

## • User-group 2: Cataract surgeons (2)

According to the search results, they can choose one or more IOLs and download lens specifications and ranges of availability as well as IOL-constants for IOL-power calculation.

Registered surgeons get access to their individually optimized IOL-constants. Optimization will be performed according to their needs using only data obtained with a specific biometer or by the surgeon him/herself as soon as there are enough data available.



The use of the platform is free of charge for ophthalmic surgeons. The more data uploaded to the platform, the more reliable the optimized constants are going to be.

## In brief

IOLCon is an open platform with versatile options for IOL constant optimization. The online-platform is not bound to specific devices, IOL manufacturers or surgeons. Surgeons may upload refractive results of cataract surgery for optimizing personalized constants. Global constants can be derived for specific biometry devices or ethnicities, which are based on community data. In the near future IOLCon will enable rapid worldwide dissemination of optimized IOL constants.

Biometry device manufacturers are implementing IOLCon open XML interface to integrate IOLCon with their devices.

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## Register for IOLCon at:

<https://www.IOLCon.org>

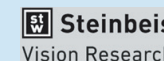


# IOL Con

**Steinbeis**  
Vision Research

# Alliance for better Vision:

# IOL Con



## Welcome to IOLCon,

We are a modern Alliance for Better Vision and the platform for characteristics of intraocular lenses and the optimization of lens constants.

### • What is the Appropriate Intraocular Lens Power?

During cataract surgery, the surgeon removes the cataractous natural lens and replaces it by an artificial intraocular lens (IOL) to compensate the loss of refractive power. To avoid over- or undercorrection, the IOL has to be chosen according to the patient's needs and the biometry of his/her eye. The IOL-constants link the biometric measurements to the expected axial lens position in the eye. An accurate estimation of the effective lens position is required to decide which IOL power suits your patient best.

### • Why bother with optimizing IOL-constants?

The choice of IOL-power can be improved by continuous optimization of IOL constants. Reliable IOL-constants require a high number of pre-surgical biometry measurements together with the respective refractive outcomes. With a continuously growing data-base of refractive success, IOL-calculation can become more and more reliable.

### • What is IOLCon?

IOLCon is an open online database for continuous and automated optimization and compilation of (IOL) constants for cataract surgery.

The concept of IOLCon as an encyclopaedic database for IOL specifications is evolving in cooperation with manufacturers of IOLs and biometry devices as well as with cataract surgeons from all around the world. Optimization algorithms for published IOL formulas (SRK/T, Haigis, HofferQ, Holladay 1) were implemented.

The IOL-data used in IOLCon are provided by two user groups: IOL-manufacturers as well as ophthalmic surgeons.

### • User-group 1: IOL manufacturers and distributors

Technical IOL data entry requires registration through an authorized staff member from the IOL manufacturer or IOL distributor.

IOL manufacturers and IOL distributors can add along with technical specifications the data of the IOLs to the online-platform.

Manufacturers/distributors have the sole responsibility for keeping their product information up to date.

The screenshot shows the 'Add Lens' form for manufacturers. It includes fields for 'Manufacturer' (dropdown), 'Name', 'Comment', and 'Image'. Below these are 'Specifications' for Optic Material, Haptic Material, Preloaded, Foldable, Incision Width, Injector Size, Filter, Refractive Index, Abbe Number, Achromatic, Optic Diameter, Haptic Diameter, Optic Concept, Haptic Design, Intended Location, Optic Design, Sph. Aberration, and SA Correction. There is also an 'Available Powers' section with fields for Refractive Power, Sphere, Cylinder, Near Addition, and Intermediate Addition. At the bottom, there are 'Nominal Constants' for SRK/T, Haigis, HofferQ, Holladay 1, and Olsen formulas. A checkbox indicates if constants are adopted from the ULIB platform. Buttons at the bottom allow adding the lens to the database, saving temporarily, or resetting input fields.

### • User-group 2: Cataract surgeons (1)

On one hand ophthalmic surgeons can use the platform to search for IOLs based on the required specifications and available power range. On the other hand ophthalmic surgical centers can upload pre- and postoperative results to the website and obtain globally and/or personally optimized IOL-constants for quality management to improve their own surgical results. Microsoft Excel and XML Templates are provided.

The screenshot shows the 'Search For Lenses' form. It includes a 'Manufacturer' dropdown, 'Name or comment', 'Uploaded since' date range, and a checkbox for 'Has optimized constants'. Below are 'Specifications' for Optic Material, Filter, Preloaded, Incision Width, Haptic Diameter, Optic Diameter, Optic Concept, Optic Design, Sph. Aberration, and Toric. There is also an 'Availability' section for Sphere, Cylinder, and Reading Addition. Buttons at the bottom allow searching for corresponding lenses or resetting input fields.

The screenshot shows the 'Clinical Results' form. It includes a 'Results File' dropdown and an 'Upload results file' button. Below, there are 'Examples' for CSV and XML data formats, each with a 'Download' button. The CSV example shows a table with columns for Institution, Surgeon, Biometer, Ethnicity, Lens Manufacturer, Lens Name, Power, Sphere, and Cylinder. The XML example shows a corresponding XML structure.