



# **ASTM International Interlaboratory Study Program (ILS)**

*Presenters:*

*Phillip Godorov & Caitlin Farrell*



# *ASTM ILS Program Objectives*

- ◆ Strengthen the perceived quality of ASTM Test Methods
- ◆ Produce data that will be used to develop Precision & Bias statements and Research Reports
- ◆ Provide administrative support to the committees
- ◆ Provide financial support to the committees
- ◆ Help ensure the confidentiality of participating labs



# *Administrative Support*

- ◆ Review of Experimental Design
- ◆ Assistance identifying volunteer laboratories
- ◆ Identification of sample vendors
- ◆ Coordination of sample distribution
- ◆ Data collection
- ◆ Statistical processing
- ◆ Generation of reports



# *Strengths of the ASTM Interlaboratory Study Program*

- ◆ Input encouraged from active Committee volunteers, as well as those who are not members of ASTM, broadening the range and diversity of the study participants, allowing the study to most accurately demonstrate expected “real-world” precision
- ◆ Scientific neutrality of ASTM in reviewing test data

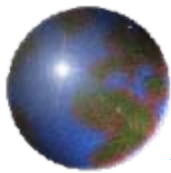


# *Potential Benefits of Participation*

- ◆ Statistical program to monitor strengths and weaknesses of lab testing when compared to peers
- ◆ Assess testing performance and adherence to written procedures by lab technicians
- ◆ Help meet the interlaboratory testing requirements of many accreditation programs
- ◆ Recognition in the final Research Report and on the Committee's webpage

# *Benefits to the Committees*

- ◆ Obtain valuable feedback on methods, leading to the correction of errors and omissions, as well as highlighting the need for technical updates
- ◆ Resource for increased membership
- ◆ Database of laboratories for test method validation
- ◆ Database of suppliers for common study materials



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**Interlaboratory Study Program**

[Register a NEW ILS Study](#) [Precision and Bias](#) [Research Reports](#) [FAQ](#) [Contact](#)

ASTM's Board of Directors adopted plans, in the fall of 2004, to launch the Interlaboratory Study Program (ILS) as part of their continuing pursuit of excellence in standards development. Responding to the need for standards in the marketplace to be of known and documented quality, a commitment was made to fund the development of the ILS Program. This commitment means that ASTM has been able to assist those technical committees for which the prospect of implementing an interlaboratory study was either administratively daunting or financially impossible. The ultimate goal is to enhance the quality of ASTM standard test methods by aiding the Technical Committees as they develop Precision Statements backed by high quality laboratory data.


In order to support the committees in their efforts to produce precision statements for their test methods, so as to incorporate at least a repeatability statement, the ILS Program is available to assist with the following areas:

- Designing an Interlaboratory Study
- Identifying potential samples
- Soliciting volunteer laboratories
- Finding an available supplier
- Contracting with a distributor
- Reviewing laboratory instructions
- Reimbursing shipping expenses
- Collecting data
- Analyzing data
- Producing a draft precision statement
- Compiling information for the Research Report
- Recognition of participating labs

Done

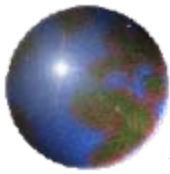
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# *How to Establish New Programs*

- ◆ Make sure to register the new Standard, or proposed revision to a Standard, as a Work Item
- ◆ Register the study online as an ILS through MyASTM
- ◆ Initial conference call with the a technical contact from the committee, to establish the basic study parameters, will be scheduled
- ◆ We will discuss the experimental design (with input from the committee's statistical support person, if available)
- ◆ Identification of study materials, suppliers, a distributor, and volunteer laboratories



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**Virtual Meeting on Solar Glass**



All interested parties are invited to [register](#) for a virtual meeting on Sept. 29 to discuss a new ASTM International activity on solar glass. Potential standards topics to be discussed include glass rating for withstanding acid rain, photovoltaic applications, coatings, durability and solar hot water and heating systems. Representatives from the U.S.

