor extensions and fixes

# XQuery II

## Arrays and Sequences

- **Finger Tree** implementation
- very efficient data structure for **appending** items

## Serialization

- new `basex` default serialization:
  - direct output of **binary data** (base64, hex)
  - adaptive output of **nodes, integers, ...**
  - support for output of **functions, maps, arrays**

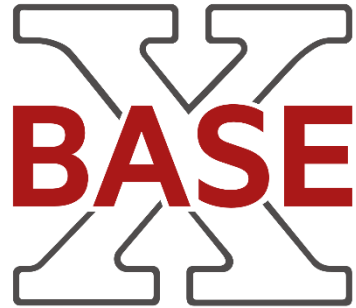
# XQuery III

## XQuery Modules

- **Validation Module:** RelaxNG, XML Schema 1.1
- **Database Module:** `ADDCACHE` support
- **Strings Module:** Levenshtein distance, Soundex, ...
- **Web Module:** convenience functions for web apps

## Updates

- `MIXUPDATES`: updates, returning results
- invoking updating functions: `updating $f()`



**That's it...**

**...have fun today!**