

# Tips and Tricks from the **JF**

A collection of tips from the Detroit Local User Group

Moldflow Summit 2025

Jay Shoemaker – WMU and HLS Consulting Tim VanAst – Hunter Industries



### **Jay Shoemaker**





is our passion







## Intro to Jay and Tim

- Previous episodes of the Jay and Tim show
  - 2012 AU Customizing Your Results
  - 2013 AU Tips and Tricks for Moldflow Experts
  - 2015 AU Battle Royale
  - o 2016 AU Battle Royale, Round 2



2025 Summit – we're back with more Tips and Tricks





• Collection of tips and tricks from users at the Detroit local user group (dLUG)

- Topics...
  - History of dLUG
  - Usability Tips
  - Report Creation Tips
  - Meshing Tips

## History of dLUG

- When did it start
- Typical attendance
- Topics
- Value
- Who attends



# Usability Tips and Tricks

## **Drag and Drop Studies**

- Drag and drop multiple studies to open them at the same time
- Drag and drop a study onto an open study to open it in compare mode

 Change the order of the studies by drag and drop



## **Study Notes**

 Study notes visible when hovering the mouse over a study

- Great for
  - Changes in this study
  - Milestones in the project



## **Copy Paste Study Settings**

### Copy/paste study settings

- Copy from one study and paste on another
- The study where the settings are pasted must be open
- Ensure the mesh type is the same between the two studies
- Caution:
  - Material changes only 60% of the time. WHY?
    - Pasting a second time normally gets the material copied
  - Doesn't copy mesh settings, UNLESS you mark it to copy them in the copy interface (maybe??)



### **Quick Access Bar**



- Quick access bar
  - Unit change!!!
  - Job manager
  - Previous/Next view
  - Play Macro button
  - Assigned macros buttons



R-click on any menu button to "Add to Quick Access Toolbar"

## **Custom Ribbon**

In Synergy

### Customize a Ribbon for how you work

This one is based on Results but adds, Macros, Units, Rotation, User Interface

| SYN Home Tools Vie    | w Geometry Mesh                  | Boundary Condi       | tions Optim | nization Result | ts Reports Start & Learn | Community        | Jays    | <b>•</b> •• |   |                          |  |                                |
|-----------------------|----------------------------------|----------------------|-------------|-----------------|--------------------------|------------------|---------|-------------|---|--------------------------|--|--------------------------------|
| New Plot Add XY Curve | Plot Save<br>Properties Defaults | Examine Show Min/Max | Histogram   | Visualize       |                          | 📬 Edit<br>🎲 Move |         |             | Assign (2) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3 | Perspective Metric units | Constraint Angle: 0 0 0 →   Image: The State | User Clean<br>Interface Screen |
| Plots                 | Properties                       | Examine              | Histogram   | Warpage         | Animation                | Cutting Plane    | Windows | Locking     | Assigned Macros                                   | Appearance               | Viewpoint  | Windows                        |

### In Communicator

| Μ      | D 🗧     | _ ₹      |                  | Au                   | ıtode      | sk Moldflow | Communicator 202 | [321]   | 3 REV 1-2_      | centered gat      | te]             |        | ► Type a | ı keyword o | r phrase                 | AA 🦙    | ? - | -             |                     | $\times$ |
|--------|---------|----------|------------------|----------------------|------------|-------------|------------------|---------|-----------------|-------------------|-----------------|--------|----------|-------------|--------------------------|---------|-----|---------------|---------------------|----------|
| сом    | Home    | Tools    | View 2           | Start & Learr        | <u>n</u> ( | ommunity    | Jays 🗖 🕶 🗸       |         |                 |                   |                 |        |          |             |                          |         |     |               |                     |          |
| Overla | Compare | Quantify | ∂∂ Refr<br>∰ Mes | esh<br>sh Statistics |            |             | 0.7336 s         | Examine | Show<br>Min/Max | User<br>Interface | Clean<br>Screen | Switch |          |             | Full Navigation<br>Wheel | *)<br>Q |     |               | Applicati<br>Option | on       |
|        |         | Resu     | lts              |                      |            | А           | nimation         | Exa     | mine            |                   | Wir             | ndows  |          | Locking     | Na                       | ivigate |     | Cutting Plane | Option              | s        |

Export and import custom ribbons

| 💾 Customize Ribbon             | -         |      | $\times$ |
|--------------------------------|-----------|------|----------|
| Choose commands for            |           | . A. |          |
| Company Ribbon profile         | · · · · · |      |          |
| Import Export Reset OK Apply C | Cancel    | Не   | łp       |