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New Edition! ASTM Consumer Safety Specification for Toy Safety--with official Chinese Translation, 2nd Edition [More](#)

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New Initiatives

**Thermal Analysis of Plastics**



A new Proficiency Testing Program (PTP) that focuses on the [Thermal Analyses of Plastics \(TAP\)](#) will be offered by the ASTM International Proficiency Testing Program Center in 2010. The new program provides a statistical quality assurance tool enabling laboratories to improve and maintain a high level of performance in



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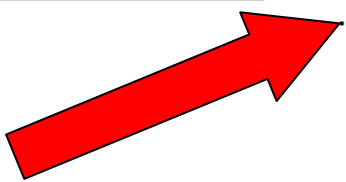
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Account#: 000441992  
 Phillip Godorov  
[pgodorov@astm.org](mailto:pgodorov@astm.org)  
 ASTM International  
 100 Barr Harbor Drive  
 WEST CONSHOHOCKEN PA  
 19428  
 United States



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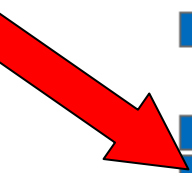
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Account#: 000441992  
 Phillip Godorov  
[pgodorov@astm.org](mailto:pgodorov@astm.org)  
 ASTM International  
 100 Barr Harbor Drive  
 WEST CONSHOHOCKEN PA  
 19428  
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## Interlaboratory Study Program



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### Interlaboratory Study Program / Welcome

PHILLIP,  
Welcome to the Interlaboratory Study Program Registration.

ASTM International is pleased to be able to offer technical and administrative assistance in the implementation of Interlaboratory Studies in order to generate relevant precision statements for new and revised test standards.

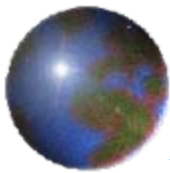
Each Committee has established procedures for prioritization of ILS requests. Approval must be received prior to registration of

#### How to Register A New ILS Program

The following information will be useful in completing the ILS registration process:

- The name of a technical contact who will be responsible for coordinating the study.
- Sample material types and potential suppliers.
- The name of a distributor capable of processing, packaging, and distributing the samples.
- A list of laboratories willing to participate in the program.
- The name of a statistician who is familiar with the test standard being studied.

Please provide as much information as possible during registration. If you require assistance in identifying appropriate materials, laboratories, suppliers, a



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Welcome

Each Committee has established procedures for prioritization of ILS requests. Approval must be received prior to registration of an ILS program.

Before initiating an Interlaboratory study on a new test method, it is strongly recommended that [ruggedness and pilot testing](#) be conducted.

[Tour the ILS demo website](#)

[Edit an existing Interlaboratory Study](#)

Please provide as much information as possible during registration. If you require assistance in identifying appropriate materials, laboratories, suppliers, a distributor or a statistician for your study, you will be asked to indicate this during the registration process.

*Note:*  
If you would like to stop the registration process prior to formal submittal, this site allows you to save your work and return later.

If you are not prepared to register a new ILS at this time, but would like to tour the process, click [here](#) to link to a demo website.

**Need Help?**

If you need assistance creating a preliminary study design including the range of samples and materials, or would like to discuss the ILS Program in more detail, please contact Phillip Godorov, Manager, Interlaboratory Study Program, at (610) 832-9715 or e-mail at [pgodorov@astm.org](mailto:pgodorov@astm.org).

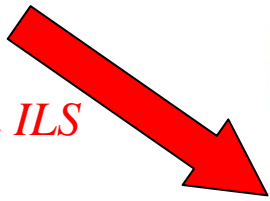
If you are ready to register your study click [here](#) below.

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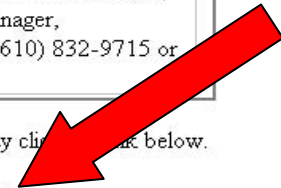
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*If you are updating an ILS that you've already started*



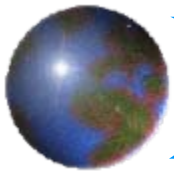
*When you are starting a brand new ILS*





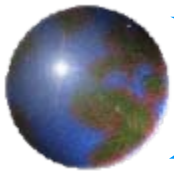
# *Administering Programs*

- ◆ Virtual Meetings with the participants to discuss specific study instructions
- ◆ Coordination of acquisition and distribution of study material
  - ◆ Physical
  - ◆ Electronic
- ◆ Collection of data
- ◆ Analysis of data
- ◆ Compilation of Precision Statement and Draft Research Report (from registered information)