## **Mouse Options**

Mouse tab in Options menu to set mouse to what you like

| External applications View |                    | Viewer      | Backg              | round an | d Colors             | age and Help Sy | stem          | Availabi |                        |  |  |
|----------------------------|--------------------|-------------|--------------------|----------|----------------------|-----------------|---------------|----------|------------------------|--|--|
| Compu                      | ite Manager        |             | Network            | ۲. I     | Report               | s               | Idle Mode     | 9        | ontiona                |  |  |
| Gene                       | eral               | Dire        | ctories            |          | Mouse                |                 | Results       |          | options                |  |  |
| Buttons                    |                    |             |                    |          | CTRI                 |                 | . ALT         |          | Mouse apply            |  |  |
|                            |                    |             | + SHIFT            |          | +CIRL                |                 | + ALT         |          | 10                     |  |  |
| Right:                     | Rotate             | ~           | Pan                | ~        | Mouse app            | ly ~            | Fit to window | $\sim$   | Rotate                 |  |  |
| Middle:                    | Pan                | ~           | Pan                | ~        | Center               | ~               | Banding zoom  | $\sim$   | Rotate Z<br>Pan        |  |  |
| Wheel:                     | Dynamic :          | zoom ∨      |                    | ~        |                      | ~               |               |          | Banding zoom           |  |  |
|                            | Rever<br>direction | on          | Revers<br>directio | n        | Reverse<br>direction | e<br>n          |               |          | Center<br>Et to window |  |  |
| Left:                      | Initial mode       | e for new v | vindows:           |          | S                    | elect           | ~             |          | Reset                  |  |  |
| Project items              |                    |             |                    |          |                      |                 |               |          | Mouse apply            |  |  |
|                            | -click to ope      | n an item ( | point to sel       | ect)     |                      |                 |               |          |                        |  |  |
| 0.0.1                      |                    |             |                    |          |                      |                 |               |          |                        |  |  |

## **Mouse Options**

- Mouse apply
  - Saves significant mouse travel



## **Refresh Display**

- Refresh button for when result display disappears
  - Often it occurs on one result of several being displayed
  - Unselect and reselect result also works, but is a bit slower than the Refresh button





## **Keyboard Shortcuts**

 Typical like Ctrl+Z for undo and Ctrl+S for save

- Ctrl+I Capture Image
- Ctrl+V hides and opens Viewcube

| File management functions |             |                             |
|---------------------------|-------------|-----------------------------|
| Open Project              | Ctrl + O    |                             |
| New Study                 | Ctrl + N    |                             |
| Close                     | Alt + F, C  |                             |
| Save Study                | Ctrl + S    |                             |
| Print                     | Ctrl + P    |                             |
| Editing functions         |             |                             |
| Undo                      | Ctrl + Z    |                             |
| Redo                      | Ctrl + Y    |                             |
| Delete                    | Del         | the deliver for others      |
| Select By Properties      | Ctrl + B    | Modeling functions          |
| Select All                | Ctrl + A    | Move/Copy (Translate)       |
| Copy Image to Clipboard   | Ctrl + I    | Query Entities              |
| Save Image to File        | Ctrl + F    | Mesh functions              |
| Properties                | Alt + Enter | Increase Local Mesh Density |
| Viewing functions         |             | Decrease Local Mesh Density |
| Layers                    | Ctrl + L    | Mesh Tools (Auto Repair)    |

- Does anyone know shortcut for:
  - Navigation Bar
  - Rotation Axis
  - Rotation Angle

| Modeling functions                                       |                                 |
|--|---------------------------------|
| Move/Copy (Translate)                                    | Ctrl + M                        |
| Query Entities   | Ctrl + Q                        |
| Mesh functions   |                                 |
| Increase Local Mesh Density                              | Ctrl + Up Arrow                 |
| Decrease Local Mesh Density                              | Ctrl + Down Arrow               |
| Mesh Tools (Auto Repair)                                 | Ctrl + T                        |
| Show Diagnostics   | Ctrl + D                        |
| Analysis functions                                       |                                 |
| Fixed Constraint   | Ctrl + Shift + C                |
| Compute Manager  | Ctrl + J                        |
| General  |                                 |
| Search Help  | F1                              |
| To get help on a dialog/results                          | F1                              |
| In a dialog, cycle forwards through the items and boxes  | Tab                             |
| In a dialog, cycle backwards through the items and boxes | Shift + Tab                     |
| To close a dialog without saving                         | Esc                             |
| To show/hide Full Navigation Wheel                       | Shift + W                       |
| Mouse Buttons  |                                 |
| Display popup context menu                               | Right-click in the display area |
| Select toolbars to display                               | Right-click in the Toolbar area |

#### From Moldflow help files, search shortcuts

## **Select by Warnings/Errors**

- Select by warning/error from log file
  - Right-click and select the warning/error
  - All elements/nodes with this warning/error are selected
  - Can create a new layer to move selected entities to the layer for investigation and fixing





## Help on Warnings/Errors

- The log file may contain warnings you don't understand
- Get information on the warning or error from the help





## **Report Tips**

## **Results Tab Options**

### Results tab in Options menu

#### Font size

- The font size may be too small to read for a PPT report or presentation
- Increase the font size to make the scale readable
- 2<sup>nd</sup> units for results
  - Your audience may want both metric and English units
  - If two units are displayed, this may influence the size font you use



## **Viewer Tab Options**

- Change the number of Previous Views the program remembers
  - Default is 5, I like 10, but why not 20?

| Who los    |               |                    | -7035 |  |  |  |  |
|------------|---------------|--------------------|-------|--|--|--|--|
| Pan Center | Previous View | E Save E Delete    | •     |  |  |  |  |
|            |               | LE Save LE% Delete |       |  |  |  |  |
| Navigate   | Next View     | Viewpoint          |       |  |  |  |  |

| Compute M      | anager           | Network      | Repo      | orts       | Idle Mode       |
|----------------|------------------|--------------|-----------|------------|-----------------|
| General        | Directories      | Mouse        | Results   | Extern     | al applications |
| efault Display | Viewer           | Background a | nd Colors | Language a | nd Help System  |
| Incremental d  | hanges           |              |           |            |                 |
| Rotation and   | ales (dearees)   |              |           | 10         |                 |
|                |                  |              |           |            |                 |
| Scale factor   | (0-1)            |              |           | 0.2        | -               |
| Pan factor ((  | D-1)             |              |           | 0.2        |                 |
| Lighting       |                  |              |           |            |                 |
| Light shading  | a                |              |           |            |                 |
| Light of daily | 9                |              |           |            |                 |
| OpenGL         |                  |              |           |            |                 |
| Use offso      | creen rendering  |              |           |            |                 |
| Perspective    |                  |              |           |            |                 |
| Use pers       | pective mode for | new windows  |           |            |                 |
| Number of v    | iews to remembe  | r            |           | 10         |                 |
|                |                  |              |           |            | •               |
|                |                  |              |           |            |                 |
|                |                  |              |           |            |                 |
|                |                  |              |           |            |                 |
|                |                  |              |           |            |                 |
|                |                  |              |           |            |                 |
|                |                  |              |           |            |                 |
|                |                  |              |           |            |                 |

## **Save Views**

- Can also Save views
  - $_{\odot}~$  On ~ View Tab
  - $\circ~$  Saved views are saved with the study



## **Image Capture**

- Snag it From Techsmith
  - o Screen capture tool
    - Images
    - Videos
  - o Edit images
    - Image resolution
    - Image size (in, cm, px, %)
    - Change colors
      - Background
      - Replace colors
    - Annotate



## **Video Capture**

• Snag it – From Techsmith

### $\circ$ Videos

- Define video size
  - Portion of the screen to capture
- Cut sections of videos out
- Combine videos
- Save
  - MP4
  - Gif



## **PowerPoint Templates**

- PowerPoint
  - Create custom template
    - Use slide layouts set up for the aspect ratio of the images you capture in Synergy
      - 1:1
      - 3:4
      - 9:16
    - Have other slide layouts as needed for your reports
      - Can have many slide layouts
  - Save the file as a template to easily use the template





## Meshing Tips and Tricks

If meshing fails, try:

• Mesh with different Auto size (typically smaller, occasionally larger)



- Whitewash the CAD: Import/Export into CAD software then try to mesh in Moldflow again
- Try autofix in CAD, then try to mesh again

- If surf fails use Query on surf#, then use navigation bar to find
  - Then go to CAD and fix surf since you know where it is



- Split CAD body in <sup>1</sup>/<sub>2</sub>, or <sup>1</sup>/<sub>4</sub>'s and see which part doesn't mesh
  - Keep splitting if you need to find problem area
  - Mesh all split areas as DD, delete mesh on split edges and merge nodes to make watertight DD mesh

- Translate surfaces during MF import
  - This breaks solid model into surfaces, then meshes with .stl mesher
  - Low quality mesh, but better than no mesh

| Import   |          |        | $\times$      |  |  |  |  |
|--|----------|--------|---------------|--|--|--|--|
| Before you can import this file you mu<br>you want to work with: | OK       |        |               |  |  |  |  |
|  | Solid 3D | $\sim$ | Cancel        |  |  |  |  |
|  |          |        | Help          |  |  |  |  |
|  |          | 🗌 Sho  | ow import log |  |  |  |  |
| O Direct Import using Autodesk Moldflow Design Link              |          |        |               |  |  |  |  |
| Layer name based on CAD name                                     |          |        |               |  |  |  |  |
| Translate surfaces   |          |        |               |  |  |  |  |
|  |          |        |               |  |  |  |  |

 Mesh cad in Adviser, then export as .udm. Import .udm into Insight – then fix mesh issues and stick w DD or convert to 3d.

- Split Face in cad to get surface lines
  - Used to place gates at specific locations
  - Mesh "typically" follows surface lines
    - If not in the correct location,
      - Mesh in DD, move nodes
      - Convert to 3d
- An alternative method
  - Place injection cone on part before meshing to 3D
    - Move node to exact location as necessary



# **Thank You**

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