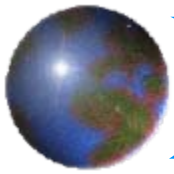
## *What works well ...*

- ◆ Detailed instructions
  - ◆ Sample handling
  - ◆ Sample storage
  - ◆ Instrument setup
  - ◆ Reporting of data
  - ◆ How to handle exceptions
- ◆ CC or VM with all participants to discuss



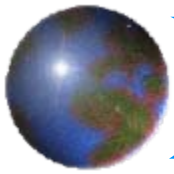
## *Learn from the pitfalls of others ...*

- ◆ Collecting data on multiple forms / formats
- ◆ Submitting handwritten results
- ◆ Attempting to randomize and disguise samples to prevent laboratories from knowing who is testing specific samples
  - ◆ Especially dangerous when many people are involved in the sample distribution, and each applies their own “secret coding.”



## *Pitfalls continued ...*

- ◆ Collecting data on too many tests from too few laboratories (ex. 6 labs each doing a different procedure)
  - ◆ Doesn't really allow for the calculation of the necessary precision statistics
- ◆ Not clarifying what units should be reported
- ◆ Using laboratory mailing addresses when a different **shipping** address is preferred



## *Research Reports*

- ◆ A draft can be made available to committee members while the associated precision is on ballot
- ◆ Research Reports contain:
  - ◆ The names of participants
  - ◆ The instructions used for the study
  - ◆ All of the raw data (lab name's hidden)
- ◆ RR numbers assigned after ballot approved



# *Examples of Completed Programs*

- ◆ **Committee E15**

- ◆ E1064, Standard Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration

- ◆ **Committee D02**

- ◆ D1662, Standard Test Method for Active Sulfur in Cutting Oils

- ◆ **Committee C07**

- ◆ C110, Standard Test Methods for Physical Testing of Quicklime, Hydrated Lime, and Limestone

- ◆ **Committee D01**

- ◆ D4446, Standard Test Method for Anti-Swelling Effectiveness of Water-Repellent Formulations and Differential Swelling of Untreated Wood When Exposed to Liquid Water Environments



# *Some of the Committees Currently Registered into the ILS Program*

◆ A01	◆ C21	◆ D11	◆ D30	◆ E18	◆ F02
◆ A05	◆ C24	◆ D12	◆ D31	◆ E20	◆ F03
◆ A06	◆ D01	◆ D13	◆ D32	◆ E28	◆ F04
◆ B07	◆ D02	◆ D14	◆ D34	◆ E29	◆ F06
◆ C01	◆ D03	◆ D15	◆ D35	◆ E33	◆ F08
◆ C07	◆ D04	◆ D16	◆ E01	◆ E34	◆ F11
◆ C08	◆ D05	◆ D18	◆ E04	◆ E35	◆ F15
◆ C09	◆ D07	◆ D19	◆ E06	◆ E37	◆ F17
◆ C11	◆ D08	◆ D20	◆ E08	◆ E42	◆ F23
◆ C14	◆ D09	◆ D22	◆ E12	◆ E56	◆ F40
◆ C16	◆ D10	◆ D27	◆ E15	◆ F01	◆ G01



# *ASTM International*

## *Interlaboratory Study Program*

### *(ILS)*

Phillip Godorov, Director  
Interlaboratory Study Program  
ASTM International  
100 Barr Harbor Drive  
West Conshohocken, PA  
19428-2959

Phone: 610-832-9715  
Fax: 610-834-7011  
E-mail: [pgodorov@astm.org](mailto:pgodorov@astm.org)

Caitlin Farrell, Project Manager  
Interlaboratory Study Program  
ASTM International  
100 Barr Harbor Drive  
West Conshohocken, PA  
19428-2959

Phone: 610-832-9746  
Fax: 610-834-7076  
E-mail: [cfarrell@astm.org](mailto:cfarrell@astm.org)